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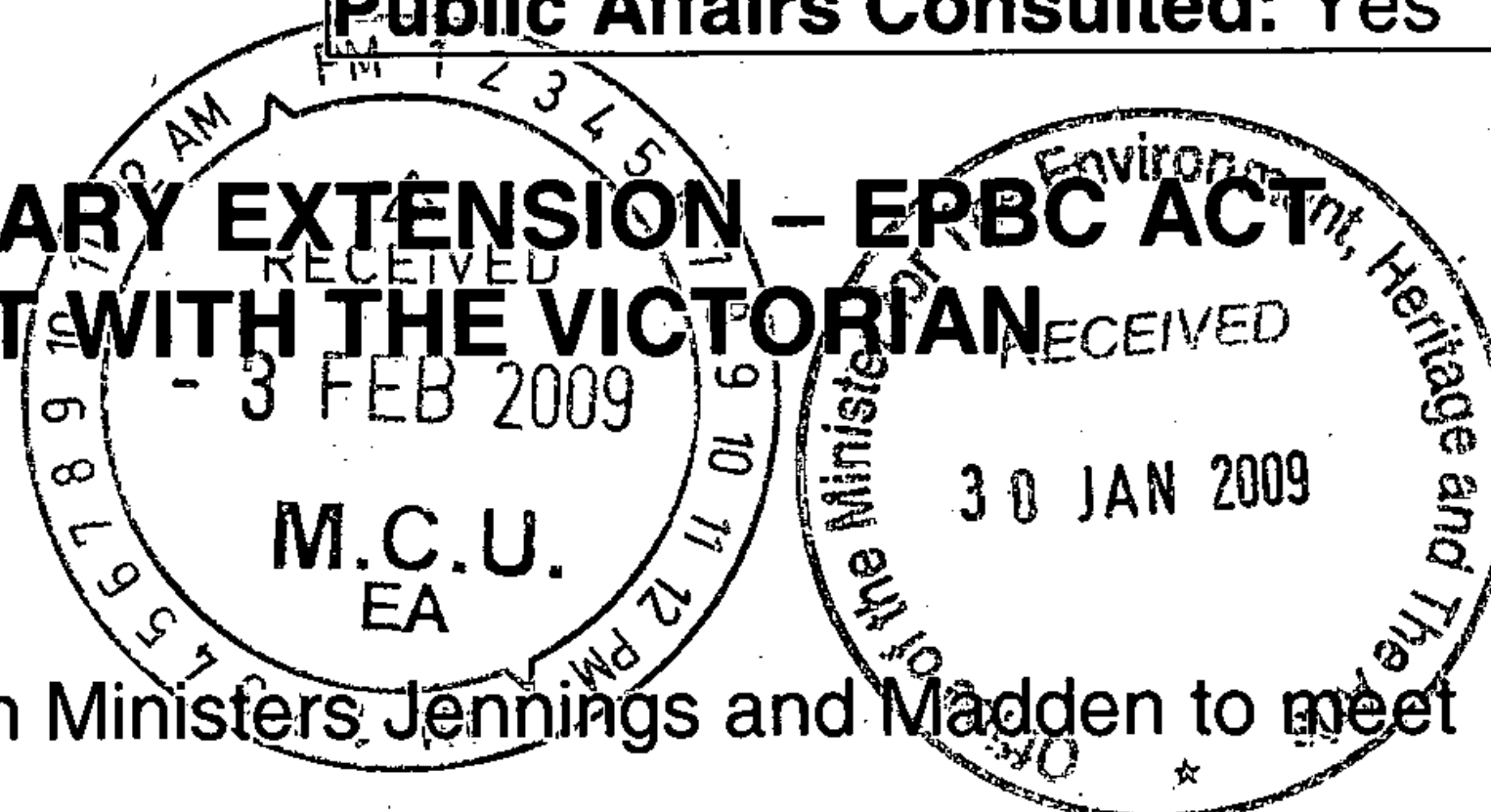
Page 1 of 3

DEPARTMENT OF THE ENVIRONMENT, WATER, HERITAGE AND THE ARTS**Minister for the Environment, Heritage and the Arts** (Decision)

Brief No:	CO9/1285
Division/Agency:	AWD
Public Affairs Consulted:	Yes

MELBOURNE URBAN GROWTH BOUNDARY EXTENSION – EPBC ACT STRATEGIC ASSESSMENT AGREEMENT WITH THE VICTORIAN GOVERNMENT**Timing:**

Priority: 2/2/09 to enable signing of Agreement with Ministers Jennings and Madden to meet June final decision deadline



Purpose: To seek your agreement to undertake a strategic assessment under the *Environment Protection and Biodiversity Conservation Act 1999* (the Act), of a Program to revise Melbourne's Urban Growth Boundary (including associated transport infrastructure).

Background:

- The strategic assessment provisions (section 146) of the EPBC Act enable you, as Minister, to enter into agreement with a person responsible for the implementation of a plan, policy or program. An assessment must be conducted on the impacts of that plan, policy or program on matters protected under the Act. Once the assessment is complete, these provisions allow you to approve the taking of an action or a class of actions in accordance with the endorsed plan, policy or program (**Attachment A**).
- The strategic assessment provisions of the Act have the potential to achieve greater regional outcomes in protecting the environment over the traditional assessment of individual projects.
- Melbourne is predicted to grow by almost 1.8 million people in the next 30 years, with an additional 600,000 extra households to be accommodated over the next 20 years.
- In December, Victoria released *Melbourne @ 5 million*, nominating potential urban expansion areas for further investigation. Victoria is pressing for a strategic assessment to be completed by June 30, 2009, for legislative reasons and to speed up affordable housing development.
- The expansion of the Melbourne urban growth boundary could potentially impact on matters of national environmental significance, in particular RAMSAR listed wetlands, threatened species and a recently listed ecological community, particularly in northern and western outer Melbourne.

Issues/ Sensitivities:

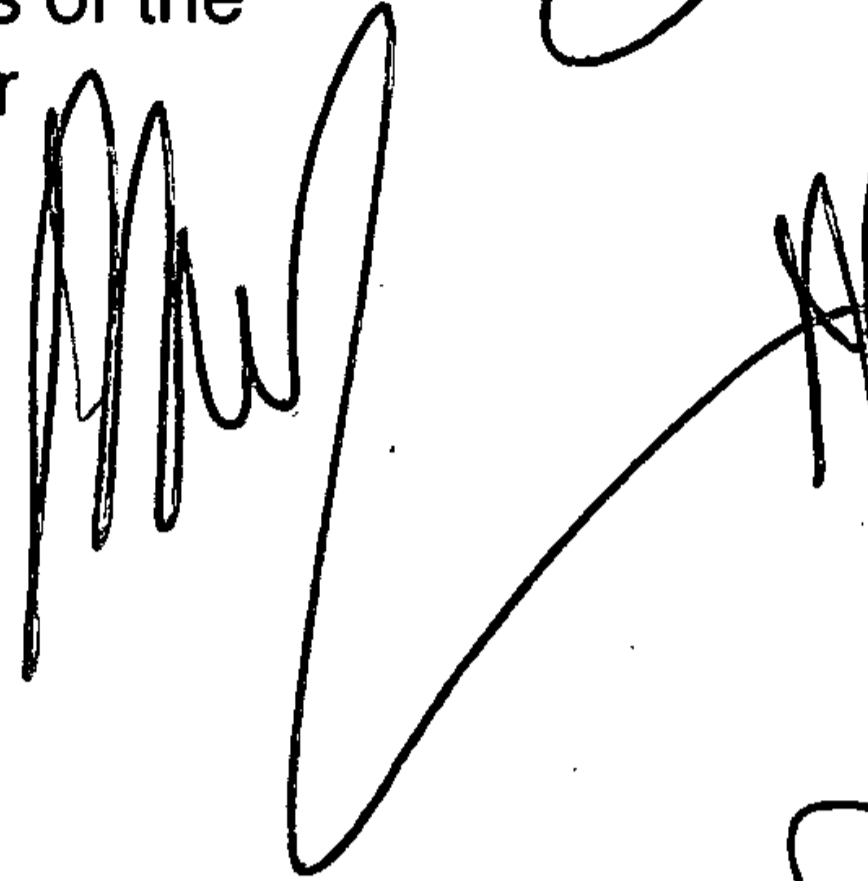
- The Department supports a strategic assessment of the expansion of the Melbourne growth boundary to improve management of cumulative impacts on matters of national environmental significance and reduce the number of referrals. This is consistent with COAGs desire for an increased streamlining of environmental assessment processes between the Commonwealth and State Governments.
- Victorian Minister for Environment, Minister Jennings wrote to you (Jan 09) requesting a strategic assessment be undertaken. Similarly, Victorian Minister for Planning wrote to you (Dec 08) to express interest in pursuing strategic assessment options in Victoria. We recommend you reply to both Ministers sending a signed strategic assessment Agreement (**Attachment C**).
- The Department and Victorian agencies have negotiated an Agreement (**Attachment B**) for you and Ministers Jennings and Madden to sign. The Agreement sets out the processes and responsibilities for a strategic assessment.

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- The Agreement requires assessment of the Program to consider impacts on environmental matters protected by the EPBC Act. A Departmental working group has been formed to advise on the significance of the impacts of the Program.
- Terms of Reference (ToR) for the strategic assessment have been developed with relevant Victorian agencies (**Attachment B**). They require Victoria to develop an Impact Assessment Report which includes details of the Program, the environment likely to be impacted on, the management measures taken to avoid, prevent, mitigate and offset the impacts, auditing and reporting and adaptive management measures.
- The EPBC Act provides the option to undertake public consultation for the Draft ToR. The Dept considers this unnecessary as: (1) Victoria's time frame for completion (June 09) is ambitious, (2) minimal ToR public comments have been received for other strategic assessments in the past and (3) the ToR are broad to allow full analysis of the issues and provide for a substantive public comment period for the draft impact assessment report.
- Victoria only approached you in early Dec 08 regarding a strategic assessment. They have set a timeframe for completion of the final selection of the Urban Growth Boundary (and by extension of the strategic assessment) by June 09 because of legislative changes. This is an ambitious timeframe and will present challenges in meeting it. The Dept has considered the risks associated with this project due to the likely stresses on the assessment process. However, the potential benefits of entering into this strategic assessment are considered to outweigh the risks.
- The Agreement nominates dates for the completion of key milestones in the strategic assessment process to ensure the Victorian Ministers take responsibility for their Departments' performance within the agreed timeframe. Either Party may request the time frame be renegotiated. The Agreement provides the option of staging the assessment, endorsement and/or approval phases in case of unforeseen setbacks.
 - **Jan/early Feb 2009** – Strategic Assessment Agreement to be signed by you and Ministers Jennings and Madden.
 - **Saturday 4 April 2009** - Draft impact assessment report to be released by Victoria for public comment concurrent with Victoria's Draft Program for the Urban Growth Boundary
 - **Mid May 2009** - Revised impact assessment report to be submitted to you.
 - **Late May 2009** - Final impact assessment report may be accepted by you (or delegate).
 - **Mid June 2009** - Program may be endorsed, and certain actions under the Program may be subsequently approved by you. You are required to consult other relevant Commonwealth Ministers before any approvals may be made.
- The ability to meet this timetable is heavily dependent on the quality and timeliness of information provided by Victoria to you. You may wish to express the importance of this to your state colleagues.

Recommendation/s:

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Note the flowchart (Attachment A), the Agreement and Terms of Reference (Attachment B) 2. Sign 3 copies of the Agreement (Attachment B) 3. Sign the replies to Ministers Jennings and Madden (Attachment C), ensuring that all (3) signed copies of the Agreement are attached to Minister Jennings' letter | <ol style="list-style-type: none"> 1. Noted/ Please discuss 2. Signed/ Not signed 3. Signed/ Not signed |
|--|--|



s. 22(1)(a)(ii)

A/g First Assistant
Secretary,
Approvals and Wildlife
Division

Secondary Contact
s. 22(1)(a)(ii)
Director, Strategic Approvals East
s. 22(1)(a)(ii)

2 MINISTER
/ 8 /2009

s. 22(1)(a)(ii)

s. 22(1)(a)(ii)

Consultation: DEWHA – AWD, Heritage, Water, Marine, Policy Coordination, Public Affairs

Attachments:

A	Strategic Assessment Flowchart
B	Strategic Assessment Agreement (including Terms of Reference) - 3 copies
C	Replies to Ministers Jennings and Madden



**ENVIRONMENT PROTECTION AND BIODIVERSITY
CONSERVATION ACT 1999
Part 10 Strategic Assessments
Section 146 (1) Agreement**

Relating to the assessment of impacts of the Program to revise Melbourne's
Urban Growth Boundary

between

THE COMMONWEALTH OF AUSTRALIA

and

THE STATE OF VICTORIA

1 PARTIES

The Parties to this Agreement are:

The Commonwealth of Australia, represented by the Minister for the Environment, Heritage and the Arts

and

The State of Victoria, represented by both the Minister for Environment and the Minister for Planning.

2 DEFINITIONS

2.1 Unless stated otherwise in this Agreement, the definitions, meanings and terms in the *Environment Protection and Biodiversity Conservation Act 1999* apply to this Agreement and its attachments.

2.2 In this Agreement:

Melbourne @ 5 Million means the report *Melbourne 2030: a planning update - Melbourne @ 5 million* as published by Victorian Government, December 2008.

Minister means the Minister for the Environment, Heritage and the Arts or delegate.

The Program to revise Melbourne's Urban Growth Boundary includes the implementation of the Urban Growth Zone resulting from the expansion of the Urban Growth Boundary within the designated Investigation Areas identified in the *Melbourne @ 5 Million* report (see map at Attachment A). The Program also includes the Outer Metropolitan Ring Transport Corridor and Regional Rail Link Corridor Reservation between West Werribee and Deer Park.

The Act means the *Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)*.

Working days means a business day as measured in Canberra, ACT.

2.3 In this Agreement references to the singular include the plural.

3 PREAMBLE

3.1 The Parties agree that the areas within the Investigation Areas and land associated with the Victorian Transport Plan have significant environmental values and significant environmental, social and economic values may be derived from implementing the Program.

3.2 Recognising those significant environmental values, the Parties commit to undertake an assessment of impacts of actions under the Program on all matters protected by Part 3 of the Act.

4 BACKGROUND

- 4.1 Section 146(1) of the Act allows the Minister to agree in writing with a person responsible for the adoption or implementation of a policy, plan or program that an assessment be made of the impacts of actions under the policy, plan or program on a matter protected by a provision of Part 3 of the Act. For the purpose of Section 146(1) of the Act the Agreement relates to the Program as described in clause 2.2.
- 4.2 The *Melbourne @ 5 Million* plan has identified environmental constraints to outward growth and Urban Growth Investigation Areas outside the current Urban Growth Boundary where growth may be feasible (Attachment A).
- 4.3 The implementation of new Urban Growth Zones within the Urban Growth Areas of Melbourne including those within the expanded Urban Growth Boundary will be subject to the Victorian Government's Precinct Structure Planning process. Individual projects such as the Outer Melbourne Ring Road and Regional Rail Link identified in the *Victorian Transport Plan* will be subject to environment assessment and planning approval processes under Victorian law. In addition to requirements under the Act, the removal of native vegetation and associated habitats for urban expansion and major transport infrastructure will be subject to requirements for impact avoidance, minimisation and offsetting under Victoria's Native Vegetation Management Framework.

5 OPTION TO UNDERTAKE ASSESSMENT, ENDORSEMENT AND APPROVAL PHASES OF THE STRATEGIC ASSESSMENT IN STAGES

- 5.1 The Parties may consult and agree to undertake the assessment of the impacts of the Program by assessing individual stages which, taken together, collectively make up the Program. Where the Parties agree on this approach, each stage will be assessed in accordance with section 146(2) of the Act and this Agreement.
- 5.2 If a staged assessment is required the Minister may issue a staged endorsement and approval in accordance with clause 5.1.
- 5.3 The strategic assessment of any stage will form a discrete component of the Program, however any endorsement and approval decisions will take into account the cumulative impacts of the entire Program.
- 5.4 Where a stage of the Program is assessed, this Agreement and Terms of Reference (Attachment B) shall be used.
- 5.5 Where a staged assessment is determined as necessary by the Parties, the public shall be notified by means of a public notice made available:
- (a) on the websites of the Victorian Government, the Growth Area Authority and the Department of Sustainability and Environment
 - (b) published in newspapers circulating nationally and in Victoria.

6 TERMS OF REFERENCE

6.1 This agreement provides for the preparation of a Terms of Reference for a report on the impacts of the Program and consideration of the report by the Minister.

7 PREPARATION OF THE REPORT

7.1 The Victorian Government will cause a Draft Report to be prepared in accordance with this Agreement and the Terms of Reference (Attachment B).

7.2 The Victorian Government shall provide the Draft Report for public comment by notice:

- (a) posted on the websites of the Victoria Government, the Growth Area Authority and the Department of Sustainability and Environment
- (b) published in newspapers circulating nationally and in Victoria.

The notice must advise that the Draft Report is available and how copies may be obtained, provide contact details for obtaining further information, invite public comments on the Draft Report and set a period of at least 28 days within which comments must be received. The Draft Report for the Program will be advertised for comment concurrent with the Draft Program for draft Urban Growth Boundary changes. The notice in clause 7.2 should occur by the agreed date and conditions specified in Attachment D.

7.3 The Parties:

- (a) may each notify interested parties of the notice in paragraph 7.2 and of the availability of the Draft Report
- (b) will each make copies of the notice in paragraph 7.2 and Draft Report available electronically through their websites in accordance with agreed dates provided in Attachment D.

7.4 The Victorian Government will prepare a Revised Draft Report, or a Supplementary Report to the Draft Report, taking account of the comments received.

8 CONSIDERATION OF THE REPORT

8.1 Following the closure of public consultation period for the Draft Report, the Victorian Government will submit to the Minister:

- (a) the Final Report, comprised of
 - (i) the amended Draft Report or
 - (ii) the Draft Report and a Supplementary Report (clause 7.4)
- (b) the Program
- (c) public responses relating to the Draft Report
- (d) comments on how the public responses have been taken into account in the Final Report.

Submission of items in clause 8.1 should occur by the agreed date and conditions specified in Attachment D.

8.2 The Minister will consider the Final Report. If the Minister is not satisfied that the Final Report adequately addresses the impacts of the actions to which this Agreement relates:

- (a) The Minister will make recommendations to the Victorian Government, as he considers appropriate, regarding the Final Report and implementation of the Program
- (b) The Victorian Government may provide the Minister with advice, or seek clarification from the Minister on recommendations in subclause (a)
- (c) The Victorian Government will provide to the Minister a summary of the recommendations, advice or clarification in subclauses (a) and (b), and how they are incorporated into the Final Report and how modifications to the implementation of the Program will take effect
- (d) The Minister will consider the revised Program supporting material and may accept the Final Report or request further information or clarification if not satisfied that it addresses adequately the impacts of the actions to which this Agreement relates.

9 ENDORSEMENT OF THE PROGRAM

9.1 The Minister will endorse the Program if satisfied the Report adequately addresses the impacts to which this Agreement applies and:

- (a) that any recommended modifications to the Program, or modifications having the same effect have been made
- (b) the endorsement criteria set out in Attachment C are met.

10 APPROVAL OF ACTIONS

10.1 If the endorsement criteria (Attachment C) are met the Minister may approve, or approve with conditions, the taking of an action or class of actions in accordance with the endorsed Program, clause 5.3 of this Agreement and section 146(B) of the Act.

11 VARIATION

11.1 The Parties may vary this Agreement by an exchange of letters or electronic communications to the extent only that such variation is consistent with the provisions of the Act.

SIGNED BY:

The Hon. Peter Garrett AM MP
Minister for the Environment, Heritage and the Arts

Gavin Jennings MLC
Minister for Environment and Climate Change

Justin Madden MLC
Minister for Planning

Dated thisday of2009

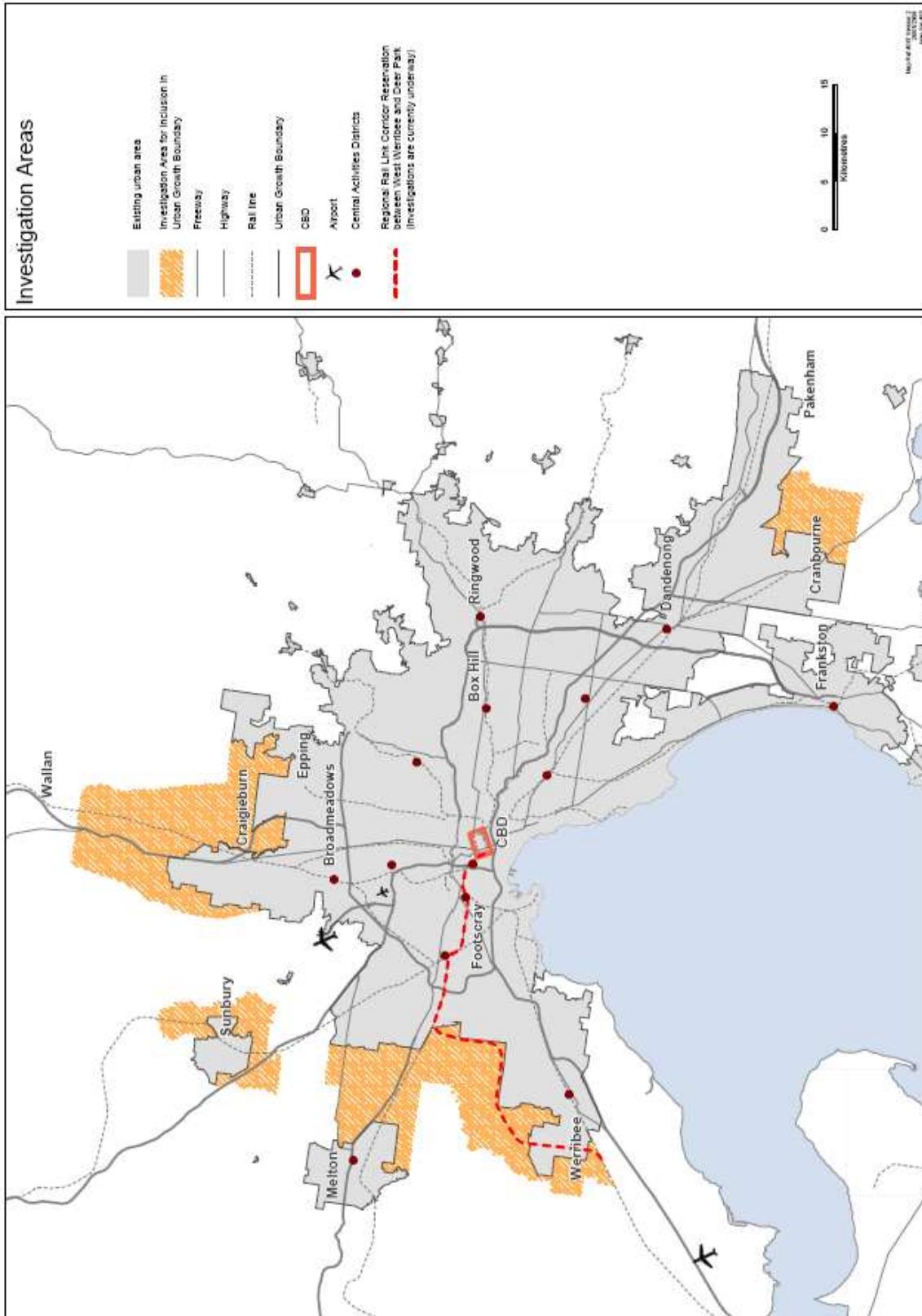
Attachment A: Urban Growth Investigation Areas affected by the Program

Attachment B: Terms of Reference for Strategic Assessment of the Program to revise Melbourne's Urban Growth Boundary

Attachment C: Strategic Assessment Endorsement Criteria

Attachment D: Agreed Dates for Melbourne Strategic Assessment Program Delivery

Attachment A: Urban Growth Investigation Areas



Attachment B

Terms of Reference for Strategic Assessment of the Program to revise Melbourne's Urban Growth Boundary

1. PROJECT PURPOSE AND DESCRIPTION

The Report, as referred to in clause 7 of the Agreement, must describe the Program (or stage of), including:

- (a) how the Program has been developed and its legal standing
- (b) the basis of land/asset tenure for all land within the scope of the Program
- (c) the regional context (natural and human) in which the urban area will exist
- (d) the actions or classes of actions that are subject of the Program, including the short, medium and long term aspects of the actions or classes of actions at or associated with the Program. These could include relevant construction and operational aspects associated with proposed urban development and associated infrastructure
- (e) Victorian management and approval arrangements and the person(s) or authority responsible for the adoption or implementation of the Program.

2. PROMOTING ECOLOGICALLY SUSTAINABLE DEVELOPMENT**2.1 Planning for and promoting ecologically sustainable development**

The Report must describe the planning and design process that has led to the Program, with particular reference to the treatment of environmental and cultural heritage through assessment and selection of options that maximise environmental, social and economic outcomes.

The Report must state how the Program promotes the following principles of ecologically sustainable development:

- a) decision making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations
- b) if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation
- c) the principle of inter-generational equity – that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations
- d) the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making
- e) improved valuation, pricing and incentive mechanisms should be promoted.

2.2 Environment affected by the Program

The Report must provide a detailed description of the environment likely to be affected by the implementation of the Program. This includes the environment beyond the identified growth and planning areas that could be affected by the proposed development for example, through the construction of any major infrastructure associated with the

development, the offsite impacts from stormwater management measures (e.g. inundation and flow effects from water quality control dams/ponds/wetlands), or 'edge effects' such as weed introduction, pollution and feral animals.

This description must identify the listed environmental and heritage assets and characteristics, including biophysical processes associated with the area set to be affected by the Program and the surrounding terrestrial, riparian and aquatic environments likely to be directly or indirectly impacted, including:

- (a) components of biodiversity and maintenance of important ecological processes
- (b) listed threatened and migratory species under the Act and their associated habitats
- (c) a description of ecological communities including but not limited to their connectivity, extent, and condition with specific reference to threatened ecological communities as listed under the Act and other significant ecological communities for example, the natural temperate woodlands of the Victoria Volcanic Plain and grassy wetland communities
- (d) any physical environmental processes (e.g. fire, flooding/inundation) influencing the environmental characteristics of the site or surrounds, or influencing the potential impacts on the site or surrounds, including the impacts on any Ramsar sites
- (e) places listed on the Commonwealth and National Heritage Lists.

3. PREVENTING IMPACTS ON MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE AND PROMOTING THE PROTECTION AND CONSERVATION OF BIODIVERSITY AND HERITAGE VALUES

3.1 Nature and significance of impacts

The Report must include sound analysis of the potential and likely impacts on the environment of the Program (Item 2.2) with specific reference to matters of national environmental significance, areas of high biodiversity and heritage values listed under the Act.

The analysis must include:

- (a) areas or matters likely to be eligible for listing as matters of national environmental significance
- (b) a description and analysis of likely and potential impacts, including any indirect impacts on matters of national environmental significance – with reference to relevant Policy Statements, for example the *EPBC Act Policy Statement 1.1 Significant Impact Guidelines*
- (c) an analysis of applicable key threatening processes as defined in the Act
- (d) an assessment of whether identified impacts will be short, long term or irreversible, local or regional, discrete or cumulative, or exacerbated by the likely impacts of climate change
- (e) an assessment of the scientific confidence associated with the likelihood and consequence(s) of potential impacts, including reference to technical data and other information relied upon in identifying and assessing those impacts.

3.2 Management, mitigation or offset of likely impacts

The Report must identify and describe the Victorian Government *management measures* (e.g. works, on-ground actions, regulatory interventions, area-specific management plans, market based instruments, compliance and enforcement requirements) that will be implemented prior, during or post Program implementation to prevent, minimise, rehabilitate or offset the potential environmental impacts caused by implementing the actions or classes of actions (Item 1(d)) with specific reference to matters of national environmental significance under the Act.

For those Victorian Government management measures the Report must set out:

- (a) the approach taken to addressing the impacts of the actions or classes of actions
- (b) the predicted effectiveness of the proposed measures and actions. Claims regarding effectiveness of measures and actions must be justified, including a description of the methodology used to formulate these predictions/confidence limits
- (c) maintenance or operational requirements associated with proposed management measures
- (d) compliance and enforcement requirements associated with proposed condition requirements
- (e) the Victorian agency or agencies responsible for each management measure including the budgetary, regulatory and anticipated or proposed programmatic arrangements to implement measures and actions, compliance and enforcement and maintenance or operational requirements
- (f) timelines and accountabilities for implementing proposed measures and actions, and associated compliance and maintenance requirements
- (g) proposed offsets in the context of evolving or approved policy, for example the Commonwealth Draft Policy Statement: Use of environmental offsets under the *Environment Protection and Biodiversity Conservation Act 1999*, August 2007.

3.3 Addressing uncertainty and managing risk

The Report must identify key uncertainties associated with the implementation of management measures, for example where there is a high level of uncertainty related to the timing and nature of management measures, or their maintenance or operation.

For key uncertainties the Report must set out:

- (a) responses by the Victorian Government to ensure an acceptable level of certainty and therefore actively manage risks associated with implementing the actions or classes of actions (Item 1(d))
- (b) how and when measures and actions will be reviewed in light of anticipated new information.

3.4 Reasonable assurance

The Report must include a “*reasonable assurance statement*” that gives a high degree of confidence that the management measures will be implemented and that the actions or classes of actions (Item 1(d)) will not have a significant impact on matters of national environmental significance.

4. AUDITING AND REPORTING

The Report must set out:

- (a) monitoring and public reporting processes, effective during the development period that describe the implementation and associated management measures and condition requirements
- (b) commitments for independent auditing of Program implementation.

5. ADAPTIVE MANAGEMENT, REVIEW AND MODIFICATION

The Report must identify and analyse the likely circumstances and procedures that may result in the review or modification of the report itself or the Program to which it relates, such that changing community standards or new information relating to the impacts of the Program may be introduced, reassessed and accounted for in implementing the Program. The Report must also show how uncertainty is being targeted and addressed during Program implementation.

6. ENDORSEMENT CRITERIA

The Report must describe how the Program together with any associated management arrangements, meets the criteria set out in Attachment C (Endorsement Criteria).

7. INFORMATION SOURCES

For information used in the assessment, the Report must state:

- (a) the source of the information
- (b) how recent the information is
- (c) how the reliability of the information was tested
- (d) uncertainties in the information.

Attachment C**Strategic Assessment Endorsement Criteria**

The Act permits the Minister to approve the taking of actions or classes of actions in accordance with an endorsed policy, plan or program (section 146(B)). The effect of such a decision is that the approved actions or class of actions would not need further approval from the Minister under the Act.

When deciding whether to endorse a policy, plan, or program the Minister must be satisfied that the assessment report adequately addresses the impacts to which the agreement relates and that any recommendations to modify the policy, plan or program have been responded to appropriately.

In determining whether or not to endorse the Program the Minister will have regard to the extent to which the Program meets the objectives of the Act. In particular that it:

- protects the environment, especially matters of national environmental significance
- promotes ecologically sustainable development
- promotes the conservation of biodiversity
- provides for the protection and conservation of heritage.

Accordingly, the Program and Final Report should:

- prevent actions from being taken in any location that have an impact on matters of national environmental significance or are of high biodiversity or heritage value; or
- where impacts can not be avoided, then the impacts should be less than significant
- provide for effective management, mitigation or offset of the likely impacts
- contain an effective system of adaptive management that is independently audited and publicly reported.

The Minister will also consider the extent to which the Program and its associated Final Report adequately incorporates:

- the precautionary principle
- the other principles of ecologically sustainable development
- intergenerational equity
- matters the Minister considers to have a high likelihood of being potentially eligible for listing as matters of national environmental significance.

In arriving at a decision to approve an action or a class of actions the Minister must act in accordance with his obligations, including giving consideration to:

- issues relevant to any matter protected by a provision of the Act
- social and economic matters.

Attachment D**Agreed Dates for Melbourne Strategic Assessment Program Delivery**

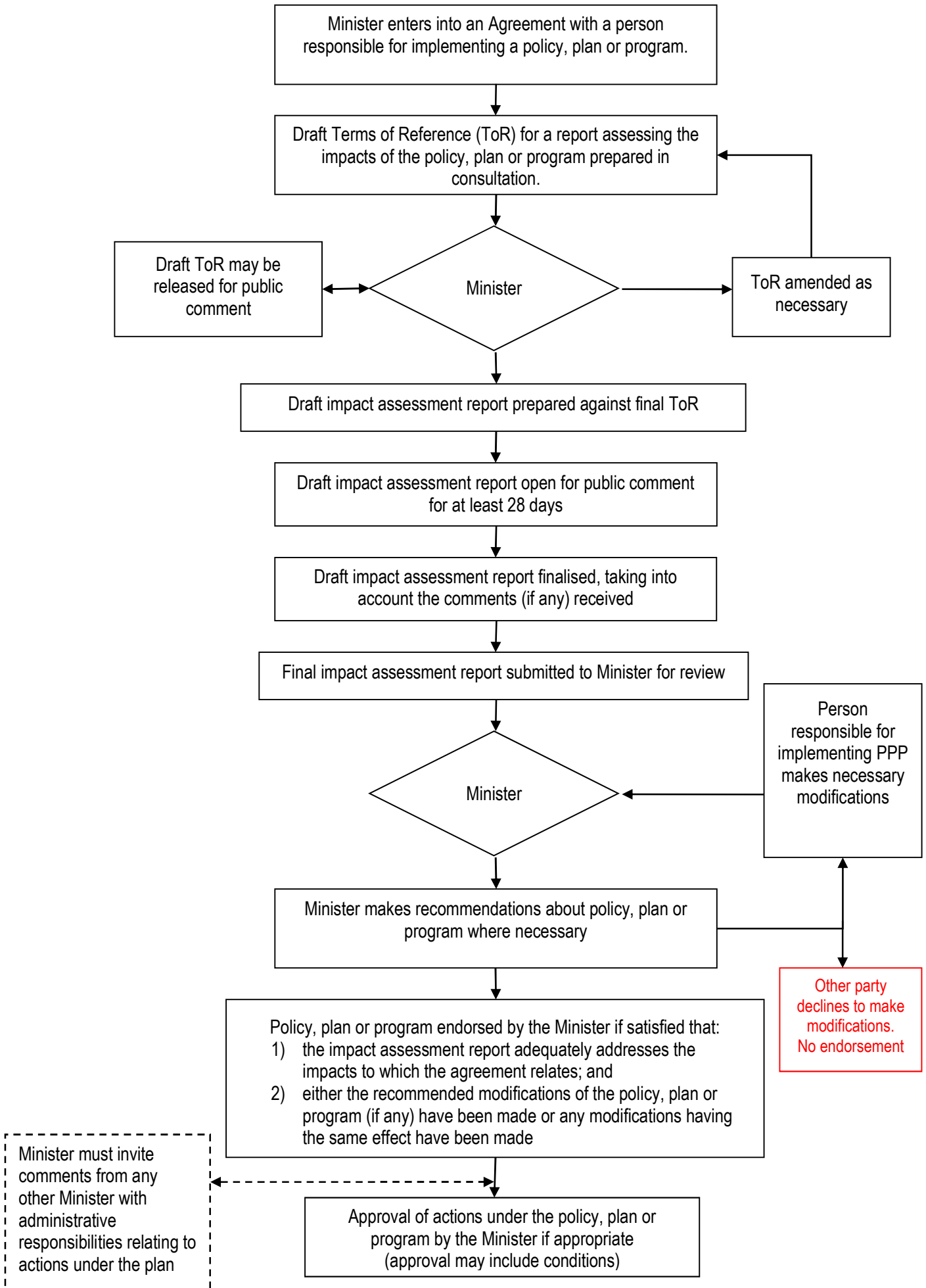
Draft Report provided for public comment as per clause 7.2 of the Agreement – 4 April, 2009.

Revised Final Report sent to the Minister as per clause 8.1 of the Agreement – COB 25 May, 2009.

Both Parties reserve the right to request a renegotiation of the agreed timeframe and dates for the assessment. The agreed dates may be altered by either Party to the extent only that such variation is consistent with the provisions of the Act.

Note: Representatives from the relevant Victorian Ministers' agencies have indicated their ability to progress the strategic assessment by the agreed dates.

EPBC Act - Section 146 (Strategic Assessment Provisions)
Flowchart of strategic assessment process





The Hon Peter Garrett AM MP

Minister for the Environment, Heritage and the Arts

C09/1285

The Hon Justin Madden MLC
Minister for Planning
PO Box 500
EAST MELBOURNE VIC 3002

- 2 FEB 2009

Dear Minister 

Thank you for your letter of 26 November 2008 concerning your support for the use of strategic assessments to achieve efficient assessment and approval processes under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), particularly for Melbourne's future growth corridors.

Strategic assessment under the EPBC Act provides an opportunity to address potential impacts of the proposed *Melbourne @ 5 million* Program to revise Melbourne's Urban Growth Boundary and to avoid the delays associated with project by project assessment. This forward planning will undoubtedly have positive environmental and heritage results for both the State of Victoria and the Commonwealth, whilst also providing clarity for planning decisions.

I understand both you and the Hon Gavin Jennings, Minister for Environment and Climate Change, will be signing the Agreement representing the State of Victoria. Minister Jennings has been provided with three (3) original copies of a signed Agreement, which he has been asked to forward to you for signing. Once signed, one (1) copy is then to be returned to me (please retain two signed agreements for you and Minister Jennings). **Attachment 1** contains a copy of my letter to Minister Jennings. **Attachment 2** contains an unsigned copy of the Agreement and Terms of Reference for your information.

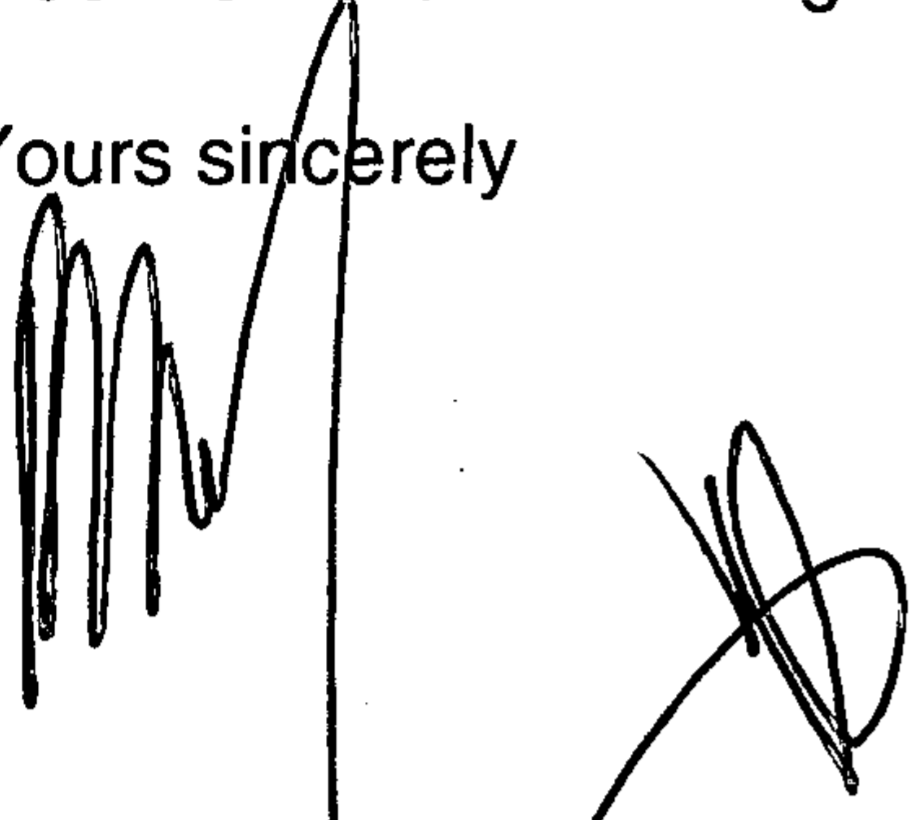
You will note key dates attached to the Agreement have been identified to facilitate the project meeting Victoria's ambitious June 2009 deadline. The success of this endeavour will depend greatly on a cooperative and open approach between our two governments and on the timeliness and quality of the information provided by your agency.

I agree with Minister Jennings who suggested we establish a steering group of senior officials to ensure our agencies work closely together on this matter. Our representation in this committee will be Mr Gerard Early, a Deputy Secretary in my Department. I have asked Mr Mark Flanigan, Assistant Secretary, Strategic Approvals and Legislation Branch, to be the first point of contact for discussions. Ongoing cooperation and information sharing between Victorian agencies and my Department will be critical to the effective and timely delivery of the strategic assessment.

By entering into a strategic assessment the Commonwealth is agreeing to assess impacts of the proposed Program. Any approvals of the Program will be determined through the assessment process. I acknowledge it is important to accommodate Melbourne's accelerated growth and to protect matters listed under the EPBC Act in an sustainable manner.

I look forward to working with you on this strategic assessment.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Peter Garrett', with a large, sweeping flourish extending downwards and to the right.

Peter Garrett





The Hon Peter Garrett AM MP

Minister for the Environment, Heritage and the Arts

C09/1285

The Hon Gavin Jennings MLC
Minister for Environment and Climate Change
Level 22, 50 Lonsdale St
MELBOURNE VIC 3000

Dear Minister 

- 2 FEB 2009

Thank you for your letter of 13 January 2009 requesting a strategic assessment of potential impacts associated with future urban development in Melbourne.

Strategic assessment under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides an opportunity to address potential impacts of the proposed *Melbourne @ 5 million* Program to revise Melbourne's Urban Growth Boundary and to avoid the delays associated with project by project assessment. This forward planning will undoubtedly have positive environmental and heritage results for both the State of Victoria and the Commonwealth, whilst also providing clarity for planning decisions.

Please find attached three (3) copies of the Agreement for your signature (**Attachment 1**). I understand both you and the Hon Justin Madden, Minister for Planning, will be signing the Agreement representing the State of Victoria. Please sign all three (3) copies and forward (all) copies to Minister Madden for his signature. Also enclosed at **Attachment 1** are the Terms of Reference for the strategic assessment which will guide this process.

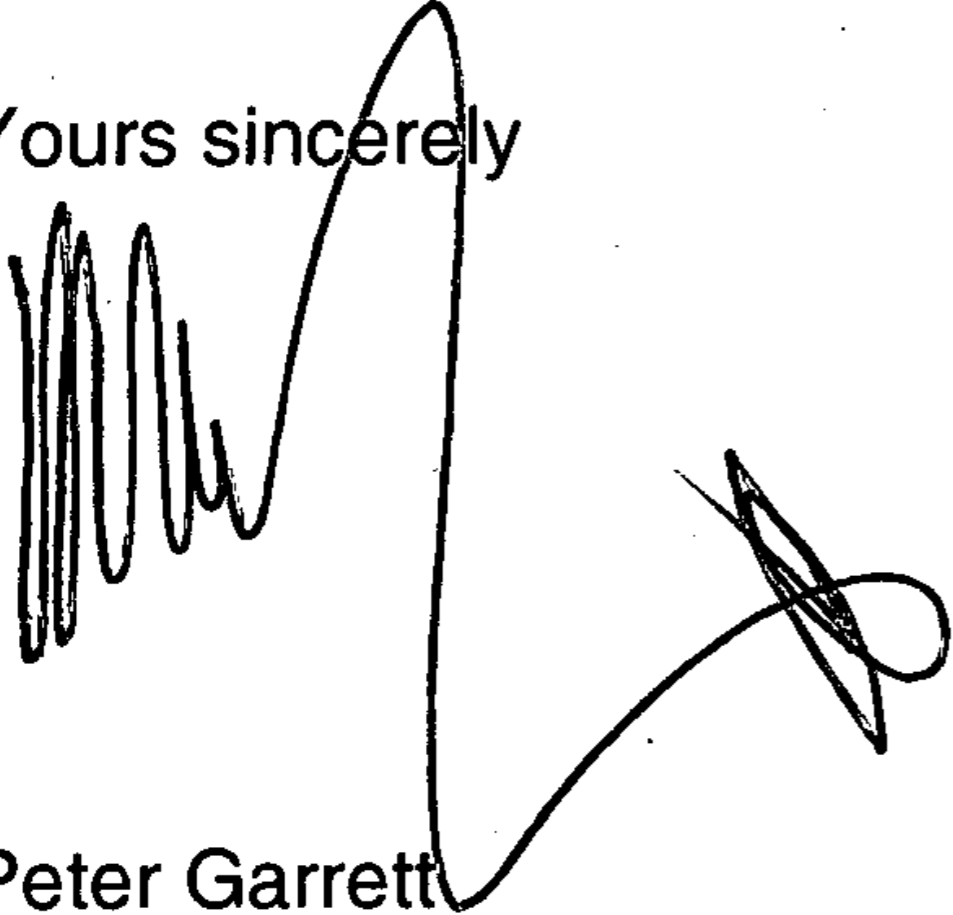
You will note key dates attached to the Agreement have been identified to facilitate the project meeting Victoria's ambitious June 2009 deadline. The success of this endeavour will depend greatly on a cooperative and open approach between our two governments and on the timeliness and quality of the information provided by your agency.

I agree that establishing a steering group of senior officials will ensure our agencies work closely together on this matter. Our representation in this committee will be Mr Gerard Early, a Deputy Secretary in my Department. I have asked Mr Mark Flanigan, Assistant Secretary, Strategic Approvals and Legislation Branch, to be the first point of contact for discussions. Ongoing cooperation and information sharing between Victorian agencies and my Department will be critical to the effective and timely delivery of the strategic assessment.

By entering into a strategic assessment the Commonwealth is agreeing to assess impacts of the proposed Program. Any approvals of the Program will be determined through the assessment process. I acknowledge it is important to accommodate Melbourne's accelerated growth and to protect matters listed under the EPBC Act in a sustainable manner.

I look forward to working with you on this strategic assessment.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Peter Garrett', with a large, sweeping flourish extending upwards and to the right.

Peter Garrett

CC: The Hon Justin Madden MLC, Victorian Minister for Planning



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DEPARTMENT OF THE ENVIRONMENT, WATER, HERITAGE AND THE ARTS

Minister for the Environment, Heritage and the Arts
Decision
through: FAS AWD

Brief No: B09/3534
Division/Agency: AWD
Public Affairs Consulted: Yes

ENDORSEMENT OF THE MELBOURNE PROGRAM FOR URBAN EXPANSION FOLLOWING EPBC ACT 146 STRATEGIC ASSESSMENT

Timing: by 11 January 2010 to facilitate progression of related statutory processes.

Purpose: To recommend you endorse the program *Delivering Melbourne's Newest Sustainable Communities: Program Report December 2009* under Part 10 of the EPBC Act.

Background

- On 4 March 2009 you signed an agreement (amended 16 June 2009) with the Victorian Ministers for Planning, and Environment and Climate Change providing for a strategic assessment to be made of the impacts of actions under the Victorian Government's program to revise Melbourne's urban growth boundary (UGB) (Attachment N).
- The strategic assessment agreement provides terms of reference for the preparation of an impact assessment report. It also contains non-statutory endorsement criteria to inform your decision on whether to endorse the finalised program.
- The Victorian Government submitted the program *Delivering Melbourne's Newest Sustainable Communities: Program Report December 2009* (Attachment B) and *Delivering Melbourne's Newest Sustainable Communities: Strategic Impact Assessment Report October 2009* (Attachment C) to the Commonwealth Government. The Victorian Government is now seeking endorsement of the program under Part 10 of the EPBC Act.
- Section 146(2)(f) of the EPBC Act allows you to endorse a program following a strategic assessment of the impacts of actions under that program, if you are satisfied that:
 - i. the impact assessment report adequately addresses the impacts to which the agreement relates; and
 - ii. the recommended modifications to the program, or any modifications having the same effect, have been made.
- The endorsement of the program is a prerequisite in the strategic assessment process before any approval of actions or classes of actions can be given under section 146B of the EPBC Act. The subsequent giving of approval under section 146B for the taking of an action or actions in accordance with an endorsed program is a separate decision for you to consider.
- The endorsement criteria were amended by agreement of your delegate Ms Carolyn Cameron, Acting Assistant Secretary, Strategic Approvals and Legislation Branch, with Victorian Ministers Madden and Jennings on 2 October 2009 (Attachment I). These amendments were made to improve the clarity of the language used.
- On 2 October 2009, your delegate also formally recommended modifications to the program (Attachment G). The Victorian Government resubmitted the program responding to these modifications on 23 October 2009.
- You wrote to the Victorian Government on 4 December 2009 foreshadowing that while the program as submitted on 23 October 2009 was generally acceptable, you would be recommending further modifications (B09/3231). You wrote again on 18 December 2009 with these recommendations (Attachment H). Victoria submitted the final program, incorporating the recommended modifications on 29 December 2009 (Attachment B).
- Previous briefings B09/2576 and B09/3231 provide an overview of the program for Melbourne's urban expansion and background to this strategic assessment.

UNCLASSIFIED

- The Victorian Parliament has not yet ratified the urban development legislation including the revised urban growth boundary (Amendment VC55). The main contentious issue is a growth area infrastructure contribution which is not directly associated with the program under EPBC Act assessment. Victorian Parliament resumes again in February 2010.
- Endorsement of the program does not authorise the lawful taking of actions. If you decide to endorse the program, the next statutory process would be to consider whether to approve actions or classes of actions to be taken in accordance with the endorsed program.
- Subject to your endorsement, there are also a number of planning framework elements identified in the program, such as species prescriptions, that require your approval before any approved actions could be taken in accordance with the requirements of the program. It is expected that these would be submitted soon after endorsement.

Issues/ Sensitivities:

- If endorsed, this program would be the first of its kind to be strategically assessed in accordance with the provisions of Part 10 of the EPBC Act. There is strong interest from other jurisdictions in the outcome of this strategic assessment process, as it has been promoted through COAG as a method for reducing "red tape" between jurisdictions for environmental assessments. Additionally, a number of urban development strategic assessments in other jurisdictions have commenced or are about to reach formal agreement.
- The program commits to delivering conservation outcomes and will utilise specific Victorian planning frameworks, legislation and policies to implement development whilst meeting EPBC Act requirements. The program provides for ongoing identification, management and protection of matters of national environmental significance (MNES) over the estimated 20 years of implementation through measures to avoid, mitigate and offset the impacts. The Australian Government will have a role in all stages of implementation, particularly in the early approval and planning stages.
- Robust monitoring, reporting, auditing and adaptive management frameworks will also be implemented to identify and respond to non-compliance incidents and improved information on MNES. The department considers that there are sufficient checks and balances in the program to ensure that the program will be implemented appropriately, or non-compliances detected and addressed.
- Only certain elements of the program can be revised. These elements and the circumstances and manner in which they can be revised are specified in the program. If the program is not implemented as described, any future related actions may not have the benefit of a valid approval under the EPBC Act.
- The department considers the conservation outcomes will satisfactorily protect MNES over the long term, by combining sufficient rigour for accountability with enough flexibility to respond to new information. Similarly, the planning frameworks, utilising Victorian legislation and policies identified in the program, are considered satisfactory to deliver these conservation outcomes. The certainty offered by the planning framework of the program is augmented by the requirement for your approval of key plans and strategies, and the monitoring, reporting and adaptive management frameworks required by the program.
- The department is satisfied that the impact assessment report (Attachment C) has adequately addressed the likely impacts on MNES from implementation of the program. The program contains a wide range of appropriate mechanisms to avoid, mitigate and offset these impacts, while simultaneously committing to the delivery of specified, overarching conservation outcomes. The department's detailed analysis of the program and associated impact assessment report is at Attachment A.

Key commitments in the program:

- The Victorian Government has committed to delivering a 15 000 hectare reserve for the critically endangered Native Temperate Grassland of the Victorian Volcanic Plain, which will increase the proportion of the grasslands in reserves from the current 2% to 20%. The

program also commits the Victorian Government to delivering a separate reserve of at least 1 200 hectares containing the Grassy Eucalypt Woodland of the Victorian Volcanic Plain ecological community. Both large-scale reserves will provide for long-term protection, management and persistence of MNES and contribute to broader positive biodiversity outcomes for the bioregion.

- These reserves are proposed as the preferred location for delivery of offsets for the anticipated clearing of approximately 4666 hectares of the grassland (around 6% of the remaining community) and 708 hectares of the woodland (around 1% of the remaining community) EPBC-listed ecological communities. Commitments to secure like-for-like offsets prior to clearing are contained in the program. All clearing of an EPBC-listed ecological community must be offset, including areas that may not have been considered significant under a Part 9 referral assessment.
- Other conservation commitments include ensuring the maintenance or improvement of water quality inflows to two nearby Ramsar wetlands, a network of small reserves inside the UGB for the conservation of specific MNES, surveys of all development areas prior to the granting of planning permissions and no substantial negative change to known populations of particular MNES, as specified in the program.
- Additional program commitments include the requirement for approval of key strategies and plans such as biodiversity conservation strategies and prescriptions; defined triggers to revise certain mechanisms within the program to improve conservation outcomes or to respond to new information; regular public reporting of activities and compliance with program implementation; and independent five-year reviews.

Recommended modifications

- A number of recommended improvements were identified to augment the reporting and compliance elements of the program (B09/3231). You wrote to Victorian Ministers Jennings and Madden on 18 December 2009 formally recommending modifications to the program (Attachment H). These modifications are now included in the revised program.
- The Victorian Government has also responded to previous modifications recommended by your delegate on 2 October 2009 (Attachment G), and in the same response agreed to suggested revisions to the endorsement criteria (see brief B09/2576).
- The department considers that Victoria has made all recommended modifications to the program, or modifications having the same effect have been made, and that you may now consider endorsing the program in accordance with the requirements of the EPBC Act.

Recommendations:

- | | |
|---|--------------------------------------|
| 1. Note the recommendation report at <u>Attachment A</u> | 1. Noted / Please discuss |
| 2. Note the program at <u>Attachment B</u> | 2. Noted / Please discuss |
| 3. Note the impact assessment report at <u>Attachment C</u> | 3. Noted / Please discuss |
| 4. Note the public submission reports at <u>Attachments D - F</u> | 4. Noted / Please discuss |
| 5. Note the program modification recommendations at <u>Attachments G and H</u> | 5. Noted / Please discuss |
| 6. Note the endorsement criteria at <u>Attachment I</u> | 6. Noted / Please discuss |
| 7. Endorse the program titled <i>Delivering Melbourne's Newest Sustainable Communities: Program Report December 2009</i> | 7. Endorsed / Not endorsed |
| 8. Sign the notice of endorsement at <u>Attachment J</u> | 8. Signed / Not signed |
| 9. Sign the letter to Minister Madden at <u>Attachment K</u> | 9. Signed / Not signed |
| 10. Sign the letter to Minister Jennings at <u>Attachment L</u> | 10. Signed / Not signed |
| 11. Agree to announce your decision | 11. Agree / Not agreed |

s. 22(1)(a)(ii)

Strategic Approvals and
Legislation

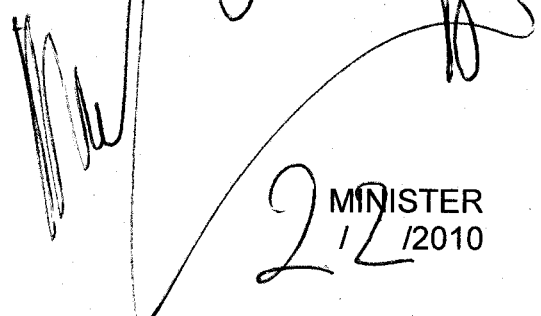
s. 22(1)(a)(ii)

Secondary Contact
s. 22(1)(a)(ii)

5 / 01 / 2010

Consultation:**Attachments:**

- | | |
|---|--|
| A | Strategic assessment report for endorsement decision |
| B | Delivering Melbourne's Newest Sustainable Communities: Program Report December 2009 |
| C | Delivering Melbourne's Newest Sustainable Communities: Strategic Impact Assessment Report October 2009 |
| D | Summary of Victoria's response to public comments |
| E | Delivering Melbourne's Newest Sustainable Communities: Summary of submissions |
| F | Delivering Melbourne's Newest Sustainable Communities: Final report on submissions |
| G | Delegate's recommendations for program modification 2 October 2009 |
| H | Recommendations for program modification 18 December 2009 |
| I | Endorsement criteria as amended 2 October 2009 |
| J | Notice of endorsement decision |
| K | Letter to Minister Madden (planning) |
| L | Letter to Minister Jennings (environment) |
| M | Map of Melbourne strategic assessment program area |
| N | Strategic assessment agreement including terms of reference |
| O | Precinct Structure Planning Guidelines 2009 |
| P | <i>Melbourne 2030 a planning update: Melbourne @ 5 million 2008</i> |
| Q | <i>The Victorian Transport Plan 2008</i> |



MINISTER
2 / 2 / 2010



Australian Government

Department of the Environment, Water, Heritage and the Arts

***ENVIRONMENT PROTECTION AND BIODIVERSITY
CONSERVATION ACT 1999***

**STRATEGIC ASSESSMENT REPORT FOR ENDORSEMENT
DECISION**

**Strategic assessment of *Delivering Melbourne's Newest Sustainable
Communities December 2009*, the revision of Melbourne's Urban
Growth Boundary, Victoria**



Executive Summary

1. The Victorian Government has developed a program for implementing urban and associated development to accommodate Melbourne's expected population increase over the next 20 years.
2. The program outlines:
 - where development will occur in the revised urban growth boundary, including some areas within the existing urban growth boundary
 - road and rail transport corridors
 - Victorian legislation, policies, plans and strategies that will implement development
 - commitments to conservation outcomes and activities.
3. This program, *Delivering Melbourne's Newest Sustainable Communities Program Report December 2009* (the program) is the subject of a strategic assessment agreement between the Commonwealth Minister for the Environment, Heritage and the Arts and the Victorian Ministers for Planning and the Environment and Climate Change. The Victorian Government is seeking endorsement of the program under section 146 of the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).
4. The strategic assessment considered the program and the impact assessment report, *Delivering Melbourne's Newest Sustainable Communities Strategic Impact Assessment Report October 2009* (the IAR).
5. The strategic assessment has considered the impacts of implementing the program and the measures proposed to minimise these impacts on matters of national environmental significance (MNES) through a combination of avoidance, mitigation and offsetting.
6. Generally, implementation of the program will result in serious impacts on two critically endangered EPBC Act listed ecological communities (Natural Temperate Grassland of the Victorian Volcanic Plain (grassland) and Grassy Eucalypt Woodland of the Victorian Volcanic Plain (woodland) and listed threatened flora and fauna. Listed migratory birds are known to occur in areas intended for development, and development will occur in the catchment areas of two Ramsar wetlands. Many of the threatened species likely to be impacted are found within the two listed communities. The full list of MNES considered likely to be impacted by the implementation of the program is at [Schedule 1](#).
7. Over the life of the program, it is anticipated that majority of impacts will result from the clearing of vegetation and reduction of extent and connectivity of species habitat. Hydrological changes in water flows and/or quality associated with development are also possible, but are subject to specific mitigation measures.
8. The program has *avoided* impacts through designing the urban growth boundary and transport corridors to avoid, to a large extent, areas of high-quality MNES habitat. The western urban growth boundary (UGB) has been designed to

channel development around areas of listed grassland. The development footprint for northern Melbourne has excised areas of woodland, such that 80 per cent of all woodland within the revised UGB will be retained and managed in secure conservation reserves.

9. The program commits the Victorian Government to utilising specified Victorian planning frameworks (based on legislation, policies, plans and strategies) to deliver conservation outcomes and minimise impacts on MNES.
10. Key elements of the Victorian planning framework for *mitigating* impacts on MNES include: biodiversity conservation strategies, sub-regional species strategies, precinct structure planning guidelines, native vegetation precinct plans, conservation management plans and prescriptions. Many of these measures interact to enhance mitigation of impacts on MNES.
11. Specified conservation outcomes also provide broad-scale goals for mitigation measures, such as: species-specific conservation threshold targets, for example 80 per cent of highest priority habitats to be permanently protected and managed; maintained or improved water quality entering two Ramsar wetlands; a network of actively managed reserves across the landscape; and long-term sustainability and persistence for listed species and ecological communities.
12. At the broad-scale planning level of the four designated growth areas, biodiversity conservation strategies will provide the opportunity to obtain overarching biodiversity outcomes concurrently with urban development, and deliver on the conservation outcomes specified in the program. Sub-regional species strategies will inform the biodiversity conservation strategies by providing information on specific species, such as important populations and habitat links, as well as strategies for their protection. Each biodiversity conservation strategy and sub-regional species strategy requires approval by the Commonwealth.
13. At precinct/suburban planning scale, requirements such as minimum buffers for riparian corridors, best practice water sensitive urban design, protection of native vegetation and particular management requirements for MNES provide further mitigation of impacts. These MNES management requirements are identified through the application of species-specific prescriptions and are incorporated into the precinct structure planning process. All prescriptions for management of MNES must be approved by the Commonwealth.
14. At a smaller scale the program provides for discrete reserves, smaller offsets outside the main reserves such as at least three 100 hectare reserves for Golden Sun Moth conservation and ongoing protection for existing reserves housing MNES.
15. The Victorian Government has committed to acquiring and protecting large reserves for EPBC Act listed grassland and woodland ecological communities to be managed for the long-term persistence of MNES. Two large grassland reserves outside the UGB totalling 15 000 hectares will provide anticipated *offsets* of 10 000 hectares of high quality EPBC Act listed grassland community.

A commitment to a woodland reserve of at least 1 200 hectares is also contained within the program.

Table 1: The comparison of proposed clearance area to offsets.

Ecological Community	Proposed area to be cleared (hectares)	Proposed Offset (hectares)
Grassland (NTPVVP)	4 665	~10 000 within reserve
Woodland (GEWVVP)	708	At least 1200 within reserve

16. The consolidation of offsets into large, contiguous reserves that are actively managed is considered to provide greater conservation benefit than small scale, scattered offsets. This includes the ability to carry out management techniques which would be problematic in smaller areas (such as burning), to adaptively manage, to allow fauna that have limited mobility to maintain genetic connectivity across the landscape and provide greater security against threats. All offsets must be secured prior to any clearing occurring.
17. The department considers the commitment of the Victorian Government to establish and manage these reserves as very significant in relation to ensuring the representation, protection and persistence of MNES in the long term and across the bioregion.
18. The mechanisms proposed within the program to address cumulative impacts affecting water quality are considered to be more effective and efficient at delivering outcomes than through the regulation of individual actions. Initiatives include implementing water sensitive urban design and requiring minimum buffers along riparian areas, with a view to meeting the stated conservation outcome of maintaining or improving the quality of water entering the wetlands.
19. Overall biodiversity benefits are expected to result from the implementation of the conservation activities and offset/reserve proposals, including the protection and management of habitat for non-listed species, appropriately protected river and wetland ecosystems and maintenance of riparian habitat connectivity.
20. The program includes monitoring, reporting, and adaptive management frameworks to manage risks and uncertainties associated with the long-term implementation of the program. Changing circumstances, procedures and/or new information relating to MNES will be incorporated and accounted for when implementing the program. Adaptive management will be critical to improving outcomes delivered through the program. The program commits to independent monitoring and public reporting.
21. Melbourne's growing population has increased the demand for land supply, more affordable housing, employment areas and access to transport. Establishing a multi-node settlement pattern, using existing urban areas and adopting sustainable community design principles with transit oriented development demonstrates the Victorian Government has considered economic and social matters. The program provides protection of MNES within this context, adequately reflecting the principles of ecologically sustainable development.

22. The Victorian Government undertook public consultation on the draft impact assessment report and the department concludes that the IAR and program has adequately addressed the comments received.
23. For the Minister to endorse the program, he or she must be satisfied that the IAR adequately addresses the impacts to which the agreement relates and that any recommended modifications have been made to the program or any modifications having the same effect have been made.
24. There have been two occasions where modifications to the program have been recommended by the Minister or delegate. The department considers that these modifications, or modifications having the same effect, have been made.
25. The department considers that the IAR has adequately addressed the terms of reference in describing the impacts likely to result from the implementation of the program, and the measures proposed in the program that will be taken to avoid, mitigate and offset these impacts.
26. The department believes that the modified program contains the necessary mechanisms to monitor and minimise the likely impacts of the program on MNES over the life of the program, and commits to delivering appropriate and achievable conservation outcomes for those MNES.
27. Once a program is endorsed it cannot be amended or replaced, unless the program itself provides for such changes. The department considers that the program establishes a clear and rigorous framework for shaping urban development undertaken in accordance with the program, while allowing an appropriate degree of flexibility in specified areas to ensure future circumstances can be responded to appropriately.
28. The department notes that, should the program be endorsed, the EPBC Act provides for the attaching of conditions to any approval of an action or class of actions. This affords a further opportunity to ensure the protection of MNES, should it prove necessary or desirable to do so at the level of individual actions.

Recommendation

29. That the Minister endorse the program *Delivering Melbourne's Newest Sustainable Communities Program Report December 2009* under section 146 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

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TO REVISE THE MELBOURNE URBAN GROWTH BOUNDARY93**

1 Strategic assessment overview

30. The strategic assessment provisions under Part 10 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) enable the Minister to enter into an agreement with a person responsible for the adoption or implementation of a policy, plan or program (PPP) for an assessment to be undertaken in relation to the impacts of actions under that PPP on matters protected under the EPBC Act. Once the assessment is complete, these provisions allow the Minister to endorse the PPP and approve the taking of an action or a class of actions in accordance with the endorsed PPP.
31. The strategic assessment agreement provides for:
 - preparation of a draft report on the impacts to which the agreement relates (impact assessment report)
 - publication of the draft report for public comment
 - finalising the report and providing it to the Minister
 - the Minister making recommendations for modifications to the PPP (if any), and
 - the endorsement of the PPP if the Minister is satisfied with the program.
32. The agreement to assess the impacts of the program to revise Melbourne's urban growth boundary was signed by the Commonwealth Minister for the Environment, Heritage and the Arts and Victorian Ministers for Planning and the Environment and Climate Change on 4 March 2009. The program definition and key dates were amended as requested by the Victorian Government on 16 June 2009 (hereafter referred to as the agreement).

2 Endorsement overview

33. Section 146(2)(f) of the EPBC Act sets out matters for which the Commonwealth Minister must be satisfied before endorsing a PPP. These are that the Minister is satisfied that the impact assessment report adequately addresses the impacts to which the agreement relates, and that either the recommended modifications of the PPP have been made or any modifications having the same effect have been made.
34. The strategic assessment agreement also contains terms of reference for preparation of the impact assessment report and endorsement criteria that the Minister will have regard to.
35. The Minister is therefore required to consider the impact assessment report in deciding whether to endorse the PPP. Once the PPP is endorsed, it is not possible to amend or replace it without undertaking another strategic assessment.
36. There are no statutory timeframes for the endorsement decision prescribed under section 146.

37. The decision on whether to endorse the program is a necessary step in the strategic assessment process before the Minister can consider whether to issue approvals for actions or classes of actions taken in accordance with the program.

2.1 Endorsement considerations

2.1.1 The impact assessment report adequately addresses impacts

38. The Minister must be satisfied that the report adequately addresses the impacts to which the agreement relates. The agreement sets out the provisions of section 146 of the EPBC Act and the terms of reference for the preparation of the report.
39. Discussion of the impacts relating to the agreement is at section 4 of this report.

2.1.2 Recommended modifications have been made

40. The Minister must be satisfied that either the recommended modifications of the PPP (if any) have been made or any modifications having the same effect have been made.
41. There have been two occasions where modifications have been recommended by the Minister and the delegate. The first modifications were recommended in letters to the Victorian Ministers for Planning and the Environment from the delegate of the Minister on 2 October 2009 (Commonwealth Government 2009a). The second modifications were recommended in letters to the Victorian Ministers for Planning and the Environment on 18 December 2009 (Commonwealth Government 2009b).
42. Discussion of the recommended modifications and the Victorian Government's response is at section 7 of this report.

2.1.3 Endorsement criteria considered

43. The strategic assessment agreement contains endorsement criteria providing that the Minister will have regard to the extent that the PPP meets the objectives of the EPBC Act.
44. In particular that the PPP:
 - protects the environment, especially matters of national environmental significance
 - promotes ecologically sustainable development (ESD)
 - promotes the conservation of biodiversity, and
 - provides for the protection and conservation of heritage.
45. Accordingly, the PPP and final report should:
 - incorporate mechanisms which avoid the taking of actions in any location that will have an impact to matters of national environmental significance or are of high biodiversity or heritage value; or
 - provide that where impacts cannot be avoided, then the impacts should be reduced to an acceptable level

- provide for effective management, mitigation or offset of the likely impacts, and
 - contain an effective system of adaptive management that is independently audited and publicly reported.
46. The Minister will also consider the extent to which the PPP and its associated final report adequately incorporates:
- the precautionary principle
 - the other principles of ecologically sustainable development
 - intergenerational equity, and
 - matters the Minister considers to have a high likelihood of being potentially eligible for listing as matters of national environmental significance.
47. The endorsement criteria were amended by way of exchange of letters on 2 October 2009 to remove confusion over the use of “significant” and substitute “avoid” impacts for “prevent”. Discussion about whether endorsement criteria have been addressed is at section 9 of this report.

2.1.4 Terms of reference addressed

48. The terms of reference provide for a report on the impacts to which the agreement relates.
49. The provisions of section 146 of the EPBC Act allows for the preparation of the terms of reference can be provided in the agreement or that draft terms of reference can be prepared, released for public comment and then finalised. In the case of the agreement for this strategic assessment, the terms of reference are provided in the agreement and were not released for public comment. This was due to timeframe considerations and that previous strategic assessment agreements had received very few comments on the draft terms of reference.
50. In summary, the terms of reference for the report specify that the report addresses:
- Project purpose and description
 - Promoting ecologically sustainable development (ESD)
 - Planning for and promoting ESD
 - Environment affected by the program
 - Preventing impacts on matters of national environmental significance (MNES) and promoting the protection and conservation of biodiversity and heritage values
 - Nature and significance of impacts
 - Management, mitigation or offset of likely impacts
 - Addressing uncertainty and managing risk
 - Reasonable assurance
 - Auditing and reporting
 - Adaptive management, review and modification
 - Endorsement criteria
 - Information sources

51. Discussion about how the terms of reference have been addressed is at section 4 (impacts), section 5 (risks and compliance) and section 6 (ESD) of this report. The department's conclusion is at section 9 of this report.

2.1.5 Public consultation on impact assessment report

52. The agreement also requires the draft report is released for public comment for a period of at least 28 days. The final report must take into account the comments (if any) received after publication of the draft report.
53. Public consultation by the Victorian Government on the draft impact assessment report was undertaken for a period of 31 days from 17 June 2009 to 17 July 2009 (Victorian Government 2009c).
54. A summary of the public consultation process and comments is at section 8 of this report.

3 Description of the Program

55. The program subject to this strategic assessment is *Delivering Melbourne's Newest Sustainable Communities Program Report December 2009* (the program) (Victorian Government 2009b). This program is a whole of government initiative by the Victorian Government.
56. The report that addresses the impacts of this program is the *Delivering Melbourne's Newest Sustainable Communities Strategic Impact Assessment Report October 2009* (the IAR) (Victorian Government 2009a).
57. The program is the result of the Victorian Government's plans to cater for and accommodate Melbourne's expected population increase over the next 20 years.
58. The groundwork for the program began when Victorian Government released its vision for metropolitan Melbourne and the surrounding region *Melbourne 2030* in October 2002 (Department of Infrastructure 2002). This was updated with the *Melbourne @ 5 million* report and the *Victorian Transport Plan* in December 2008 to provide the rationale for revising the urban growth boundary and constructing new transport corridors. These documents also described socio-economic considerations for new development (see section 6). The *Melbourne @ 5 million* report (Department of Planning and Community Development 2008) showed investigation areas around Melbourne where urban development could be reasonably located. The *Victorian Transport Plan* (Department of Transport 2008) described the Outer Metropolitan Ring Road and E6 road (OMR/E6) and Regional Rail Link (RRL) transport infrastructure projects. These two reports are the basis for the program.
59. A draft of the program was released for public comment together with the impact assessment report in June (see section 8 of this report). The department has since worked with the Victorian Government on the program to improve the clarity and intent of the document. The final program also incorporates recommended modifications (see section 7 of this report).

3.1 Content of the program document

60. The program describes: the areas for urban development; the Victorian Government legislation, strategies, policies and plans to implement development and the conservation outcomes sought for MNES. More detail on the content of the program, the notional activities under the program and how the program will be implemented is provided below.
61. The department's analysis of the program is based on the final program document submitted to the department by the Victorian Government on 29 December 2009.

3.1.1 *Where the program will be implemented*

62. The program for Melbourne's urban expansion will be implemented in the following areas:
- Land within Melbourne's proposed revised urban growth boundary (UGB) that will accommodate approximately 284 000 new dwellings and employment areas. The total area in four expanded growth areas is approximately 41 000 hectares, of which around two-thirds would be developed (Victorian Government 2009b, map p. 11).
 - Precincts within the existing UGB which have been or will be publicly exhibited after 26 May 2009 (approximately 40 precincts) (Victorian Government 2009b, map p. 17).
 - The Regional Rail Link (RRL) corridor between Deer Park and Werribee (Victorian Government 2009b, map p. 11).
 - The Outer Metropolitan Ring Road/E6 (OMR/E6) corridor provides for four lanes each way and a four-track rail corridor around the west and north of Melbourne (Victorian Government 2009b, map p. 11), and
 - Two grassland reserves to the west of Melbourne totalling 15 000 hectares and an approximate 1200 hectare woodland reserve to the north of Melbourne.

3.1.2 *Program implementation phases: program approval, planning, construction and operation.*

63. The program utilises state legislation, policies, plans and strategies to implement development. Together with specifying conservation outcomes to be achieved, the use of planning frameworks and legislation guides decision making to identify, protect and conserve MNES.
64. The explanation of how the program works is in section 3.3 of this report.
65. Implementation of the program divided into four stages. The stages are sequenced, however there will be overlaps given the breadth of the program.
- Stage 1 – involves securing Commonwealth and Victorian Government approval (and endorsement) of the program through key legislation including the EPBC Act. This stage is currently underway.
 - Stage 2 – develops the plans and strategies that make up the planning framework. Details of the mechanisms that make up the framework are described in section 3.3.2 of this report. This stage also specifies when environmental assessments are undertaken and land acquisition processes for the program occur. Stage 2 will occur over the next 12-18 months but may take up to three or four years to complete. The Commonwealth is involved in approving specific plans and strategies in this stage.
 - Stage 3 – encompasses activities that will be undertaken to implement the program such as the development of land for urban and transport infrastructure as well as establishing conservation reserves both within and outside the UGB. This will occur over the next 20 years. During this stage the Commonwealth will receive reports and review audits but involvement will be less than stage 2.
 - Stage 4 – is the operational stage where land has been developed in accordance with the plans and strategies of stage 2 and the activities to

implement the program of stage 3. In this stage the transport corridors will be operating, urban activities will be occurring within the growth areas and conservation reserves will be established and actively managed. This will occur over the next 20 years and beyond. The Commonwealth will have minimal formal involvement beyond receiving and responding to monitoring and audit reports which may require compliance activities.

3.1.3 Conservation outcomes and activities

66. Conservation outcomes are one of the main mechanisms in the program to ensure that the Victorian Government will deliver on protecting MNES.
67. Conservation activities are commitments for a range of activities to achieve the conservation outcomes.
68. The program will deliver a range of environmental outcomes to avoid, mitigate and offset impacts resulting from the program, from the establishment of large-scale reserves outside the UGB, to riparian buffer corridors and a number of smaller (i.e. 100-150 hectares) reserves within the UGB. These outcomes will be delivered over different temporal scales depending upon the timing of development and will utilise a range of different conservation activities.
69. A detailed assessment of the adequacy of the conservation activities and outcomes is in section 4 of this report.

3.1.4 Role of the Victorian and Commonwealth Governments

70. The responsibility for implementing the program lies with the Victorian Ministers including the Minister for Planning, the Minister for Environment and Climate Change, the Minister for Public Transport and the Minister for Roads and Ports.
71. Nine Victorian Government agencies will work to implement the program throughout the four program implementation stages to ensure a whole of government approach.
72. The Victorian Government will work with councils, government and non-government service providers, developers, land owners and the Commonwealth Government to implement the program.
73. The Commonwealth Government is represented by the Minister for Environment, Heritage and the Arts. If this program is endorsed, actions or classes of actions would be considered for approval by the Minister for Environment, Heritage and the Arts,
74. The Commonwealth Government will be involved in all four program implementation stages although involvement will be more intense in the first two stages. For a full summary of Commonwealth Government involvement throughout the program refer to Schedule 2.

3.1.5 Program evaluation

75. The program document describes monitoring, reporting and adaptive management commitments for the implementation of the program. Monitoring and reporting is specified by stages of implementation and by conservation outcomes. A list of reports provided to the Commonwealth Government is at schedule 2. Whilst the monitoring, reporting and adaptive management commitments appear comprehensive, the department considers that more detailed reporting, monitoring frameworks are required to ensure the timeframes are appropriate and linkages between the various elements are clear. The frameworks will be established between the Victorian and Commonwealth Governments within 12 months if the program is endorsed.
76. Further discussion on the various elements of monitoring, reporting and adaptive management and how these provide certainty for implementation of the program is in section 3.3 of this report.

3.2 Notional activities under the program

77. The formal process of approving actions or classes of actions cannot occur until the program has been endorsed. The Minister can approve actions or classes of actions taken in accordance with the endorsed program. The EPBC Act allows the Minister to apply conditions to actions or classes of actions. Defining, approving and conditioning actions and classes of actions is a separate step in the strategic assessment process. Approval of specific actions may require further analysis and negotiation with the Victorian Government.
78. Notional actions associated with implementing this program which could be considered for approval include:
- Development of urban activities, including transport, utility and social infrastructure, residential, commercial and industrial activities, extractive industries (quarries) within the program area.
 - Development of transport infrastructure along the RRL and OMR/E6 corridors.

3.3 How the program works

3.3.1 Legislation and policy informs process and guides decision making

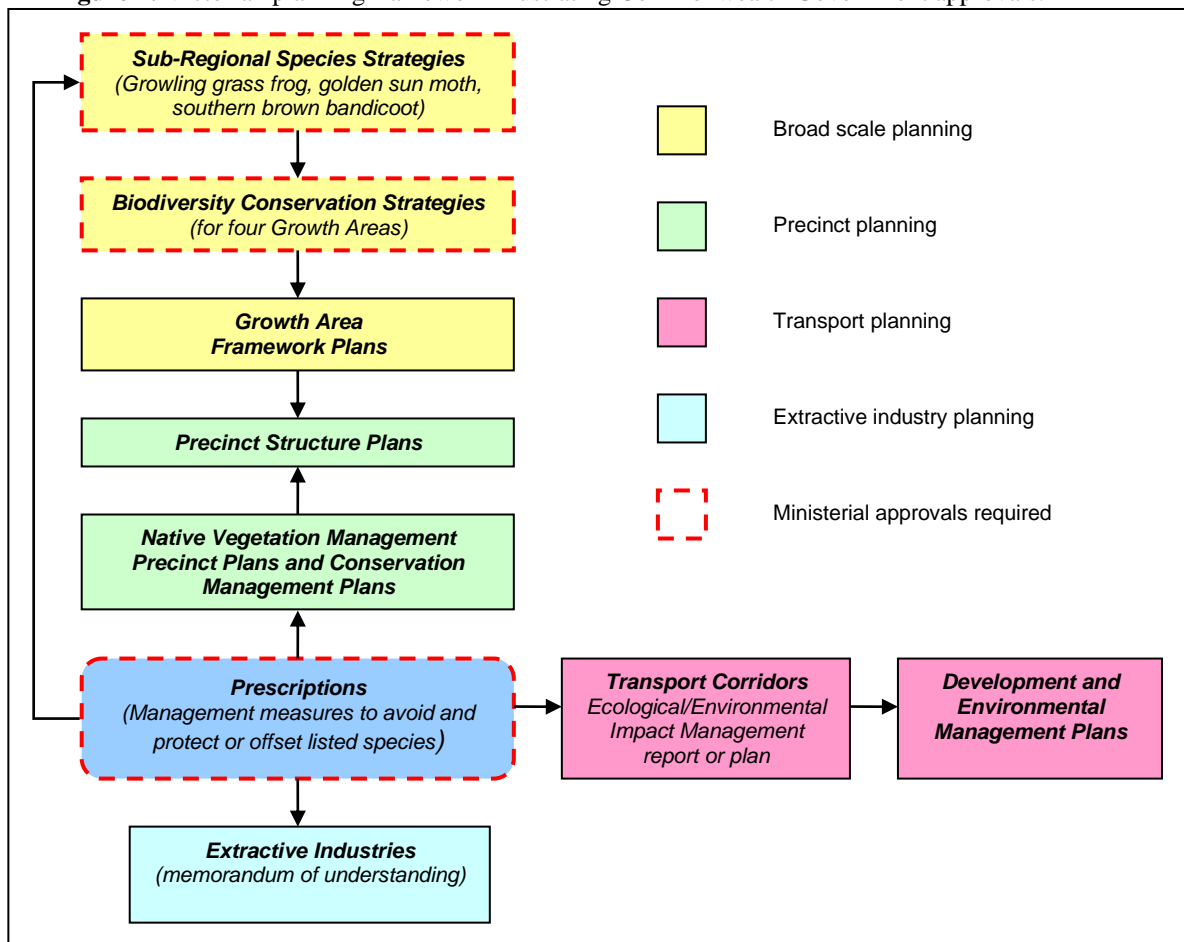
79. A key feature of the program is the linkages between Victorian legislation, policy and planning frameworks that will guide decision making and implementation of the program.
80. The planning framework in the program utilises existing Victorian Government legislation, such as the *Planning and Environment Act 1987*, for providing policies and provisions for planning schemes which regulate the use, development or conservation of land within Victoria. Other legislation and policies, such as the *Flora and Fauna Guarantee Act 1998* and Native Vegetation Management Framework 2002 are integral to the conservation of biodiversity.

- 81. Victorian legislation on water, including water quality, and greenhouse gas and energy efficiency, may also be triggered through implementation of the program.
- 82. A list of primary legislation, policies and strategies that regulate the program is provided (Victorian Government 2009b, pp. 20-22).

3.3.2 Program planning framework

- 83. The program planning framework outlines the plans and strategies that will be put in place to implement development and protect MNES.
- 84. Key plans and strategies within the framework will require Commonwealth Ministerial approval. This has been negotiated between the Commonwealth and Victorian Governments because of the importance of particular parts of the framework for providing the best possible outcomes for MNES. Figure 1 illustrates the program planning framework with the key plans, strategies and prescriptions.

Figure 1: Victorian planning framework illustrating Commonwealth Government approvals.



3.3.3 Prescriptions

85. Prescriptions are a mechanism utilised by the Victorian Government to provide “rules” or actions to manage impacts on specific MNES.
86. Draft prescriptions are provided in the IAR for each of the MNES that have been identified as likely to be impacted by the program implementation (Victorian Government 2009a, pages 147-207). The prescriptions direct retention, allowable clearing, the potential for translocation and offsetting requirements.
87. These prescriptions provide guidance about how MNES will be managed at the small-medium scales (for example suburban scale) of development. Some of the draft prescriptions specify targets (such as 80 per cent of highest priority habitats to be retained) while others specify mitigation measures (for example buffers along riparian corridors).
88. Use of prescriptions will be a requirement for the urban, transport and extractive industry planning processes. In urban development planning, the prescriptions will primarily be used by the Growth Areas Authority to design precinct structure plans (suburbs), and will also inform the broader sub-regional species strategies by identifying important populations, areas to be retained (where known) and habitat links. In transport planning, the prescriptions will be used to manage MNES found in the rail and road corridors. This will also be the case for extractive industries.
89. The content of the prescriptions is not articulated in the program. This is to allow prescriptions to change in response to certain triggers specified in the program (Victorian Government 2009b, p. 31) and hence improve conservation activities and outcomes. Triggers include:
 - new listings under the EPBC Act
 - publication of any new recovery plan or policy statement relevant to a MNES subject to a prescription, and
 - any indication that relevant conservation outcomes described in the program, conservation strategies or sub-regional strategies may become unachievable or there may be better ways to achieve the outcome.
90. These triggers aim to address risks relating to improved information availability and respond to changes over the life of the program and are an important adaptive management component of the program.
91. The prescriptions require approval by the Commonwealth Government. Approval must occur before actions are undertaken or the actions will not have approval as they will not be in accordance with the program. It is anticipated that the prescriptions would be the first element of the program planning framework to be considered for approval by the Minister if the program is endorsed.

3.3.4 Implementing urban development

92. As Figure 1 illustrates, there are two main levels of urban planning, broad scale planning for growth areas and precinct planning at a precinct and suburban scale. The two levels of planning are described below.

Broad scale planning

93. There are three main components of the broad scale planning framework; growth area framework plans; biodiversity conservation strategies; and, when required, sub-regional strategies for particular species.
94. Growth area framework plans are statutory plans which will be prepared for each of the four new expanded growth areas. These plans establish the structure for land within the growth areas based on the strategic directions of *Melbourne 2030*. They guide the creation of new communities within the growth areas and will incorporate protection mechanisms for MNES specified in the program. They show broad land use patterns (including the location of principal and major activity centres), committed and proposed transport networks, regional open space, significant waterways and areas of environmental sensitivity.
95. Maps (Victorian Government 2009b, pp. 26-33) show indicative growth area framework plans as red areas for developable land and green areas for constrained land (not for urban development). Growth area framework plans are already in place for some of the existing precincts that form part of the program. Existing growth areas framework plans will be amended to cover the extended growth areas and to take into account program requirements.
96. Growth area framework plans will be developed in a manner that is consistent with biodiversity conservation strategies and sub-regional species strategies which require approval by the Commonwealth Minister.
97. Growth area framework plans do not require Commonwealth Government approval and will inform precinct level planning. The department considers this to be acceptable as the key strategies that will guide management of MNES will be approved by the Minister.
98. The department has negotiated for sub-regional species strategies to be developed for some specific MNES such as the growling grass frog, southern brown bandicoot and the golden sun moth which generally have requirements for management in the broader landscape.
99. When developed these strategies will identify important populations and habitat links for protection within the landscape consistent with approved species prescriptions. They will influence negotiations and inform preparation of broad scale biodiversity conservation strategies and precinct structure plans. Each sub-regional species strategy must be approved by the Commonwealth Government prior to the finalisation of biodiversity conservation strategies.
100. A biodiversity conservation strategy will be prepared by the Victorian Government for each of the new expanded growth areas. They will outline how areas of high biodiversity value within the growth areas will be managed and spatially identify how outcomes for MNES will be delivered within the growth area. Each biodiversity conservation strategy will inform growth area framework planning and must be approved by the Commonwealth Government before growth area framework plans are completed. The department anticipates the

biodiversity conservation strategies will complement each other because Commonwealth requirements form the basis for each strategy.

Precinct (suburban) level planning

101. Precinct structure plans (PSPs) define the future structure of a suburb or group of suburbs, detailing the location of housing, activity centres, employment centres, community facilities, local transport networks and open space. They also identify the location of biodiversity sites and listed heritage places. These plans will be prepared in accordance with the growth area framework plans and in accordance with the Precinct Structure Planning Guidelines (PSP Guidelines). The Commonwealth Government is not required to approve PSPs under the program.
102. PSPs will also be prepared in accordance with the prescriptions, which require approval by the Commonwealth Government (see section 3.3.3).
103. The PSP Guidelines apply to the preparation of PSPs for new residential communities and new major employment areas (Growth Areas Authority 2009). The PSP Guidelines provide detailed guidance on the process that must be followed in assessing, protecting and managing biodiversity values in developing PSPs as well as guidance on best practice Water Sensitive Urban Design (WSUD) and integrated water management. The department had input into these guidelines when they were being developed during 2009. The Commonwealth Government does not approve these guidelines but they do take into account MNES through the Biodiversity Precinct Planning Kit and requirement to incorporate prescriptions.
104. The PSP Guidelines incorporate the Biodiversity Precinct Planning Kit, which specifies pre-planning surveys for biodiversity, biodiversity data inputs and templates to be used in preparing biodiversity plans.
105. The PSP Guidelines require that a native vegetation management plan and a conservation management plan be developed after surveys have been completed.
106. A native vegetation management plan sets out the requirements for the protection, removal and offsetting of native vegetation for a defined area or precinct. It must be consistent with relevant approved prescriptions.
107. After a biodiversity survey of the precinct has occurred according to the PSP Guidelines, a native vegetation management plan is developed. The plan is then incorporated into the relevant local planning scheme. It is not required to be submitted to the Commonwealth Government for approval.
108. A conservation management plan is to be prepared in accordance with any approved prescriptions for areas where there are important populations of species that require particular protection and management (e.g. golden sun moth, southern brown bandicoot, growling grass frog). The plan will then form part of the relevant local planning scheme. It is not required to be submitted to the Commonwealth Government for approval. Compliance reporting to the department by Victoria will examine whether both native vegetation

management plans and conservation management plans are implemented in accordance with the program.

3.3.5 Implementing transport

109. The program describes environmental requirements for planning the RRL and OMR/E6 transport corridors (Victorian Government 2009b, pp. 31-32).
110. Assessment of the flora, fauna and ecological values of the final alignment of the RRL and the OMR/E6 will be undertaken in accordance with the Victorian *Environment Effects Act 1978*. Planning for the final alignments for the transport infrastructure must be in accordance with approved prescriptions.

Regional Rail Link

111. The proponent for the RRL will be required to prepare an ecological impact management report which will describe the existing ecological values, assess potential effects of construction and operation and describe planned mitigation measures.
112. The proponent will also prepare an ecological impact management plan which will guide management actions as well as monitoring, evaluation and reporting procedures. The Minister will be consulted on the ecological impact management plan to ensure MNES are appropriately considered.
113. The draft prescriptions for MNES allow clearing for “state significant infrastructure”, which includes the RRL and OMR/E6 transport corridors, even if other criteria for retention of MNES are met. The department considers that the ecological impact management plan would address minor avoidance and mitigation options that could be undertaken within the RRL corridor that would minimise impacts on MNES where possible.
114. If the program is endorsed, the Minister could consider in his decision about whether to approve actions in the subsequent step attaching conditions that relate to Ministerial approval of the ecological impact management plan to ensure that all of the impacts have been fully considered and the opportunities to minimise these impacts have been undertaken.
115. The ecological impact management plan will inform the development plan and environmental management plans. According to the program, the Commonwealth Government would not be involved in these plans. The department considers this acceptable as the ecological impact management plan would be the key plan to approve.

OMR/E6 transport corridors

116. The proponent will prepare an environmental impact report on the OMR/E6 to document the likely environmental effects and project benefits of the preferred alignment. It will detail the results of field surveys, the likely impact of the project and the availability of suitable offsets.

117. The environmental impact report will guide the preparation of an environmental management plan for the projects construction and operation. This plan will include monitoring, auditing and reporting requirements. Management measures within this plan will be consistent with approved prescriptions.
118. As per the RRL, the department considers the environmental management plan would address minor avoidance and mitigation options that could be undertaken. As such, if the program is endorsed, a condition relating to Ministerial approval of the plan could be considered in the subsequent decision on whether to approve actions.

3.3.6 Implementing extractive industries

119. A Memorandum of Understanding (MoU) between the Department of Sustainability and Environment (DSE) and the Department of Primary Industries exists to endorse the Mining and Extractive Industries Work Approvals process. This approvals process does not currently account for MNES.
120. The program proposes to amend the MoU to require that approved prescriptions be applied to all future extractive industries. The department does not anticipate that extractive industries would be classified as “state significant infrastructure” and hence prescriptions would be applied as for urban development with relevant criteria for retention of MNES to be followed. As previously stated, the Commonwealth Government approves prescriptions but otherwise there is no other Commonwealth approval required for this activity.
121. There may be additional impacts from this activity on water quality and quantity in certain areas that could affect MNES (for example near Ramsar wetlands). These additional impacts may not necessarily be addressed through prescriptions (see section 4.5). If the program is endorsed, the Minister’s decision about whether to approve actions could consider attaching additional conditions, such as a submission of an environmental management plan for these types of activities.

3.3.7 Planning for reserves

122. The Victorian Government has committed in the program to the establishment of large reserves to offset the impacts from development.
123. The planning document *Melbourne @ 5 million* foreshadowed that two large grassland reserves were planned for western Melbourne. To obtain contiguous land parcels for reservation, voluntary and compulsory acquisition of private land will occur. Public consultation has occurred on this proposal, and an overview of comments is in section 8 (details of specific comments are at Victorian Government 2009c). An acquisition schedule for the grasslands reserves will be provided to the department by December 2010 (Victorian Government 2009b, p. 48).
124. A large woodland reserve to the north east of Melbourne has been negotiated by the department late in the strategic assessment process. Hence the same level of public consultation and planning has not occurred as for the grassland reserves.

The Victorian Government has committed to the establishment of the reserve but the specific mechanisms for delivery will be decided after public consultation on the location of the Public Acquisition Overlay (which identifies the land that would be compulsorily acquired) and other legal protection measures such as permanent on-title agreements (Victorian Government 2009b, p. 53).

125. Interim management plans will be developed for private property that has been designated for inclusion in the grassland reserve but is yet to be acquired. The plans will introduce a management regime to ensure the ecological communities are not degraded in the period prior to formal acquisition. Reports on the implementation of the interim management plan will be provided to the department every six months in 2010-2011 then annually until the land is acquired.
126. National Park or reserve management plans will be developed to reserve land for conservation or recreation purposes as required by Victorian legislation. Performance standards for management and monitoring methodology based on best practice adaptive management of grasslands will be provided to the department by June 2011.
127. The Victorian Government has also committed to investigating the establishment of a wetland reserve in the south east of Melbourne adjacent to the program area (Victorian Government 2009b, p. 46, 67). This wetland will be designed to restore important wetland habitats and assist achieving water quality objectives for waterways and the Western Port Ramsar site. An investigation report will be provided to the Commonwealth Government by March 2011, including identifying the funding and acquisition mechanisms.

3.3.8 Offsets

128. The minimum requirements for delivering offsets are specified within the program. The key requirement in the department's view is that offsets must be secured prior to commencement of clearing. The calculation of native vegetation losses and gains, and like for like criteria, will be in accordance with the habitat hectare system as prescribed by Victoria's Native Vegetation Management Framework as cited within the program.

The Victorian Native Vegetation Management Framework: Offsets and habitat hectare methodology

129. The Program's basis for treatment of vegetation is primarily based on the policy, *Victoria's Native Vegetation Management – A Framework for Action*. The Victorian Native Vegetation Management framework's overall aim is to achieve a reversal of the long term decline in native vegetation quality and extent across the landscape whilst subsequently providing protection and management incentives that will lead to an improvement in overall vegetation quality.
130. The Framework operates on the triage of avoiding, minimising and offsetting impacts on native vegetation, and uses the Victorian habitat hectare vegetation quality assessment model. The overall objective of the Victorian Government is to protect high quality habitat.

131. The vegetation quality assessment model considers the attributes of a parcel of land containing native vegetation by giving the parcel a quality score based on presence or absence of ecological attributes including ground, shrub and canopy cover, woody debris and weed coverage. For example, a parcel of land may be 10 hectares in total area but be scored as 1.5 habitat hectares. The 1.5 represents the area of the total that is native habitat. The remaining 8.5 hectares would be unscored due to being either severely degraded or non-native habitat.
132. The approach by the Victorian Government differs to that of the Commonwealth Government in that the focus is on habitat rather than individual species. This allows for qualities within an ecosystem to be assessed as a whole, including the ecological community and associated species.
133. Prescriptions bridge the gap between the habitat approach and impacts on individual species by requiring offsets for species impacted by development. Offsets will be obtained which contain the species in high quality habitat. Therefore there will be instances where the prescriptions will require offsets in addition to any requirements of the Native Vegetation Management Framework.
134. The department's view is that the Native Vegetation Management Framework provides a strong basis for obtaining offsets for EPBC Act listed ecological communities, and the application of prescriptions, together with the Victorian framework, will be able to obtain satisfactory offsets for other EPBC Act listed species.

Administering offsets

135. The process of creating, advertising and selling native vegetations credits for offsets will be administered by the Bush Broker program (Victorian Government 2009a, p. 129). This facilitates the requirement for developers to secure and fund the creation and ongoing management of offsets. Most offsets will be accounted for within the proposed grassland and woodland conservation reserves. However, if areas of requisite like for like habitat cannot be found in these proposed conservation reserves, then the offset will have to be secured elsewhere within the bioregion. As the developer is responsible for locating offsets prior to development, it is likely this situation would result in outcomes similar to current practice for case by case development.
136. The Commonwealth Government has also asked Victoria to report publicly on accounting for offsets. This has been included as a commitment in the modified program (Victorian Government 2009b, pp. 72-79).

3.3.9 Commonwealth Government involvement

137. The outcome of this strategic assessment will result in the Victorian Government taking primary responsibility for implementing and managing the program, including planning for protection of MNES and undertaking conservation management activities to deliver specified conservation outcomes.

138. However the Commonwealth Government will still retain significant involvement in key aspects of the program relating to the protection of MNES, including the approval of key planning strategies such as:
- the sub-regional species strategies
 - biodiversity conservation strategies and
 - prescriptions
- as well as monitoring and reporting, and adaptive management frameworks against specified conservation outcomes.
139. These key strategies and frameworks are integral to the program's success as they will establish how MNES will be protected in the landscape, what will be monitored and reported on and how new information will be used to maximise biodiversity outcomes.

3.3.10 Monitoring, reporting, compliance and adaptive management

140. The program includes monitoring, reporting, and adaptive management frameworks to manage risks and uncertainties associated with the long-term implementation of the program. Changing circumstances, procedures and/or new information relating to MNES will be introduced and accounted for when implementing the program. Adaptive management is critical to improve the outcomes delivered by the program as circumstances change.

Monitoring and Reporting

141. A monitoring and reporting framework will be developed by the Victorian Government to ensure processes and outcomes are compliant with the program. The framework will describe the roles of the Commonwealth and Victorian Governments and the independent monitor.
142. An independent monitor will be appointed to check the Victorian Government are compliant with their own legislation and planning processes. Terms of reference for an independent monitor will be agreed between the Commonwealth and Victorian Governments.
143. The Victorian Government will be responsible for delivering reports under Victorian legislative processes that the Commonwealth Government may not receive, but the Commonwealth will receive reports on whether the construction of urban areas and transport infrastructure is compliant with the program.

Compliance

144. An overarching tenet of strategic approvals is that any actions approved by the Minister must be taken in accordance with the endorsed program, otherwise the approval may not be valid. If the program is not implemented as specified or the conservation outcomes are not obtained, approvals given for any actions relating to the non-compliance would become invalid. Approval holders could be liable if they continued with actions and face compliance action under normal EPBC Act procedures. For example, actions relating to a non-compliant precinct plan may no longer benefit from approval where the precinct plan is developed in a way that does not comply with the program. Recent modifications to the program

provide for remediation by the Victorian Government to improve equity for developers acting in accordance with approved plans.

145. The Victorian Government is, for the most part, only the party responsible for the implementation of the program rather than being an approval holder for actions taken in accordance with it. There will in most cases be limitations on the ability of the Commonwealth Government to utilise existing enforcement mechanisms under the EPBC Act in instances where the Victorian Government fails to implement or comply with the program as required. It is also not possible to amend or replace an endorsed program. However, if the program is not being implemented as endorsed, there are steps outlined in the program to resolve the non-compliance (Victorian Government 2009b, pp. 85-86). For example, in the case of non-compliance with a conservation outcome, the Victorian Government must submit a remedial plan for addressing non-compliance for approval by the Commonwealth Government.
146. The Commonwealth retains all normal powers to enforce the EPBC Act against approval holders and other persons for taking an action without valid approval, or non-compliance with any conditions that may be attached to an approval of an action or class of actions under the EPBC Act, irrespective of the relationship or role such approval holders may have with the Victorian Government. The EPBC Act also provides for third party enforcement mechanisms that may also be available in the event of non-compliance.

Adaptive management

147. An adaptive management framework will be developed by the Victorian Government to guide the input of new information and procedures. The framework will set out the methodology for systematic improvement of management practices and will be submitted to the Minister for approval
148. New listings under the EPBC Act will be accounted for through development of new prescriptions as specified in the program. Note that the event of a new listing will not affect any approvals given under the EPBC Act prior to that listing.

4 Anticipated impacts from program implementation

4.1 General description of the environment

149. The total area of land identified as suitable for development within the program is approximately 24 000 hectares (Victorian Government 2009b, p. 9) although this may not include all developments in the constrained land. Most of this land is located to the west and north of Melbourne, with 3770 hectares located to Melbourne's south east.
150. The IAR states that the program will be implemented predominately within the Victorian Volcanic Plain and Gippsland Plain bioregions. Some activities in Melbourne's west will occur in the Otway Plain and small parts in Melbourne's north in the Central Victorian Uplands and Highlands-Southern Fall bioregions (Victorian Government 2009a, pp. 29-32).
151. The climate has fairly uniform temperatures across the region but with significantly varied rainfall. Rainfall increases from west to east, with the western volcanic plains having the lowest rainfall (Laverton averages 541 mm per year) and increasing to the hills to east and north east (Mt Dandenong averages 1170 mm per year).
152. The five main catchments that the program may impact on are Werribee, Maribyrnong, Yarra, Dandenong and Western Port. Many rivers and creeks in the Western Port area flow into the Western Port Ramsar site. Many of the rivers and creeks within the Werribee catchment flow into the coastal wetlands that are part of the Port Phillip Bay Ramsar site.
153. The program area includes predominately agricultural land adjacent to highly urbanised areas. There has been extensive clearing of the original native vegetation in both the Victorian Volcanic Plain (four per cent remaining) and Gippsland Plain (thirteen per cent remaining) bioregions. The Highlands-Southern Fall bioregion may have a higher percentage of native vegetation.

4.2 Likely impacts on MNES

154. Section 4.5 will discuss specific MNES impacts. This section will provide an overview of impacts that are likely to occur from implementation of the program.
155. The assessment was required to consider the impacts of the implementing the program on MNES and how the program proposed to avoid, mitigate and offset these impacts.
156. Over the life of the program, it is anticipated that major impacts will occur from clearing vegetation, barriers to species movement from development and hydrological changes from development. Other threats to these include weed invasion, loss of terrestrial climatic habitat caused by anthropogenic emissions of greenhouse gases (listed key threatening process), competition and land degradation by rabbits and predation by introduced animals particularly the

- domestic cat and the european red fox (both of which have threat abatement plans).
157. The full list of MNES likely to be impacted from implementation of the program is at Schedule 1. Generally impacts will be on two EPBC Act listed ecological communities, threatened flora and fauna, migratory birds and two Ramsar wetlands. Expert advice was sought to determine the MNES likely to be impacted.
158. Two EPBC Act listed critically endangered ecological communities will be impacted by the program: the Natural Temperate Grassland of the Victorian Volcanic Plain (the grassland) and the Grassy Eucalypt Woodland of the Victorian Volcanic Plain (the woodland). EPBC Act listed species associated with these ecological communities will therefore also be impacted. These include: the spiny rice flower, striped legless lizard, golden sun moth, grassland earless dragon and the plains wanderer (associated with the grasslands); and the swift parrot and matted flax lily (associated with the woodlands).
159. Other MNES not typically associated with these ecological communities that are likely to be impacted by the program include:
- the Port Phillip and Western Port Ramsar wetlands, migratory birds, the growling grass frog, the Australian grayling (through water quantity and quality impacts)
 - the southern brown bandicoot (through barriers to movement and vegetation clearing), and
 - other flora such as orchids.
160. The EPBC listed grassland is predominately to the west of Melbourne although it ranges to the north. The woodland community is predominately in the northern growth area. The south east growth area has been substantially modified for horticulture and hence contains fewer EPBC listed species and communities. The main impacts in this area are likely to be on the southern brown bandicoot and the growling grass frog.
161. The Temperate Lowland Plains Grassy Wetland ecological community has also been nominated to be listed under the EPBC Act and is likely to be impacted by the program.
162. As detailed survey information for all MNES is not available, the Victorian Government has used a combination of surveys, mapping and modelling to estimate the extent of, and the impacts on, MNES. More detailed information will become available about the impacts and their offsets from surveying under the Precinct Planning Structure Guidelines and for offsets. Based on expert advice on presence and absence, the department is confident that the all the MNES that could be impacted have been identified.
163. The IAR specifies MNES ecological community losses from development. These are anticipated losses based on current mapping, surveys and plans for development (Victorian Government 2009a, p. 274).

Table 2: The anticipated number of hectares of ecological communities and other native vegetation likely to be impacted by the program implementation.

Vegetation	Anticipated losses (hectares)
Natural Temperate Grassland of the Victorian Volcanic Plain	4665
Grassy Eucalypt Woodland of the Victorian Volcanic Plain	708
Plains Grassy Wetland (nominated to be listed under EPBC Act)	75
Other native vegetation	1040
TOTAL	6488

Table 3: The number of hectares of ecological communities and other native vegetation likely to be impacted by the nominal activities under the program. Differences in overall areas may be due to rounding errors.

Indicative activity	Anticipated loss of Grassy Eucalypt Woodland (hectares)	Anticipated loss of Natural Temperate Grassland (hectares)
Clearing for urban development	584	4047
Clearing for E6	83	5
Clearing for OMR transport corridor	42	520
Clearing for RRL	0	95
TOTAL	709	4667

164. It could be assumed that MNES associated with the identified ecological communities would also be impacted to the same or lesser degree as shown in Tables 2 and 3.

4.3 Minimising impacts

165. The Victorian Government was asked to address three main criteria in the strategic assessment: avoid impacts on MNES, mitigate impacts on MNES and provide offsets where impacts could not be avoided or mitigated. These three criteria are reflected in the endorsement criteria (see section 2.1.3 in this report) and the terms of reference.

166. Section 4.5 will discuss specific measures Victorian Government will implement to minimise impacts on individual MNES. This section will provide an overview of the measures that are intended to reduce impacts on MNES from implementation of the program. Note that consideration of the program's consistency with Commonwealth obligations and plans will be formally addressed in the subsequent step of whether to approve actions (EPBC Act Part 10).

4.3.1 Avoid

167. The program avoids impacts by positioning the urban growth boundary and transport corridors to avoid areas of MNES habitat. The western growth area has been designed to exclude development in some areas of grassland and the northern area has been designed to avoid areas of woodland, such that 80 per cent of all woodland within the revised UGB will be retained and managed in secure conservation reserves (Victorian Government 2009a, p. 150).
168. Areas outside the UGB that have been excluded from development may not have complete protection from future development. However the Victorian Government has committed in the program to protect other grassland remnants on the Werribee Plain (i.e. outside the UGB) through applying appropriate local statutory planning controls to remnant grasslands and improving or expanding Environmental Significance Overlays (ESOs) (Victorian Government 2009b, p.50). ESOs are planning controls that restrict certain development activities.
169. Within the UGB, other areas have been, or will be, excluded from development through a number of mechanisms.
170. The growth area framework plans identify land that is constrained for urban development (see the green areas in Victorian Government 2009b, maps 3-6 on pp. 12-15) for a range of reasons including high biodiversity values. These areas may have protection ranging from simple avoidance to commitments for ESOs, conservation zoning and protection for reserves.
171. Areas of high biodiversity already identified are given in the program (Victorian Government 2009b, p. 9). These include small grassland reserves and habitat for the southern brown bandicoot. These areas are expected to have greater protection for reserves and management as per conservation activities and outcomes identified in the program.
172. The application of prescriptions may also lead to identified areas excluded from development. It is expected that these smaller areas may gain greater protection through reserves and management as per the conservation outcomes, for example as specified in the grasslands conservation activities (Victorian Government 2009b, p. 47).

4.3.2 Mitigate

173. The program includes a number of measures for mitigating impacts on MNES. These measures include: surveys, biodiversity conservation strategies, sub-regional species strategies, PSP guidelines, native vegetation precinct plans, conservation management plans, prescriptions, conservation activities and conservation outcomes. Many of these measures interact to enhance mitigation of impacts on MNES.
174. At the broad-scale level, biodiversity conservation strategies provide the opportunity to obtain overarching biodiversity outcomes in the growth area framework plans and deliver on conservation outcomes. These can include protection and management measures for reserves within the UGB and are

required to be approved by the Commonwealth Government. The sub-regional species strategies will inform the biodiversity conservation strategies by providing information on specific species, such as identifying important populations and habitat links, that will lead to achieving the overarching biodiversity outcomes as well as conservation outcomes for these species. These strategies also require approval by the Commonwealth Government.

175. Conservation outcomes also provide broad-scale goals for mitigation measures, such as targets (for example 80 per cent of highest priority habitats to be permanently protected and managed), network of reserves and long-term sustainability and persistence for species and ecological communities.
176. At the medium and precinct (or suburban) scale, requirements such as buffers in riparian zones, best practice water sensitive design, protection and removal of native vegetation for a precinct and particular management requirements for MNES provide mitigation of impacts from development. These are identified through the application of prescriptions, PSP guidelines, native vegetation precinct plans and conservation management plans.
177. At the small-scale, discrete reserves, smaller offsets outside the main reserves and feasible translocation of species would be identified through prescriptions. Conservation activities include small-scale mitigation measures such as protection for reserves already identified, for example threatened flora species in Truganina Cemetery (Victorian Government 2009b, p. 63).
178. Mitigation measures, as well as offsets (see discussion of offsets below) are not purely based on ecological requirements but also include social and economic considerations. For example, the Victorian Government argues that reserves inside the UGB should be a certain size (for example greater than 100 hectares) even though smaller-sized reserves have shown persistence in the medium-term at least. It is proposed numerous small reserves within the UGB would fragment the desired transport-oriented urban form and impose additional management costs. Without management activities, smaller reserves would arguably be more susceptible to isolation, invasion of feral animals and weeds and possibly vandalism. More discussion about socio-economic considerations is in section 4.6 of this report.

4.3.3 Offset

179. The offsets committed in the program are large, managed reserves for grasslands and woodlands delivered through the application of prescriptions.
180. Two large grassland reserves outside the UGB totalling 15 000 hectares will provide anticipated offsets of 10 000 hectares high quality EPBC Act listed grassland community. A woodland reserve of at least 1200 hectares is also committed. The Victorian Government proposes these large reserves would have benefits in terms of resilience to climate change impacts, ability to implement management regimes such as controlled burns and cost-efficiencies compared to smaller reserves.

Table 4: The comparison of proposed clearance area to offsets.

Ecological Community	Proposed area to be cleared (hectares)	Proposed Offset (hectares)
Grassland (NTPVVP)	4 665	~10 000 within reserve
Woodland (GEVVVP)	708	At least ~1200 within reserve

181. Prescriptions may allow clearing to be permitted but require offsets to be obtained. Offsets are required to be secured before the impact occurs and inline with the requirements of Victoria's Native Vegetation Management Framework.
182. If the identified reserves do not contain the MNES values, then offsets may be obtained elsewhere. Offsets need to be like-for-like but will not be counted for multiple species (Victorian Government 2009a, p. 134). For example, the Victorian Government's analysis indicates that the proposed grassland reserves should provide sufficient offsets to meet the requirements for the EPBC Act listed grassland community. The "unallocated" areas would then be available for threatened species offsets where these are required in addition to native vegetation offsets. The two key species that would be in this category would be the golden sun moth and the spiny rice flower. If these species were not found in the unallocated areas, then offsets would have to be found elsewhere.
183. Management of offsets and reserves are a key component for long-term persistence of the species or ecological community. The program commits to management of the large reserves and Victoria will provide interim management plans, reports on implementation and identified performance standards to the department.

4.4 Anticipated program outcomes

184. The conservation outcomes in the program commit to the establishment of 15 000 hectares of grassland reserves, at least a 1200 hectares woodland reserve, the same or improved water quality to Ramsar wetlands, a series of small reserves inside UGB and no substantial negative change to known populations of particular MNES.
185. The conservation activities commit to investigating the establishment of a wetland in the south east (Casey-Cardinia growth area, possibly around 300 hectares), incorporating best practice urban water management techniques, protecting relevant habitat from point source contaminants, protecting and managing reserves and other activities.
186. The overall biodiversity outcomes are anticipated to include: reserves that are managed for all species; functioning rivers, creeks and wetlands and riparian habitat connectivity.
187. The consolidation of offsets into large, contiguous reserves which are actively managed provides additional value from scattered offsets, including the ability carry out management techniques restricted in smaller areas (such as burning), to

adaptively manage in response to management regimes, allowing fauna that have limited mobility to move across the landscape (such as the golden sun moth) and can have greater security against threats. The department considers the commitment to these reserves by the Victorian Government as very important to the representation, protection and persistence of MNES in the long term and across the bioregion.

188. Similarly, the ability of the program to address cumulative impacts affecting water quality through implementing water sensitive urban design, requiring buffers along riparian areas and setting conservation outcomes to main or improve water quality to wetlands is in the departments consideration more effective and efficient than through individual developments.

4.5 Specific MNES impacts and mitigation measures

189. Victoria has described the impacts of the program on individual MNES in the IAR (Victorian Government 2009a). Impacts will be addressed through a number of plans, strategies and prescriptions. Individual MNES impacts are mostly mitigated through specific prescriptions (see discussion on prescriptions at section 3.3.3) but also through sub-regional species strategies and biodiversity conservation strategies. The implementation of these prescriptions, in concert with other specific conservation activities, is expected to result in the achievement of conservation outcomes described in the program for each relevant MNES.

188. The program also identifies a number of species for which specific sub-regional strategies will be developed to inform landscape-scale management activities and responses (see discussion in section 3.3.4). The discussion below includes reference to these sub-regional species strategies under the relevant MNES headings.

189. As discussed at section 3.3.4, the program also requires the preparation and Commonwealth approval of biodiversity conservation strategies for the four new and expanded growth areas. The implementation of each biodiversity conservation strategy is expected to deliver additional benefits to MNES and biodiversity more generally and assist in the amelioration of some projected impacts on, or existing threats to, MNES, over and above those discussed below.

190. Discussion of mitigation measures is at section 4.3.2.

Natural Temperate Grassland of the Victorian Volcanic Plain Ecological Community – critically endangered

Current Status

191. Natural Temperate Grassland of the Victorian Volcanic Plain (the grasslands) ecological community occurs only in Victoria. Its specific pre-European and current extent is unknown, but based on similar Victorian Ecological Vegetation Classes (EVCs) it is estimated that less than 5 per cent of its pre-European extent (approximately 260,000 hectares) remains. Of that approximately 2 per cent of the remaining community is currently secured within reserve systems.

192. The community supports complex and variable structures of flora and fauna including other EBPC listed species (striped legless lizard, golden sun moth, spiny rice-flower), as well as providing important hydrological and ecological landscape functions. Losses in extent, fragmentation and degradation of floristic integrity of this community occur primarily through land clearing, grazing, weed encroachment, prolonged drought and poor management.
193. The grasslands extend westwards across Victoria from greater Melbourne toward South Australia across the basalt plains. Remnants of the community occur directly to the west of Melbourne and many of these occur within areas proposed for urban and infrastructure development under the program.

Impacts

194. Implementation of the program to the west and north of Melbourne is likely to result in the clearing of approximately 4 665 hectares (or 6per cent of the current extent) of grassland (Victorian Government 2009a, p. 132). As scored by the Victoria DSE Habitat Hectare scoring approach, this figure is composed of:
897 hectares of low quality grassland, 3696 hectares of medium quality grassland, and 72 hectares of high quality grassland.
195. It is anticipated that most of the grassland will be removed for development and the only patches remaining will be those identified for conservation through prescriptions.

Conservation outcomes

196. The program proposes that implementation of the conservation activities to mitigate and offset the impacts of the program will result in the following conservation outcomes for this ecological community (Victorian Government 2009b, p. 48):
- The creation of two conservation reserves for grassland totalling 15 000 hectares outside the UGB in Melbourne's west. Of this, approximately 10,000 hectares is representative of the critically endangered grassland community.
 - These two reserves will bring secure representation of this community up to approximately 20per cent of its current extent.
 - The reserves will also accommodate a quarry, and areas earmarked for infrastructure for management, recreation and education relating to the grasslands.
 - The reserves will be funded primarily through accounted offset losses from clearing of grasslands and some habitat for other MNES associated with urban development and transport infrastructure.
 - The creation of a number of smaller managed reserves containing this ecological community within the UGB, providing connectivity between related habitat types such as grassy woodlands, stony knolls and floodplain grasslands; Some of the smaller areas are represented on the zoning maps (Victorian Government 2009b, pp. 12-15) as rural conservation zones and public conservation and resource zones.

197. Overall projected gains from securing and managing the community within these offsets against the direct losses from clearing is calculated at:
- maximum loss: 4665 hectares (1922 habitat hectares).
 - maximum offset: 10 091 hectares (4154 habitat hectares).
198. Additional conservation outcomes will be achieved through application of the prescription for the grasslands during surveys for the growth areas (draft in Victorian Government 2009a, at p. 146) which proposes the following mitigation and offset measures:
- Patches of grasslands will be retained between the existing urban growth boundary and new urban growth boundary if the site also contains an EPBC listed endangered or critically endangered orchid species.
 - grasslands will be retained within the current UGB if they represent a manageable, contiguous, patch of 150 hectares including areas outside the precinct.
 - All permitted clearing of this ecological community will be offset in accordance with the Victorian native vegetation management framework, and offsets will be secured prior to clearing. The offsets will be sourced within the proposed western grassland reserves at ratio of approximately 2:1.
199. It is unlikely that implementation of this prescription will result in many reserves being created within the existing urban growth boundary as there are not many patches of grasslands that will meet the retention threshold of 150 hectares. The draft prescription does not propose to retain any areas of grasslands within the expanded urban growth zone (unless required by another prescription), due to the:
- specific avoidance of the grasslands particularly in defining the UGB in the western investigation areas
 - further avoidance through fine tuning the placement of the urban growth boundary, the OMR/E6 transport corridor and the Regional Rail Link exclusion areas, and
 - establishment of the grassland reserves offset.
200. Victoria has explained that the threshold of 150 hectares or more for retention of grassland is based on practical considerations regarding the ability to maintain and maximise conservation values and resource appropriate management regimes for conservation reserves, within the overall constraints imposed by the social and economic requirements for Melbourne's future growth (Victorian Government 2009a, p. 137).
201. The listing advice for this EC notes that small patches of grassland can retain their conservation values despite their size, and the department notes that smaller grassland reserves in the ACT and Melbourne appear to be viable in the medium-term, though information on their management and resource intensity is not readily available.
202. There is ongoing scientific debate over whether "larger is better". There is no doubt that the benefits of larger conserved areas better extends to the abilities of management, possibilities of landscape-scale improvement and benefits for individual species through allowing free movement and isolation from further

disturbance. Smaller patches are seen to be more at risk to invasion and degradation by exotic species, urban edge effects and management limitations. Some modelling work done by Royal Melbourne Institute of Technology (RMIT) for Victoria supports this view (Victorian Government 2009a, Appendix 6, p. 306).

203. The other side of the debate focuses on the importance of biodiversity within smaller patches; that floristic representation may be unique to the patch and that this may not necessarily be replicated or reproduced in any other area. Additionally, smaller patches may assist in conserving such diversity for future re-establishment after stochastic events in other areas, or loss through the effects of climate change.
204. The department is of the view that this is acceptable as long as all the conservation outcomes as presented in the program are achieved. The 150 hectare threshold can be amended through revision of the prescription if conservation outcomes are not being achieved to the satisfaction of the department.
205. Additional measures to avoid impacts to the ecological community within the expanded UGB proposed in the program include the rezoning of some land areas within the expanded boundary as non-developable lands. Some of this land may receive the benefit of Environmental Significance Overlays which would constrain development. The program also commits to planning arrangements and extending Environmental Significance Overlays onto the Werribee Plains outside the UGB.
206. The conservation outcomes in program for grasslands also commit to the delivering a number of smaller reserves, including some already identified and others within the urban context (Victorian Government 2009b, p. 47). The department is aware of existing small grassland reserves scattered throughout the west Melbourne area (representing most of the two per cent currently protected) and is of the view that these will enhance protection of the grasslands.
207. The IAR includes many of the department's requested changes and additional information so that it adequately describes the impacts of the program on this Ecological Community. The department continues to work with Victoria to refine the draft prescription to ensure it is comprehensive, with ability for the department to tighten aspects if necessary relating to achieving conservation outcomes of the program and that it is easily understood by those who will be directly responsible for its implementation.

Conclusion

208. The program is proposing to retain a small number of patches of Natural Temperate Grassland of the Victorian Volcanic Plain ecological community of 150 hectares in size within the current urban growth boundary, and offset the remaining areas to be cleared to within the proposed western grassland reserves.

209. There is strong agreement both within and outside of Government that if the current project-by-project approach were to be undertaken over the same timeframe as the program that the grassland community would be overwhelmed through fragmentation, weed invasion and edge effects of development in the case by case scenario.
210. The benefits of the program over the case by case scenario include a sound commitment to management and conservation of a large area of the EC as well as ensuring some diversity is maintained within other areas for the future.
211. Additionally, given that many fauna dependent on the grassland habitat have poor mobility (for example golden sun moths) larger, well managed reserves should increase resilience against edge effects and urban disturbances. Sound argument exists that large reserves will be more beneficial to biological persistence over time and more cost effective to manage in the longer term than more numerous but potentially isolated smaller reserves.
212. The measures for mitigation and offset for this ecological community demonstrate the impacts are sufficiently addressed to a level that the conservation outcomes are highly likely to be achieved.

Grassy Eucalypt Woodland of the Victorian Volcanic Plain Ecological Community – critically endangered

Current Status

213. The Grassy Eucalypt Woodland of the Victorian Volcanic Plain (the woodlands) ecological community is endemic to western Victoria. The woodland's overall distribution roughly follows that of the Natural Temperate Grassland of the Victorian Volcanic Plain (grasslands) as the two naturally merge in transition communities in many areas. The woodland has undergone a severe decline in extent (approximately 95 per cent, or 697,300 hectares) and floristic integrity since European settlement with approximately only three per cent of the remaining community currently within secure reserves.
214. Grassy Eucalypt Woodland of the Victorian Volcanic Plain is an open eucalypt woodland dominated by *E.camaldulensis* with a species rich grassy understorey, supporting a number of nationally listed flora and fauna species, including many also occurring within the grasslands. Both woodlands and grasslands communities have similar hydrological and ecological functions, with the woodlands supporting additional arboreal wildlife such as woodland dependent birds, mammals and insects.
215. The woodlands ecological community has been reduced to remnants in the west and north of greater Melbourne through clearance for agriculture and urban development. Remnants are further threatened by fragmentation, weed invasion, edge effects, inappropriate management regimes and climate change.

Impacts

216. Implementation of the program will result in the loss of approximately 709 hectares of this ecological community. Clearing of remnants will occur primarily in the Hume-Whittlesea growth area. The program initially avoids

direct impacts to the ecological community through placement of the revised UGB to avoid more than half of its known occurrence within this area.

Conservation outcomes

217. The program proposes that implementation of the conservation activities to mitigate and offset the impacts of the program will result in the following conservation outcomes for this ecological community (Victorian Government 2009b, p. 48):
- The creation of a 1200 hectare conservation reserve for the woodlands ecological community outside the UGB south-west of Whittlesea.
 - Eighty per cent of the ecological community within the UGB being retained and managed in secure conservation reserves.
 - The creation of a network of small and medium sized conservation reserves in the Sunbury Growth Area, and the Hume-Whittlesea Growth Area, particularly areas associated with the Merri Creek and Darebin Creek floodplains that have not been zoned for urban development.
218. Existing remnants of the ecological community on private land within the Hume-Whittlesea Growth and Sunbury areas, constrained land within the northern investigation area, and the proposed conservation reserve south-west of Whittlesea will be used for obtaining offsets.
219. The program is yet to finalise the status and management regime for this proposed conservation reserve. This is because the required public consultation has not been undertaken. The Victorian Government is investigating the best approach to most efficiently and effectively obtain this reserve. The reserve proposal, acquisition and management approach and schedule will be provided to the department in 2010 following community consultation. The department has worked closely with Victorian officials to ensure this commitment to a reserve is included in the program.
220. The IAR includes many of the department's requested modifications and additional information so that it adequately describes the impacts of the program on this Ecological Community. The department continues to work with Victoria to refine the draft prescription to ensure it is comprehensive, with ability for the department to tighten aspects (such as thresholds) where necessary relating to achieving conservation outcomes of the program and that it is easily understood by those directly responsible for its implementation.

Conclusion

221. Victoria calculates that achieving the program outcomes will result in improvement in the quality of remaining woodlands through implementation of the program. In addition, security and management of the proposed conservation reserve will assist to address cumulative impacts and contribute to the long term persistence of this ecological community.
222. Without this commitment from the program, over time this community will suffer further decreases and degradation with no obligation to create an aggregated area for reserve. Additionally, retained areas will be managed by

Parks Victoria to improve quality of understorey and structure, as well as protection from weed invasion and urban edge effects.

223. Therefore, the proposed measures for mitigation and offset for this ecological community demonstrate the impacts are sufficiently addressed to a level that the conservation outcomes are highly likely to be achieved.

Key species associated with the grassland and woodland ecological communities

Golden Sun Moth (*Synemon plana*) - critically endangered

Current Status

224. The golden sun moth historically occurs in native temperate grasslands across NSW, ACT, Victoria and SA. The original extent of these grasslands is estimated at two million hectares with less than one per cent now remaining. As a consequence golden sun moth populations are substantially reduced in extent and are fragmented.

225. The golden sun moth is a medium-sized day flying moth that is most often found within the grasslands ecological community. The species is also known to inhabit woodlands and non-native grassy areas. The golden sun moth is known from 125 extant sites across its range, of which 50 occur in the Melbourne region. Around half of these populations are less than 10 hectares in size, and less than ten are within secure conservation reserves.

226. Threats to the species include:

- Loss and degradation of wallaby grass-dominated native temperate grasslands across the species historical range
- Loss and degradation of open grassy woodlands where the ground layer is dominated by wallaby grass, and
- Soil disturbance at extant golden sun moth sites.

Impacts

227. Implementation of the program to the west and north of Melbourne is likely to result in the loss of approximately 4665 hectares of grasslands and approximately 709 hectares of woodland that constitute habitat for golden sun moth, as well as areas of degraded and non-native vegetation in which the moth inhabits. The program avoids direct impacts to these ecological communities through fine tuning the placement of the urban growth boundary, the OMR/E6 transport corridor and the Regional Rail Link exclusion areas.

Conservation outcomes

228. The program proposes that the implementation of the conservation activities to mitigate and offset the impacts of the program will result in the following conservation outcomes for the golden sun moth:

- Approximately 80per cent of high quality confirmed habitat (native grassland with confirmed presence of golden sun moth) being retained and managed in secure conservation reserves within the Victorian Volcanic Plains bioregion.
- The creation of two conservation reserves totalling approximately 10 000 hectares of grasslands containing suitable habitat for the golden sun moth that will contribute to long-term persistence of the species.
- The creation of a 1200 hectare conservation reserve for the woodlands containing suitable habitat for the golden sun moth that will contribute to the long-term persistence of the species.
- The creation of a number of smaller reserves within the UGB that contain populations of the golden sun moth.

- Improved knowledge of the location and habitat attributes of the golden sun moth.
229. The Growth Areas Authority will be conducting surveys in accordance with the Biodiversity Precinct Planning Kit (Victorian Department of Sustainability and Environment 2009) for the golden sun moth and other matters of NES within the revised UGB within the next two years. Present golden sun moth distribution data across the revised UGB is not yet available and detailed site-by-site impacts cannot be assessed.
230. Conservation outcomes will be achieved through application of the prescription for the golden sun moth (in draft in Victorian Government 2009a, p. 166). The prescription is based on a modelling system to measure habitat into classes of contribution to species persistence, which is described in the IAR in Appendix 2 (Victorian Government 2009a, p. 282) and Appendix 3 (p. 294).
231. The prescription directs the size and quality of patches of confirmed golden sun moth habitat to be retained within the UGB. For example, patches of highest quality habitat with golden sun moth present that are greater than 100 hectares will be retained.
232. Similarly to the grasslands prescription, it is unlikely that the prescription criteria will facilitate retention of many patches of golden sun moth habitat within the UGB. However, three reserves have already been identified in the western growth centre (Victorian Government 2009b, p. 12).
233. Victoria has explained that the threshold of 100 hectares or more for retention of golden sun moth habitat is based on practical considerations regarding the ability to maintain and maximise conservation values and resource appropriate management regimes for conservation reserves, within the overall constraints imposed by the social and economic requirements for Melbourne's future growth (Victorian Government 2009a, p. 137).
234. It should be noted that ecological management experience in Victoria and elsewhere has demonstrated that smaller sites (half a hectare, for example) can be successfully managed for golden sun moth persistence. However, as discussed previously, information on their management and resource intensity is not readily available (see section 4.5).
235. Offsets will be secured into the proposed reserves in accordance with the prescription and the Victorian Native Vegetation Management Framework (NVMF) (Victorian Government 2009a, p. 167-168). This will include:
- Clearing of high quality confirmed habitat will be offset by treating this vegetation as very high conservation significance under the NVMF and the offset site must contain a population of golden sun moth. The department calculates this to represent an approximate offset ratio of 2:1.
 - Clearing of medium quality confirmed habitat will be offset by the proponent in exchange for securing high quality confirmed habitat, the department calculating this to represent an approximate offset ratio of 1:1.

- Clearing of low quality confirmed habitat will be offset by the proponent through survey and confirmation of an area of confirmed golden sun moth habitat outside the UGB equivalent the size proposed to be cleared.

Conclusion

236. The program is proposing to retain a small number of patches of golden sun moth habitat of approximately 100 hectares in size within the current urban growth boundary, and to offset clearing of habitat to within the proposed western grassland reserves.
237. There is an overall target of 80 per cent of confirmed sun moth habitat to be protected across the bioregion. Without such a strategy, case by case referrals would not achieve such outcomes for golden sun moth. Nor would there be any future obligation to create aggregated areas for protection.
238. Retained areas and the large reserved areas of grasslands to the west of Melbourne will be managed to protect from weed invasion and urban edge effects and contribute to the long term persistence of the golden sun moth.
239. Additionally, surveys undertaken by the Growth Areas Authority will inform the preparation of a sub-regional species strategy consistent with the prescription for the golden sun moth. This sub-regional species strategy will identify important populations, habitat, and areas to be retained as required by the prescription. The sub-regional species strategy will inform the biodiversity conservation strategy for the relevant growth area and will influence the design of precincts through the precinct structure plans. The Minister will approve the sub-regional strategy.
240. Measures for mitigation and offset for the golden sun moth ensure the impacts are sufficiently addressed to a level that the conservation outcomes are highly likely to be achieved.

Spiny Rice-flower (*Pimelea spinescens*) - critically endangered

Current status

241. The spiny rice-flower listed is endemic to Victoria. Spiny rice-flower distribution of populations is fragmented due to land clearance for settlement, industry and agriculture. The spiny rice-flower is a stunted sub-shrub of 5-30 centimetres in height that is most often found associated with the grasslands and the woodland ecological communities. Further threats include industrial and urban development, maintenance activities for road and rail reserves, weed invasion, inappropriate management and fire regimes.
242. Almost all known populations are small, and the total estimated area of occupancy of the species is between 5.7 square kilometres to 10 square kilometres. The number of mature individuals of spiny rice-flower is estimated at 55 000, occurring in over 184 sites. The majority of sites support populations of less than 100 individuals. In the Melbourne region, there are approximately 46 known populations of which 36 are estimated to support up to 100 plants.

243. The Growth Areas Authority will be conducting all surveys for the spiny rice-flower and other MNES within the revised UGB over the next two years. Current survey data across the revised UGB is not yet available, and detailed site-by-site impacts cannot be assessed.

Impacts

244. As spiny rice-flower is most often found in association with the grasslands and woodlands, clearing of these ecological communities will impact the spiny rice-flower (please also refer to sections on ecological communities above).

Conservation outcomes

245. The program proposes that the implementation of the conservation activities to mitigate and offset the impacts of the program will result in the following conservation outcomes for the spiny rice-flower:
- Approximately 80 per cent of the total area of the highest priority habitat being retained and managed in secure conservation reserves within the Victorian Volcanic Plain bioregion.
 - Creation of two conservation reserves totalling approximately 10 000 hectares of grassland containing spiny rice-flower populations will contribute to long-term persistence of the species.
 - Creation of smaller conservation reserves within the UGB containing populations of spiny rice-flower.
 - Protection of any populations of the species containing 200 plants or more.
246. Offsetting impacts on the spiny rice-flower will be in accordance with the draft prescription (Victorian Government 2009a, p. 182) and the Victorian Native Vegetation Management Framework. The proposed western grassland reserves will be used in accounting for the offsetting process.
247. The current draft prescription carries risk of legal challenge, albeit in the department's view a low risk, due to the perception it may conflict with actions in the national recovery plan for the spiny rice-flower (action 3.1 and 3.2) which state that populations of spiny rice-flower on private and public land be protected.
248. The draft prescription proposes clearing habitat in the case of state-significant infrastructure, and this may include populations that might otherwise be retained. This issue does not need to be addressed for any endorsement decision but will need to be clarified by the department in any approval of actions.
249. The department suggests the overall objective of a recovery plan is to recover species in a region, in which case the definition of population would be broader than a selected number of plants. The recovery plan for spiny rice-flower is usually applied to case by case assessments where the impacts are fewer and the benefits are smaller.
250. Under the program, securing offsets for populations identified on public and private land must be secured before clearing can occur. The department's view is that secured, managed reserves with known occurrences of spiny rice flower

will lead to medium to long term protection of this species and this will address the overall objective of the recovery plan.

251. Discussions have been held with Victorian Government officials about the benefits of preparing a sub-regional species strategy consistent with the prescription for the spiny rice-flower. The sub-regional species strategy would be developed to guide the conservation of spiny rice-flower at both growth area and precinct levels and would be approved by the Commonwealth consistent with the other sub-regional species strategies.
252. It is highly likely that the conservation outcomes for this species as stated by the program will be achieved.

Matted Flax-lily (*Dianella amoena*) - endangered

Current status

253. Matted flax-lily occurs in grassland and grassy woodlands in Tasmania and Victoria. In Victoria it occurs in four bioregions, but is concentrated around the greater Melbourne area in remnant vegetation along roadsides, railways and small reserves. It is co-dependent on the presence of specific other native flora for effective pollination.
254. Matted flax-lily is amenable to translocation and translocation has occurred at a number of sites in the Melbourne region. Threats to matted flax-lily identified in the draft national recovery plan that may be relevant to implementation of the program include weed invasion, disturbance and clearing of remnants, fragmenting habitat, inappropriate road and rail verge maintenance and inappropriate fire regimes.

Impacts

255. Implementation of the program over the next 20 years will impact some sites likely to contain small populations of matted flax-lily within degraded habitat in the north (Victorian Government 2009a, p. 174).
256. The program avoids impacts to matted flax-lily habitat through the placement of the extended UGB in locations to the north and south-east of Greater Melbourne corresponding with alignment for avoidance of both grassland and woodland ecological communities.

Conservation outcomes

257. The program proposes implementation of the conservation activities will result in the following conservation outcomes for the matted flax-lily (Victorian Government 2009b, p. 55):
- Approximately 80per cent of the total area of the highest priority habitat being retained and managed in secure conservation reserves within the Victorian Volcanic Plain bioregion.
 - Creation of a 1200 hectare conservation reserve for the woodlands community containing populations of matted flax-lily, and contributing to the long-term persistence of the species.
 - Creation of two conservation reserves totalling approximately 10 000 hectares of grasslands possibly containing matted flax-lily.

- Creation of a selection of smaller conservation reserves within the UGB possibly containing populations of matted flax-lily.
258. The draft prescription for matted flax lily (Victorian Government 2009a, p. 175) directs that no area of native vegetation supporting matted flax-lily may be cleared until protection of at least 80 per cent of the areas where “high contribution to species persistence” and its confirmed habitat intersect across the bioregion (Victorian Government 2009a, App 4, p. 298).
259. The exceptions to clearing matted flax-lily before an 80 per cent target of protection has been reached include:
- If the clearance is unavoidable for the provision of infrastructure of state significance
- or
- If the native habitat within the land parcel contains greater than 25per cent cover of high threat grassy weeds.
260. The draft prescription directs that if clearing of high contribution habitat is permitted, an offset must be found and secured prior to the development approval. These offsets will be determined by treating the vegetation to be removed as very high conservation significance as a result of its values for the matted flax-lily and the relevant like for like criteria followed including a requirement that the offset site must contain a population of the matted flax-lily.
261. The draft prescription does not give an undertaking to offset the clearing of matted flax-lily on confirmed medium or low contribution habitat. This is not consistent with the prescription for golden sun moth, which stipulates that offsets of an equivalent area must be secured when clearing confirmed medium contribution habitat.
262. The draft prescription also directs that if any matted flax-lily plants are approved for removal at a site, a fully costed translocation plan that satisfies the Victorian Department of Sustainability and Environment must be prepared.
263. Plants are to be translocated to areas of suitable habitat within secure conservation reserves (either on or off site), preferably to the proposed northern woodland reserve unless a better outcome is likely to be achieved elsewhere. The translocation must follow the *Guidelines for the Translocation of Threatened Plants in Australia*, 2nd Edition (or as updated).

Conclusion

264. There is an overall target of 80 per cent of confirmed high contribution habitat (native grassland or woodland with confirmed presence of matted flax lily) to be protected across the bioregion. Case by case referrals would be unlikely to achieve such outcomes for matted flax-lily.
265. There are also commitments to the creation of two large conservation reserves for the grassland and woodland ecological communities in which matted flax-lily are likely to occur or be translocated into, contributing to the long term persistence of the species.

266. Retained areas and the large reserved areas of grasslands to the west and woodlands to the north of Melbourne will have management to protect from weed invasion and urban edge effects which will contribute to the long term persistence of the matted flax-lily.
267. The measures for mitigation and offset for the matted flax lily demonstrate the impacts are sufficiently addressed to a level that the conservation outcomes are highly likely to be achieved.
268. Approval of the prescription and related adaptive management considerations by the Commonwealth will provide adequate conservation measures to ensure conservation outcomes for this species will be achieved.

Striped Legless Lizard (*Delma impar*) - vulnerable

Current status

269. Striped legless lizard occurs in fragmented populations within grasslands and grassy woodlands throughout ACT, NSW and Victoria. In Victoria its providence is linked to the critically-endangered grassland ecological community, and also occurs within some smaller reserves in the west of Melbourne. Populations of the species are also known within the proposed grassland reserve areas.
270. Losses in extent, fragmentation and degradation of this habitat through land clearing, grazing and weed encroachment are major threats to this species as well as predation by domestic and feral cats and foxes and limited biological knowledge.

Impacts

271. Implementation of the program over the next 20 years is likely to result in the loss of approximately 4665 hectares of grasslands community, constituting suitable habitat for striped legless lizard.
272. The program avoids direct impacts to striped legless lizard habitat through fine tuning the placement of the urban growth boundary, the OMR/E6 transport corridor and the Regional Rail Link exclusion areas. Further avoidance and mitigation measures are as described above under section 4.5 on the grasslands ecological community.
273. Specific measures to mitigate impacts to striped legless lizard are described by the draft prescription for the species (Victorian Government 2009a, p. 157). Mitigation measures for likely impacts to Striped Legless Lizard include:
- the offset of grasslands community into managed reserves
 - strategies to prevent impacts from feral and domestic animals
 - retention of striped legless lizard habitat remnants that are manageable and contain other matters of NES, and
 - translocation.

Conservation outcomes

274. Conservation outcomes for the striped legless lizard as specified by the program (Victorian Government 2009b, p. 60) include:
- a series of reserves and other managed areas to maintain viable populations
 - a program of research and monitoring to inform adaptive management, and
 - assessment of feasibility and protocols for translocation.
275. The draft prescription directs treatment of striped legless lizard and its habitat for when they are found during Growth Area Authority surveys to be carried out over the next two years. The draft prescription currently mirrors outcomes for the grassland community.
276. The draft prescription for the striped legless lizard has not been developed with reference to information now available in the draft EPBC Policy statement for the species. Specifically, the policy statement clarifies what is likely or not likely to constitute an important population and the prescription may require modification to reflect this.

Conclusion

277. If the mitigation measures are undertaken and the conservation outcomes achieved as described in the program, the department considers that the striped legless lizard should benefit from and persist in large areas of managed and protected grassland. Its persistence within smaller habitat patches over time is questionable, due to edge effects, habitat degradation and disturbance.
278. Approval of the prescription and related adaptive management considerations by the Commonwealth will provide adequate conservation measures to ensure conservation outcomes for this species will be achieved.

Swift Parrot (*Lathamus discolor*) - endangered

Current Status

279. The swift parrot was listed as endangered in 2000 due to a marked decline in distribution and abundance. The Swift Parrot is a small, fast-flying and nectivorous bird occurring in eucalypt forests in south-eastern Australia. It breeds in Tasmania migrating to the mainland in autumn. During winter the parrots are semi-nomadic, foraging in flowering eucalypts mainly in Victoria and New South Wales.
280. There are a few records each year from suburban Melbourne and suitable winter foraging habitat is present within the woodland community and red gum grassy woodland habitat in the north investigation area. Swift parrots show high site fidelity returning to sites on a cyclic basis. Site use depends on the availability of foraging resources for the species.

Impacts

281. Implementation of the program over the next 20 years is likely to cause further loss and fragmentation of suitable foraging habitat for the Swift Parrot through the clearing of approximately 709 hectares of woodland community.

Conservation outcomes

282. The program proposes conservation outcomes for the swift parrot by protecting woodland habitat through:

- creating a woodland reserve outside the UGB greater than 1200 hectares
- retaining 80per cent of woodland within the UGB, and
- creating a network of smaller conservation reserves in the two northern-most growth areas.

283. The swift parrot Recovery Plan 2001-2005 remains in force until revoked. A revised recovery plan is being prepared. These outcomes are not inconsistent with the current recovery plan objectives to protect and manage swift parrot habitat at a landscape scale.

Conclusion

284. There are no specific conservation outcomes for the swift parrot outlined by the program. The ability exists within the program to formulate a prescription for this species if required (Victorian Government 2009b, p. 67).

285. The overall conservation outcomes above should be sufficient to adequately mitigate impacts to an acceptable level.

Grassland Earless Dragon (*Tympanocryptis pinguicolla*) - endangered

Current status

286. Grassland earless dragon is listed as endangered and occurs in fragmented populations within grasslands throughout ACT, NSW and Victoria. In Victoria its providence is linked to the critically-endangered ecological community Natural Temperate Grasslands of the Victorian Volcanic Plains (the grassland).

287. The last potential sighting of this species in the Volcanic Plains bioregion was in 1997. Few sustained targeted surveys have been undertaken for grassland earless dragon within the last 20 years, and there is some belief it may be extinct within the study area

Impacts

288. Impacts from implementing the program over the next 20 years may contribute to the threatening processes for this species which include losses in extent, fragmentation and degradation of grassland habitat through land clearing and weed encroachment. Additionally, edge effects may increase from urban development and include predation by domestic and feral cats and foxes.

Conservation outcomes

289. The program proposes conservation outcomes for the grassland earless dragon will be achieved by:

- The creation of two conservation reserves totalling approximately 10,000 hectares of grassland possibly containing extant populations of the species.
- The creation of a selection of smaller conservation reserves within the UGB containing suitable habitat for the species.

Conclusion

290. There are no specific conservation outcomes for grassland earless dragon as experts suggest that there is slim chance of rediscovering the species within the bioregion.
291. However, if the species persists in the area it may do so within the largest and most undisturbed areas of grassland, which includes some areas of the proposed grassland reserves in the west and Craigieburn grassland reserve.
292. If the species is rediscovered, the ability exists within the program to formulate a prescription for this species if required (Victorian Government 2009b, p. 67).
293. The overall conservation outcomes for grasslands should be sufficient to adequately mitigate impacts on this species to an acceptable level.

Plains Wanderer (*Pedionomus torquatus*) - vulnerable

Current status

294. The Plains Wanderer occurs in fragmented populations within grassland habitat central west QLD, SA, NSW and Victoria. In Victoria its occurrence is linked to the grassland ecological community.
295. An extremely mobile but cryptic species, the last record of plains wanderer in the Volcanic Plains bioregion was a road-killed individual from the Werribee district in 2008. Few sustained targeted surveys have been undertaken for the species within the last 10 years.
296. The plains wanderer is averse to built up areas, obstacles and restricted areas of habitat, and is most likely to persist within large tracts of relatively undisturbed grassland habitat.

Impacts

297. Implementation of the program over the next 20 years is likely to result in the loss of approximately 4665 hectares of grassland constituting suitable habitat for plains wanderer.
298. Habitat clearing, fragmentation and degradation may contribute as known threatening processes for this species, along with edge effects from urban development and include predation by domestic and feral cats and foxes.

Conservation outcomes

299. The program proposes conservation outcomes relevant to the plains wanderer will be achieved by the creation of two conservation reserves totalling approximately 10 000 hectares of grassland community possibly containing extant populations of the species;

Conclusion

300. There are no specific conservation outcomes for plains wanderer in the program, but if the species is rediscovered, the ability exists within the program to formulate a prescription for this species if required (Victorian Government 2009b, p. 67).

301. The areas proposed for development are not considered areas critical for the survival of the species (Baker-Gabb 2002, Draft Recovery Plan).
302. It is likely that the plains wanderer may benefit from and persist in large areas of managed and protected grassland as described in the overall conservation outcomes for grasslands.
303. The department therefore advises that the overall conservation outcomes above should be sufficient to adequately mitigate any impacts on this species to an acceptable level.

Southern Brown Bandicoot (*Isoodon obesulus*) - endangered

Current status

304. The southern brown bandicoot is a medium-sized ground-dwelling marsupial listed as endangered in 2001 due to a marked decline in distribution and abundance. The species has high fecundity, suggesting the potential to recover if the right conditions exist.
305. The species is well known in the south-east of Melbourne and has been recorded in the south-east investigation area and adjacent precincts. Bandicoots in this area likely form part of a population that ranges from the south-east Melbourne to Wilson's Promontory, which is one of five isolated populations in Victoria.
306. The largest population within the Melbourne area occurs at the Royal Botanic Gardens Cranbourne, where it is protected by a predator-proof fence.
307. A draft national recovery plan for the species is in preparation by the Victorian Department of Sustainability and Environment.

Impacts

308. Threats to southern brown bandicoot related to urban development under the program include habitat loss, fragmentation and degradation, including alteration of the vegetation structure by grazing, weeds or inappropriate fire regimes; predation by cats and foxes.
309. Implementation of the program is likely to directly impact some populations of southern brown bandicoot within the south-east investigation area through habitat removal or alteration during urban development and quarrying activities in the south-west of the investigation area.
310. Proposed strategies to minimise impacts on the southern brown bandicoot include excising some areas of likely habitat from development, securing a network of corridors and ensuring links between populations throughout the south-east.

Conservation outcomes

311. The program proposes that implementation of conservation activities to mitigate and offset the impacts of the program will achieve the following conservation outcomes for the southern brown bandicoot (Victorian Government 2009b, p. 58):

- Functioning sustainable populations of southern brown bandicoot within and adjacent to the new UGB with connectivity between populations.
 - Protection and enhancement of all populations of southern brown bandicoot including the wild population at the Royal Botanic Gardens Cranbourne.
312. The draft prescription for southern brown bandicoot (Victorian Government 2009a, p. 189) directs that conservation management plans must be prepared for the management of populations and suitable habitat, and must achieve a number of objectives. These include:
- That habitat both on and offsite will be retained, connected and managed for long-term population viability.
 - Thirty years of monitoring to determine long-term effectiveness of conservation objectives.
 - That threatening processes relating to habitat will be appropriately managed and be responsive to the results of monitoring.
313. A sub-regional species strategy consistent with the prescription will be developed by 2011 and will guide conservation of the southern brown bandicoot at both growth area and precinct levels. This strategy is to be approved by the Commonwealth.
314. The strategy will address connectivity between and within important populations over the long term. Key strategic protection and management measures, such as land acquisition and planning scheme measures, will commence prior to or in conjunction with precinct structure planning.
315. The program proposes a number of performance measures including:
- priority protection of existing habitat and future management mechanisms will be established by March 2011, and
 - monitoring to assess progress of implementing the prescription and an evaluation of whether proposed conservation outcomes are being achieved will be carried out every two years or to an agreed schedule. The monitoring reports will be provided to the Minister.

Conclusion

316. The program proposes broad conservation outcomes for southern brown bandicoot along with performance measures to ensure that outcomes are being achieved.
317. The draft prescription commits to preparation of precinct conservation management plans to be consistent with the sub-regional strategy which will be approved by the Commonwealth. Precinct conservation management plans will specify the retention, management and monitoring of suitable habitat across the landscape.
318. Both the prescription and the sub-regional species strategy are integral to the mitigation of impacts of the program upon southern brown bandicoot. Approval of the prescription, sub regional strategy and related adaptive management considerations by the Commonwealth will provide adequate conservation measures to ensure conservation outcomes for this species will be achieved.

Growling Grass Frog (*Litoria raniformis*) - vulnerable

Current status

319. The growling grass frog was listed as vulnerable in 2000 due to a marked decline in range resulting in fragmented and disjunct populations. This large frog is highly mobile and requires a mosaic of adjacent aquatic and terrestrial habitats for feeding, reproduction and over-wintering.
320. It is widely distributed within the greater Melbourne region, and Victoria is considered the stronghold of the species. It occurs in a wide range of habitat, from ephemeral wetlands and creeks in the west and north of Melbourne to the wetter areas in the south east of Melbourne.

Impacts

321. Potential threats from implementing the program include habitat loss and degradation, barriers to movement, altered flood regimes, predation from introduced fish species and introduced animals, changes to vegetation composition, disease and exposure to biocides.
322. Important populations and individual growling grass frogs have been recorded, or suitable habitat identified, in all investigation areas covered by the program.
323. Implementation of the program over the next 20 years is likely to impact some important populations of the growling grass frog within the growth areas. It is expected that important populations may be identified in growth area surveys. The main threat to the species being the loss of connectivity to suitable habitat and between sub-populations.

Conservation outcomes

324. The program proposes that the implementation of conservation activities to mitigate and offset the impacts of the program will result in the following conservation outcomes for the growling grass frog (Victorian Government 2009b, p. 58):
- Functioning sustainable populations of growling grass frog within, and adjacent to the new UGB with connectivity between populations.
 - Protection and enhancement of important populations of growling grass frog including the populations at Merri Creek, Pakenham and south-east growth area, Kororoit Creek and Darebin Creek in the north.
325. The program also proposes a number of performance measures to ensure the conservation outcomes are being achieved.
326. The draft prescription for the growling grass frog (Victorian Government 2009a, p. 194) specifies a number of objectives for the management of the species which reflect the conservation outcomes as above. They also specify:
- retention, upgrading and connection or buffering of existing habitat within proposed precincts
 - creation of new habitat within proposed precincts, and
 - careful management of hydrology and aquatic vegetation to avoid introduction of predatory fish.

327. The draft prescription also specifies that precinct conservation management plans for the growling grass frog must demonstrate how habitat and connectivity is retained, created and managed for an important or potentially important population. Additionally it must demonstrate how it will adaptively manage habitat and threatening processes.
328. A sub-regional species strategy consistent with the prescription will be developed to assist conservation of the growling grass frog at both growth area and precinct levels. The program states that this strategy requires approval by the Commonwealth.
329. The program is considered to be consistent with the draft recovery actions in the draft national recovery plan that has been developed by Victorian Department of Sustainability and the Environment.
330. The department considers the conservation activities proposed in the program will contribute to the persistence of important populations of the growling grass frog in each investigation area.

Conclusion

331. The program proposes broad conservation outcomes for growling grass frog along with performance measures to ensure that outcomes are being achieved.
332. The draft prescription commits to preparation of precinct conservation management plans to be consistent with the sub-regional strategy which requires approval by the Commonwealth. Precinct conservation management plans will specify the retention, management and monitoring of suitable habitat across the landscape.
333. The program also proposes a water management regime that commits to maintaining or improving water quality. These commitments are readily evaluated and provide clarity when assessing the impacts of the program on the growling grass frog.
334. Both the prescription and the sub-regional species strategy are integral to the mitigation of impacts of the program upon the growling grass frog. Approval of the prescription, sub regional strategy and related adaptive management considerations by the Commonwealth will provide adequate conservation measures to ensure conservation outcomes for this species will be achieved.

OTHER MNES BY LISTING:

Button Wrinklewort (*Rutidosis leptorrhynchoides*) – endangered

Current status

335. Button Wrinklewort is a native daisy species and occurs in the ACT, NSW and Victoria. The Victorian populations represent 4per cent of the total known populations (Briggs et al.1998) and it historically occurs in association with the grassland.
336. Sites supporting remnant button wrinklewort populations in the Victorian Volcanic Plain occur primarily in ‘undisturbed’ railway easements and cemeteries. Three large known populations occur at Truganina cemetery, Dobie’s Bridge (Digger’s Rest) and Rokewood cemetery.
337. Losses in extent of this species have occurred through its sensitivity to land clearing, grazing, weed competition, pasture improvement and changed fire regimes.

Impacts

338. Implementation of the program over the next 20 years is unlikely to result in loss of any known button wrinklewort populations. Two known sites within the UGB will both be protected from impacts and will not be developed (Victorian Government 2009a, page171). The site at Digger’s Rest (Dobie’s Bridge) is close to the path of the proposed Regional Rail Link but is proposed to be protected from development.

Conservation outcomes

339. The program proposes that through implementation of the protection measures and ongoing management there will be ‘no substantial negative change’ to known populations of button wrinklewort within the UGB (Victorian Government 2009b, p. 64).
340. If further button wrinklewort populations are located, a prescription specifying its treatment will be developed to the satisfaction of the Commonwealth.

Conclusion

341. The IAR concludes that impacts to button wrinklewort as a result of implementing the program are unlikely. Due to its low tolerance for grazing and other disturbance, it is unlikely extant populations will be found.
342. There is a national recovery plan in preparation for this species. The mitigation measures and conservation outcomes are consistent with recovery actions identified by DSE (2003) (SPRAT).
343. Approval of the prescription and related adaptive management considerations by the Commonwealth will provide adequate conservation measures to ensure conservation outcomes for this species will be achieved.

Small Golden Moths Orchid (*Diuris basaltica*) - endangered

Current status

344. The Small Golden Moths Orchid is a small, yellow, deciduous orchid endemic to Victoria where it is known from the basalt plains immediately to the north and west of Melbourne in the Victorian Volcanic Plain Natural Region.
345. Only two populations are currently known to exist. The largest (about 400 plants) is located within the Melbourne west investigation area on private property at Rockbank along Clarke Road near Parwan. The second site does not fall within the program area and contains just two plants.

Impacts

346. The primary threat to the orchid is disturbance. Currently, neither of the known sites are protected by law from development. However it is unlikely that either site will be affected by development under the program.

Conservation outcomes

347. The program proposes a conservation outcome whereby there will be 'no substantial negative change' to known populations (Victorian Government 2009b, p. 56).
348. The program proposes to avoid impacts from urban development to the Clarke Road population by permanently protecting and managing the areas containing Small Golden Moths Orchid. It is proposed the land will be purchased and secured by Victoria or protected by entering into a binding agreement with the landholder to provide management of the species in perpetuity.
349. If further populations of the orchid are located during surveys, a prescription will be developed by DSE and approved by the Commonwealth to guide future management actions. It is likely that any subsequent populations found will be managed on site.

Conclusion

350. Conservation outcomes specified by the program are not considered to be inconsistent with the draft recovery actions detailed in the national recovery plan currently in preparation by the DSE. Through securing and managing the Clarke Road population, the program will implement/achieve multiple proposed recovery actions.
351. Approval of the prescription and related adaptive management considerations by the Commonwealth will provide adequate conservation measures to ensure conservation outcomes for this species will be achieved.

Adamson's Blown Grass (*Lachnagrostis adamsonii*) - endangered

Current status

352. Adamson's blown grass is endemic to south central and south-western Victoria. There are currently no known populations within the program study area, although detailed surveys could discover persisting populations within the areas proposed for the grassland reserves.

Impacts

353. Implementation of the program is not considered likely to cause a significant impact to this species.

Conservation outcomes

354. There are no specific conservation outcomes for Adamson's blown grass in the program. Any new populations found within areas to be developed will be subject to a prescription for its treatment that will be developed by DSE and approved by the Commonwealth.

Conclusion

355. The known distribution of Adamson's blown grass within Victoria suggests that impacts under the program to this species area unlikely. Should the species be found in areas to be developed, a prescription for its treatment will be developed and approved by the Commonwealth to ensure adequate conservation measures and related adaptive management for this species will be achieved.

Australian Grayling (*Prototroctes maraena*) - vulnerable*Current status*

356. The Australian Grayling is a small to medium-sized slender, silvery fish that is endemic to south-eastern Australia, including Victoria, Tasmania and NSW. It is a migratory species that relies on access to coastal and freshwater habitats for its survival.

Impacts

357. The grayling has been recorded in Cardinia Creek in the south-east investigation area. Potential threats to the grayling from urban development within the south east include river regulation, barriers to movement, decreased water quality, siltation, introduced predatory fish and disease.

Conservation outcomes

358. The program proposes the following conservation outcome for the Australian Grayling (Victorian Government 2009b, p. 62):

- Management of factors, including migration routes, riparian vegetation and water quality, affecting Australian Grayling populations to promote persistence and recovery of the species in Cardinia creek.

359. The program proposes to carry out a range of conservation activities to mitigate the impacts of the program and to ensure that the conservation outcomes are achieved. These include:

- securing a 200 metre buffer within the Cardinia Creek corridor
- including the Cardinia Creek buffer within the revised Casey-Cardinia growth area framework plan
- protection of water quality through best practice urban water management entering the grayling habitat of Cardinia Creek, and
- protecting potential habitat for the species through best practice urban water management.

Conclusion

360. The department considers that the program is not inconsistent with the recovery actions in the national recovery plan for this species. The proposed conservation actions in the program indicate impacts on the grayling will be mitigated and the conservation outcomes are likely to be achieved.

Australian Painted Snipe (*Rostratula australis*) - vulnerable

Current status

361. Australian Painted Snipe was listed as vulnerable in 2003. It occurs in scattered locations over south-eastern Australia but is considered to occur in a single, contiguous breeding population.

Impacts

362. Implementation of the program is not considered likely to cause a significant impact to this species.

Conservation outcomes

363. There are no specific conservation outcomes for Australian painted snipe in the program, however three locations where painted snipe has been recorded in and near the study area have been excluded from the UGB and two of these sites are included within the proposed western grassland reserves.
364. Further habitat suitable for the species will be managed as part of the program within the Merri Creek area and large retained and recreated wetlands in the south-east investigation area.
365. If the species is detected during surveys for the precinct structure plans a prescription for treatment of its habitat on any site will be developed by DSE and approved by the Commonwealth.

Conclusion

366. The overall conservation outcomes offered by the program under the Migratory Birds section (Victorian Government 2009b, p. 68) should be sufficient to adequately mitigate impacts on this species to an acceptable level.

Clover Glycine (*Glycine latrobeana*) -vulnerable

Current status

367. Clover Glycine (Purple Clover) was listed as vulnerable in 2001. It is widely but sporadically distributed across south-eastern Australia. In Victoria it is widespread and records exist from the volcanic plains.
368. There are no recent records of clover glycine in the program study areas. Surveys for Precinct Structure Plans may discover extent populations of this species.

Impacts

369. Current data suggest that any impacts associated with implementing the program to this species are unlikely.

Conservation outcomes

370. There are no specific conservation outcomes for clover glycine in the program, however any new populations found will be subject to a prescription that will be developed by DSE and approved by the Commonwealth.

Conclusion

371. Should clover glycine be found in areas to be developed, a prescription for its treatment and related adaptive management will be developed and approved by the Commonwealth to ensure conservation measures for this species will be achieved

Dwarf Galaxias (*Galaxiella pusilla*) - vulnerable

Current status

372. The Dwarf Galaxia is a small transparent olive-amber freshwater fish occurring in Tasmania and Victoria. Populations have declined as a result of destruction, degradation and fragmentation of wetland habitat.
373. The galaxia has not been recorded in the study areas, although there is expectation it may be found in surveys of the south-east.

Impacts

374. Implementation of the program over the next 20 years has the potential to impact this species through changes to wetland habitats resulting from river regulation, barriers, water quality, runoff, siltation, introduced predatory fish and disease.

Conservation outcomes

375. There are no specific conservation outcomes for Dwarf Galaxias in the program, however conservation outcomes relevant to the Australian Grayling (Victorian Government 2009b, p. 62) and Migratory species, wetlands and waterways (Victorian Government 2009b, p. 68) apply similarly to this species.
376. The program proposes that impacts associated with its implementation will be mitigated through the protection and management of the Cardinia Creek corridor with an aim to maintain high conservation values.
377. This will include securing a buffer up to 200 metres wide, revegetation and woody weed removal activities in degraded areas. The program proposes to ensure best quality stormwater management which is designed to mitigate potential water quality issues.

Conclusion

378. Potential exists for impacts on extant populations of this species in the south-east. However, mitigation of impacts through conservation activities for other matters of NES should be sufficient to ensure ongoing protection of this species.
379. Additionally, any populations of galaxias found during surveys will be subject to a prescription that will be developed by DSE and approved by the Commonwealth.

Grey-headed Flying Fox (*Pteropus poliocephalus*) - vulnerable

Current status

380. Grey-headed Flying Fox was listed as vulnerable in 2001. Concentrated colonies of this species are distributed along the coastal belt of south-eastern Australia. The grey-headed flying fox services ecosystem functions such as pollination and seed dispersal for a range of native and commercial forestry trees.
381. There are several colonies in the Melbourne area, the most concentrated being the colony at the Royal Botanic gardens. Populations are highly mobile and commute considerable distances on a daily basis between food sources and roosting sites.
382. There are scant records of grey-headed flying fox within the investigation areas for the program, but they may occur in the woodlands in times of flowering.

Impacts

383. Current data suggest that impacts under the program to this species are unlikely.
384. The areas within focus of the program do not include the major known roosting sites or any satellite colonies.

Conservation outcomes

385. There are no specific conservation outcomes for the grey-headed flying fox in the program, however conservation outcomes relevant to the swift parrot may apply similarly to this species.

Conclusion

386. The department considers that it is unlikely that implementation of the program will cause any direct impact to this species.

Large-fruit Groundsel (*Senecio macrocarpus*) - vulnerable

Current status

387. Large-fruit groundsel was listed as a vulnerable species in 2000 and occurs in SA and Victoria. In Victoria it occurs in eleven locations primarily in wetter depressions within grassy woodlands and grasslands. Several of these occur in Public Transport Corporation lands (rail reserves) and private lands around Melbourne's west.
388. Losses in extent through land clearing and changes in hydrological regime within grassland habitat including increased siltation, salinity and flooding events threaten the large-fruit groundsel.

Impacts

389. Implementation of the program over the next 20 years is likely to result in the loss of known and extant habitat of the large-fruit groundsel. For example, the species is known at a site at Rockbank in the western investigation area and this site is not proposed to be excluded from development (Victorian Government 2009a, p. 173).
390. Mitigation measures for offsetting likely impacts to large-fruit groundsel include:
- the offset of grassland habitat into managed grassland reserves for potential natural recolonisation

- a prescription yet to be developed by the DSE in agreement with the Commonwealth
- enhanced protection of the Truganina cemetery grasslands, and
- replanting of nursery grown stock from salvaged sites.

391. Mitigation measures are inconsistent with an action outlined in the Victorian Flora and Fauna Guarantee statement for the species, that action being “Protection of existing sites” (FFG Action Statement, no.68, p. 4).

Conservation outcomes

392. A recovery plan is currently being prepared for this species. Advice on the conservation for this species is provided on the species profile and threat database.
393. The program proposes that through implementation of the protection measures and ongoing management there will be ‘no substantial negative change’ to known populations of large-fruit groundsel within the UGB (Victorian Government 2009b, p. 64).
394. There are some results from propagation and planting experiments but generally the results demonstrate limited applicability based on current knowledge.

Conclusion

395. Conservation outcomes for large-fruit groundsel to be achieved by Victoria reflect the mitigation measures in that they focus on protection and management of currently known populations.
396. Any new populations found will be subject to a prescription that will be developed by DSE and approved by the Commonwealth.

Swamp Everlasting (*Xerochrysum palustre*) - vulnerable

Current status

397. Swamp everlasting is a small native everlasting daisy and was listed as vulnerable in 1999. It occurs in about 23 sites across Victoria, mostly within road or rail reserves. It occurs within the rail reserve on the south-east edge of the south-east investigation area.

Impacts

398. Current data suggest that impacts under the program to this species are unlikely, but there is potential for the species to be found in surveys.

Conservation outcomes

399. The program proposes (Victorian Government 2009b, p. 66) that through implementation of the protection measures and ongoing management, there will be no substantial negative change to known populations of the Swamp Everlasting within the UGB.
400. The known population in the south east will be protected from urban development through development of a precinct conservation management plan that will inform the precinct structure plan.

Conclusion

401. The known population in the south east will be protected from development.

402. Any new populations found will be subject to a prescription developed by DSE for approval by the Commonwealth, indicating the overall conservation outcome for this species will be achieved.

River Swamp Wallaby Grass (*Amphibromus fluitans*) - vulnerable*Current status*

403. River swamp wallaby grass occurs in NSW, Victoria and Tasmania. In Victoria, it occurs mostly in the central north, with fewer records from southern Victoria. There are records of this species from Cranbourne, near the south-east investigation area and one record in the west.

Impacts

404. Current data suggest that impacts under the program to this species are unlikely, but there is potential for the species to be found in surveys within the areas proposed as grassland reserves, and other wetter areas within the north and south-east.

405. Expert advice to the department suggests that any populations in the Melbourne region would not meet the criteria as important populations.

Conservation Outcomes

406. There are no specific conservation outcomes for river swamp wallaby grass in the program however conservation outcomes for listed species without current prescriptions apply (Victorian Government 2009b, p. 67). They include:

- identification and assessment prior to planning and construction, and
- no substantial negative change to known populations within the UGB or other outcomes as agreed with the Commonwealth.

Conclusion

407. Potential exists for impacts on extant populations of this species in the west. Any new populations found will be subject to a prescription developed by DSE for approval by the Commonwealth, indicating the overall conservation outcome for this species will be achieved.

Maroon Leek-Orchid (*Prasophyllum frenchii*) - endangered*Current status*

408. The Maroon leek-orchid is a tall, slender, deciduous terrestrial orchid endemic to south-eastern Australia. Grasslands and grassy woodlands are important habitats for the species.

409. The current known population of maroon leek orchid in a railway corridor in the south-east is well known and managed, but faces a range of threats.

Impacts

410. It is not expected that the program will have a direct impact on this species.

Conservation outcomes

411. The program proposes the following conservation outcomes for the maroon leek orchid (Victorian Government 2009b, p. 66):

- no substantial negative change to known populations of the maroon leek orchid within the UGB, and
- an increase in the ability of each population to become self sustaining in the long term.

412. The program has proposed a range of conservation activities to ensure that the proposed conservation outcomes are met, including the potential establishment of a conservation reserve along the disused railway easement.

Conclusion

413. The program has proposed to exclude development from the disused railway, and implement a conservation management plan for the ongoing maintenance of the existing population.

414. There is also potential to develop a prescription for maroon leek orchid if required. The prescription would be developed by DSE for approval by the Commonwealth, indicating the overall conservation outcome for this species will be achieved.

Other Orchid and Herb Species

415. Other orchid species may also potentially occur within the program area, although considered very unlikely. They include:

- cream spider-orchid (*Arachnorchis orientalis* (syn. *Caladenia fragrantissima* ssp. *orientalis*))
- green-striped greenhood (*Pterostylis chlorogramma*)
- metallic sun-orchid (*Thelymitra epipactoides*), and
- sunshine diuris (*Sunshine Diuris*)

416. The following three herbs of grassland and grassy wetlands have historically occurred within parts of Melbourne west and Melbourne north investigation areas, although expert advice to the department suggests that their present potential for occurrence is very unlikely:

- austral toadflax (*Thesium australe*)
- basalt peppercress (*Lepidium hyssopifolium*), and
- swamp fireweed (*Senecio psilocarpus*)

Conservation outcomes

417. The program proposes that searches for all seven of these species will be undertaken as part of the precinct structure planning investigations. The program has also given the undertaking to ensure that suitably qualified botanists will conduct surveys for the orchid species at the appropriate time of year.

418. The program proposes that if any of these species are found during surveys, a prescription will be developed by the Victorian Government and submitted to the Commonwealth for approval. In the interim, any orchids listed under the

EPBC Act as endangered or critically endangered will be retained and managed on site unless the Commonwealth Government advises otherwise.

Conclusion

419. These seven species of orchids and herbs are unlikely to occur within the program area. The program has undertaken to survey for their presence appropriately and retain any orchids listed under the EPBC Act as endangered or critically endangered until a relevant prescription is approved by the Commonwealth Government. Therefore, given the low likelihood of occurrence of these species within the program area, and the program commitments regarding surveying and retention of extant plants, the program is likely to have an acceptable impact on these seven orchid and herb species.

Latham's Snipe (*Gallinago hardwickii*) - marine/migratory

Current status

420. Latham's Snipe is one of many shorebirds that are a non-breeding visitor to wetlands in the Melbourne area during migration (between August and March). This snipe will readily move locations as conditions become more or less favourable. They are cryptic and difficult to survey due to their physical similarities to other snipes.

421. Records indicate shorebirds occur in the west and north investigation areas and they are considered likely to occur in the south-east. Victorian Government (2009a, p. 199) suggests nationally significant numbers of shorebirds use some of the wetlands in and adjacent to the investigation areas including those associated with Merri Creek and within the western grassland reserves. Victorian Government (2009a), suggests that Latham's snipe is the most likely shorebird to use such areas.

Impacts

422. The implementation of the program has the potential to affect populations of Latham's snipe through habitat (wetland) loss or modification, disturbance and predation from introduced species/domestic pets such as cats, dogs and foxes.

423. The IAR suggests impacts of the program on shorebirds, including Latham's snipe, will not be significant. However, 670 hectares of wetland habitat occurs within the study area including some large artificial impoundments, and up to 89per cent of this may potentially be lost through implementation of the program.

Conservation outcomes

424. Sixty hectares of wetland are proposed to be protected from urban development. The mitigation strategy suggests that wetlands may be incorporated in the precinct planning structure.

425. There are no specific conservation outcomes for Latham's snipe in the program, however conservation outcomes for migratory species, waterways, wetlands and Ramsar sites apply (Victorian Government 2009b, p. 68). They include:

- A network of conservation reserves including wetlands managed for migratory species and other wetland values
- Improved management and design of retained and constructed wetlands to maximise habitat opportunities

426. The draft prescription regarding wetlands (Victorian Government 2009a, p. 201) includes:

- Avoiding loss of wetlands where possible
- Providing 100 metre buffers around key wetlands
- Limiting indirect disturbances
- Re-creating new wetlands

Conclusion

427. The program does not specifically address the requirements for this species in the IAR. The draft prescription for migratory species applies.

428. The prescription will be integral to mitigating impacts of the program on Latham's snipe. Approval of the prescription and related adaptive management considerations by the Commonwealth will provide adequate conservation measures to ensure conservation outcomes for this species will be achieved.

Migratory Birds

Current status

429. There are a large number of migratory bird species that inhabit the Melbourne bioregion on a regular basis. These include marine, shorebird and wetland species as well as some terrestrial species.

430. Some species are of international importance, such as Latham's snipe, which can be present as a single migratory population distributed amongst wetlands over a wide area.

431. Terrestrial species include a suite of forest/woodland-dependant birds, such as the satin flycatcher, black-faced monarch and the endangered regent honeyeater and swift parrot.

Impacts

432. 670 hectares of wetland habitat is estimated to occur within the program area including some large artificial impoundments. Implementation of the program over the next 20 years may result in the loss of up to ~600 hectares (~ 89per cent) of both natural and artificial wetland habitat throughout the program area.

433. Additionally, 709 hectares of woodland habitat will be cleared as a result of the program (see section from paragraph 216).

434. The program initially avoids direct impacts to wetland and woodland habitat through the placement of the extended UGB.

435. The program also avoids direct impacts through the rezoning of some land areas within the extended boundary as non-developable lands. Additional measures to

avoid impacts on migratory bird habitat within the extended UGB are included in the draft prescription and associated mitigation measures.

Conservation outcomes

436. The program proposes that implementation of the conservation activities to mitigate and offset the impacts of the program will result in conservation outcomes for migratory birds, wetlands and Ramsar sites (Victorian Government 2009b, p. 68) including:
- a network of conservation reserves including wetlands managed for migratory species and other wetland values
 - improved management and design of retained and constructed wetlands to maximise habitat opportunities
 - major new area of re-established wetlands managed for water quality mitigation and biodiversity conservation
 - improved water quality entering Western Port Ramsar site
 - same or improved water quality entering Port Phillip Bay Ramsar site, and
 - limited indirect disturbances to identified wetlands.
437. Sixty hectares of wetland are proposed to be protected from urban development. The mitigation strategy suggests that wetlands may be incorporated in the precinct planning structure.
438. Surveys will be conducted on a site by site basis and if nationally significant species use the site or are likely to use the site, then the site will be retained and managed under a conservation management plan. It is therefore possible that more wetland habitat may be retained within the UGB than the current estimate of 60 hectares.
439. The draft prescription and other associated mitigation measures include:
- Important wetlands and other migratory species habitat to be included in biodiversity conservation strategies to be approved by the Commonwealth;
 - Sites that are used or are likely to be used by nationally significant migratory species will be protected with a 200 metre buffer as part of the precinct structure plan, and will be managed under a conservation management plan.

Conclusion

440. The migratory birds taskforce contributed the following advice:
- The expanded UGB is adjacent or nearby to protected wetlands that support significant numbers of listed migratory shorebirds virtually year-round.
 - From the available evidence, the program is unlikely to have a direct significant impact on these listed species or protected wetlands.
441. The program commits to retaining wetlands that provide, or are likely to provide habitat for nationally listed migratory species. These sites will be protected with a 200 metre buffer and managed under a conservation management plan. The migratory birds taskforce has advised that the program is unlikely to have a direct significant impact on listed species or protected wetlands.

442. The program proposes to address indirect impacts by achieving conservation outcomes whereby water quality entering Ramsar sites is either maintained or improved.
443. The measures for mitigation and offset for migratory birds demonstrate the impacts are sufficiently addressed to a level that the conservation outcomes are likely to be achieved.
444. Approval of the prescription for the treatment of migratory birds and related adaptive management considerations by the Commonwealth will provide adequate conservation measures to ensure conservation outcomes for these matters will be achieved.

Ramsar Wetlands

Known sites and status

445. There are three Ramsar sites within the Melbourne region. These are the Port Phillip Bay (western shoreline) and Bellarine Peninsula, Edithvale-Seaford Wetlands, and Western Port sites.
446. Threats to these sites include hydrological changes in flow, quality and quantity of water passing into and through the wetlands. Other threats include pest plants and animals, livestock grazing, vegetation clearance for agriculture and visitor impacts.

Impacts

447. Implementation of the program is likely to have impacts on these Ramsar sites. The Outer Metropolitan Ring/E6 transport corridor (OMR/E6) traverses a northern section of the Port Phillip Bay Ramsar site near its junction with the Princes freeway south-west of Werribee. This section of the Ramsar site forms the property boundary of the Western Treatment Plant contained within the Port Phillip Bay Ramsar site. The proposed route of the OMR/E6 through the Port Phillip Bay Ramsar site includes substantial areas of exotic pasture and some native grassland. The nearest major wetland is 500 metres south of the Princes freeway and there is a small seasonal cane grass swamp just west of the Princes freeway junction.
448. The program proposes to mitigate impacts of the OMR/E6 traversing this section of the Port Phillip Bay Ramsar site by adopting best practice conservation methods to prevent accidental disturbance and/or runoff reaching nearby wetlands. The IAR states that further investigations will be carried out prior to planning the OMR/E6 so that management practices will be put in place before construction begins (Victorian Government 2009a, p. 214).
449. Implementation of the program is unlikely to directly impact the other Ramsar sites of Western Port and Edithvale-Seaford given they are of a sufficient distance from the proposed areas of development.

450. There is the potential for the program to have indirect impacts to the ecological character of Ramsar sites through changes in water quality and hydrology. Notably, there could be extractive industries (e.g. quarries) located near Ramsar wetlands that may impact water entering the wetlands through ground water diversion and other quality impacts through runoff from spoil.
451. Urban stormwater runoff flowing into the Ramsar wetlands has the potential to reduce benthic fauna communities and subsequently affect the food supply of shorebirds.
452. Closer proximity of urban development will increase levels of human visitation posing a risk of disturbance to important shorebird sites. This is particularly relevant to the Port Phillip Bay Ramsar site.

Mitigation measures

453. Downstream hydrological impacts as a result of implementing the program will be addressed through the precinct structure planning process with an integrated water management plan forming a prerequisite for any precinct structure plan. Integrated water management plans will:
- include water sensitive urban design
 - restrict downstream flows from subdivision sites to pre-development levels, unless increased flows are approved by the relevant drainage authority
 - implement stormwater harvesting and management options that meet Best practice Environmental Management Guidelines (CSIRO 1999), and
 - set design standards for flood capacity and conveyance.
454. Precinct Structure Planning guidelines will ensure that:
- urban run-off systems are designed and managed in accordance with requirements of the relevant water authority
 - existing natural waterways, wetlands and riparian vegetation are incorporated into urban runoff systems
 - there are constructed lakes, ponds and other water bodies that protect and enhance natural systems, and
 - urban runoff is not discharged into native vegetation, unless it cannot be avoided and will be managed and be beneficial to the areas discharged
455. Other downstream water quality management processes include:
- monitoring of water quality entering Ramsar sites, and preparing adaptive management measures in response. Water quality must be consistent with relevant state environmental protection policy, and
 - a remedial management plan to deal with potential water quality breaches submitted to DEWHA by 2010.
456. Increased visitor pressure will be managed through the implementation of a 200 metre buffer to exclude dogs and pedestrians from significant shorebird sites within two kilometres of new urban areas. There will also be increased monitoring for foxes and domestic predators in the Port Phillip Bay Ramsar site

area within two kilometres of urban areas, and adaptive management measures as required.

Conservation outcomes

457. The program proposes to mitigate the likelihood and severity of indirect impacts, by implementing measures to achieve the following conservation outcomes:

- A network of small and large conservation reserves including diverse wetland areas managed for migratory species and other wetland values, particularly in areas distant from urban development.
- Improved management and design of retained and constructed wetlands to maximise habitat opportunities for migratory species.
- New wetland areas established in the Melbourne south-east investigation area in order to contribute to water quality mitigation and biodiversity conservation.
- Improved water quality entering Western Port Ramsar site.
- Improved or maintained water quality entering Port Phillip Bay Ramsar site.
- Limited indirect disturbances to identified wetlands.

458. The proposed new wetlands in the Melbourne south-east investigation area are situated on the site of the former Koo Wee Rup swampland, and will be designed to improve the water quality flowing into Western Port. The Growth Areas Authority and Melbourne Water will carry out an investigation, that will identify funding and the practical requirements necessary to create the proposed new wetlands. The outcomes of the investigation will be submitted to the department in March 2011, and will inform the Biodiversity Conservation Strategy for the south-east and the Casey-Cardinia Growth area framework plan. Melbourne Water will be responsible for creating the wetlands and implementing the management plan. Monitoring will be undertaken by DSE, and these results submitted to the department.

459. Issues of concern were raised with the Victorian Government. As a result, subsequent versions of the program propose to address these concerns with the following commitments:

- A management plan for the section of the proposed OMR/E6 that traverses the Port Phillip Bay Ramsar site will be submitted to the department for approval.
- Results of the investigation into the proposed new wetland will be submitted to the department by March 2011.
- Works and subsequent management plan for the proposed new wetlands near Western Port will be completed within an earlier timeframe, by 2019.
- Improved commitments to monitoring water quality entering Ramsar sites, and remedial management plans if standards are not met, including a remedial management plan for potential water quality breaches submitted to DEWHA by 2010.

Conclusion

460. The proposed conservation outcomes state that the water quality of waterways entering Ramsar sites will either be maintained or improved. Any other outcome

will result in actions not gaining EPBC approval. There are a range of measures to mitigate the impacts of the program on water quality and Ramsar sites.

461. The program will implement a regime of monitoring, evaluation and remediation as necessary, the results of which will be reported to DEWHA on an ongoing basis. The Victorian Government has also increased its level of commitment to maintaining and improving water quality in order to address concerns over uncertainty.
462. Additionally, if the program is endorsed there is the ability to condition certain activities or actions, such as quarries and the OMR/E6. This would strengthen commitments in the program and further address risks of impact associated with these activities.
463. Therefore, taking all mitigation factors into consideration and that the proposed conservation outcomes must be met or else actions under the program would no longer be approved, the department is of the view that impacts to Ramsar sites and wetlands will be acceptable.

Heritage

Known sites

464. The officer's mess at the RAAF Laverton Airbase within the current UGB is listed as a Commonwealth Heritage Place and is not within the study area. The Point Cook Air Base is the closest National Heritage Place to the current UGB and is not included within an investigation area. Neither of these sites will suffer any impact through the program.
465. There are twelve sites listed on the Register of the National Estate within the UGB, and an additional eight "indicative" places.

Impacts

466. It is not expected that implementation of the program will have a direct impact on any Heritage sites or areas.

Conservation outcomes

467. The conservation outcomes proposed by the program will ensure that all known sites on the RNE, and sites of Aboriginal cultural heritage are protected and managed (Victorian Government 2009b, p. 71). This will be achieved through the following commitments:
- All known sites on the Register of the National Estate will be referenced in planning schemes with appropriate controls in place by 2010;
 - Cultural heritage management plans will be prepared and implemented through the precinct structure planning process; and
 - Monitoring and enforcement of land management obligations to ensure compliance with statutory planning controls and cultural heritage management plans.

Conclusion

468. It is unlikely that there will be any direct impacts on Heritage as a result of the program. Conservation outcomes have been included to ensure that the program

undertakes a series of activities to protect and maintain National and Commonwealth Heritage places or sites listed on the Register of the National Estate.

4.6 Climate change impacts

445. The IAR states that the future climate of the Port Phillip and Westernport region is expected to be hotter and drier than it is today (Victorian Government 2009a, pp. 137-138). Average annual temperatures are expected to be around 0.8 °C warmer in 2030 compared to 1990 figures, particularly in summer. The number of days over 30 °C are also expected to increase.
446. The average annual rainfall is expected to decrease by around four per cent, with the greatest percentage reductions occurring in spring (seven per cent).
447. It is likely that current threats impacting on MNES will be exacerbated, although the extent is difficult to predict. The most susceptible species will be those with restricted or specialised habitat requirements, poor dispersal abilities or small populations.
448. The western grasslands occupy a rain shadow area cast by the You Yangs/Brisbane Ranges that largely limits tree growth in the area. Historically the grasslands receive 500-550 mm annual rainfall. The grasslands share strong floristic, structural and faunal assemblage affinities with grasslands north of the Great Dividing Range in Victoria that occupy areas receiving between 450-550 mm annual rainfall. If the rainfall is reduced by the expected order of magnitude, then Victoria postulates that this would be within the climate envelope of the western grasslands vegetation community based on the northern grasslands.
449. Similarly the woodlands shares close affinities with grassy woodlands north of the Great Dividing Range including the Victorian Riverina, hence the same logic applies for resilience of the woodlands reserve in the face of warmer and drier conditions.
450. Minimising impacts from climate change on MNES within the UGB are anticipated to be resolved through the biodiversity conservation strategies that are prepared for the urban development areas and the adaptive management strategy required by the program. Both are required to be approved by the Commonwealth Government.
451. The department considers that the scale of reserves, opportunity to provide adaptive management measures and logic of similar communities in drier conditions succeeding as adequately addressing the impacts of climate change for communities in these reserves. The department considers that impacts of climate change within the UGB will be addressed through other mechanisms as previously described.

4.7 Conclusion on impacts from program

452. The department considers that the IAR has adequately addressed the impacts to which the agreement relates. The likely impacts on MNES have been identified and sufficient information has been provided to address avoidance, mitigation and offset measures to reduce these impacts.
453. The department also considers the conservation outcomes are adequate to protect MNES, containing enough rigour to be accountable but also flexible to enable the program to respond to changing conditions and information. Similarly, the planning frameworks are likely to deliver these conservation outcomes through the security of existing legislation and policies combined with the requirement for key plans and strategies to be approved by the Commonwealth Government.
454. In comparison to business-as-usual scenario of individual projects being assessed under Part 9 of the EPBC Act, the program commits to managed, consolidated reserves instead of scattered offsets due to broad-scale implementation of the program. Offsets can also be obtained for all losses and not just those deemed significant on a case-by case basis.
455. Socio-economic considerations are included in the mitigation measures, so that reserve size or targets for example incorporate considerations such as resources for management and maximising development. This can give confidence that conservation outcomes are achievable and sustainable since the Victorian Government has considered the costs when designed the mitigation measures.
456. The department notes that some proposed activities may require additional conditions to meet conservation outcomes. For example extractive industries and sewage treatment plants will need to provide additional information on the impacts of these activities on the quantity and quality of receiving waters and Ramsar wetlands before any specific approvals will be granted. This is considered by the department to be manageable in the future and consequently the report adequately addresses impacts associated with implementation of the program.
457. The department also considers that program will minimise impacts on heritage, including the Register of the National Estate sites.

5 Risks and Compliance

458. A risk analysis undertaken by the department identified three types of risks which could result in the program not delivering on the conservation outcomes or leading to non-compliant actions. These risks are: process, outcome and science risks. The risk analysis examined the program to identify mechanisms to reduce these risks. If the risk was not adequately minimised, modifications to the program were recommended (see section 7). A summary of the risks and compliance measures is discussed here but also see section 3.3.9.

5.1 Process risks

459. Process risk describes when the process for implementing development as specified in the program is not followed. This can occur two ways:

- The program is not implemented as specified by Victorian Government.
- or
- Actions are not taken in accordance with program by approval holders.

460. Examples of process risks occurring could be:

- MNES cleared without offsets secured.
- Mechanisms within the program are unclear, leading to uncertainty for approving plans, strategies etc and reporting and remedial actions to occur.
- Victorian legislation and/or policies change.

461. Mechanisms identified in the program to trigger awareness of process non-compliance occurring, through monitoring and reporting for example, include:

- Independent reporting on all projects that are part of the program for compliance with implementation of planning mechanisms (Victorian Government 2009b, p. 75).
- Independent report on construction works compliance (Victorian Government 2009b, p. 78).
- Breaches reported to Commonwealth of clearing that is not in accordance with the requirements of the native vegetation precinct plan or conservation management plan, or relevant approval document for transport infrastructure or other land use (Victorian Government 2009b, pp. 55, 57, 60).
- Independent review (Victorian Government 2009b, p. 74).
- Community groups notify the department.

462. Mechanisms in the program to rectify identified process non-compliance include:

- Approvals are not valid if program not followed; approval holders may not have benefit of approval if they continue with actions.
- Independent monitor of the program to be established with the terms of reference to be agreed between the Commonwealth and Victorian Governments (Victorian Government 2009b, p84).
- The program states that references to legislation are provided for context.

463. Modifications were recommended where it was identified the program did not minimise some process risks. These modifications included:

- Require public reporting of activities and outcomes, particularly accounting for offsets.
- Require five-yearly review with actions arising from review to be agreed between Commonwealth and Victorian Governments.
- Program to state that Commonwealth approved remedial actions be undertaken if program not being implemented as endorsed.
- Include a dispute resolution mechanism in the program to define the process for handling a disagreement in the application of the program and define an outcome if the dispute is not resolved.

464. As these modifications have been made to the program, the department considers that the process risks are adequately managed.

5.2 Outcome risks

465. Outcome risks relate to the achievement of the conservation outcomes specified in the program. There major risks are that outcomes are not achieved even though program is implemented as specified.

466. Examples of outcome risk occurring include:

- Biodiversity conservation strategies and sub-regional species strategies do not deliver conservation outcomes.
- Prescriptions as specified in the IAR do not deliver on the outcomes.
- MNES not managed well in reserves.
- Impacts from certain activities (e.g. extractive industries, OMR in Ramsar area etc) greater than anticipated due to lack of information and lack of participation in future processes.

467. Mechanisms identified in the program to trigger awareness of outcomes non-compliance occurring include:

- specific MNES reporting on outcomes
- independent review (Victorian Government 2009b, p. 74), and
- community groups notify the department

468. Mechanisms in the program to rectify identified outcome non-compliance include:

- Commonwealth Government approves prescriptions
- Commonwealth Government approval of biodiversity conservation strategies and sub-regional species strategies
- revision of prescriptions under certain circumstances, and
- monitoring and adaptive management strategy for reserve management (Victorian Government 2009b, pp. 98-100).

469. Modifications were recommended where it was identified the program did not minimise some outcome risks. These modifications included:

- require public reporting of activities and outcomes, particularly accounting for offsets
- a statement in the program that non-compliance with conservation outcomes means approvals are not valid and this triggers compliance actions. For example, Victorian Government is required to submit a plan for addressing

non-compliance which must be approved by Commonwealth Government prior to actions continuing.

- a dispute resolution mechanism in the program to define the process for handling a disagreement in the application of the program and define an outcome if the dispute is not resolved, and
- critical offset requirements in the program.

470. As these modifications have been made to the program, the department considers that the outcome risks are adequately managed.

5.3 Science risks

471. Science risks occur when the program is not able to adapt to new information that could improve the protection of MNES. Examples of these risks include:

- In the future it is found that the grassland floristics inside the UGB are more resilient to climate change impacts than the reserves outside the UGB.
- A catastrophe occurs that changes the protection measures for MNES, for example a bushfire in the reserves.

472. New information sources could include:

- the revision of a recovery plan
- new listings under the EPBC Act occur, noting that the event of a new listing will not affect any approvals given under the EPBC Act prior to that listing, and
- community groups or the Victorian Government notify the department of new information.

473. The program contains the following mechanisms to address these risks:

- Commonwealth Government approves prescriptions
- Commonwealth Government approves biodiversity conservation strategies and sub-regional species strategies
- prescriptions are revised under certain circumstances, and
- there is a monitoring and adaptive management strategy for reserve management (Victorian Government 2009b, pp. 98-100).

474. Modifications were recommended to improve some of these mechanisms to respond to new information, such as clarifying what new information will trigger the revision of prescriptions (see section 7.2). As these modifications have been made, the department considers that the science risks are adequately managed.

5.4 Conclusion

475. Overall the program manages the uncertainty of not having all information about MNES impacts upfront through the use of planning frameworks, policies, plans and strategies and conservation outcomes.

476. There are risks that the program may not deliver on the protection of MNES through the failure of the processes, conservation outcomes or new information. The department considers that these risks have been adequately minimised through the use of monitoring, reporting, adaptive management and the requirement for the Commonwealth to approve key plans, strategies and

prescriptions. The additional recommended modifications to further limit risks have been incorporated into the final revised program.

6 Principles of Ecologically Sustainable Development

477. The EPBC Act identifies the principles of ecologically sustainable development (ESD) in section 3A. The endorsement criteria for the strategic assessment (see section 2) also reference the principles of ecologically sustainable development as relevant to determining whether or not to endorse the program. Each principle of ESD is discussed individually below.

3A (a) decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations.

478. Through consideration of the program the associated impact assessment report and this document, the statutory decision on whether to endorse the program under assessment will include consideration of the short and long term environmental impacts, benefits and risks of the program. Further information on economic, environmental, social and equitable matters is provided below.

479. *Melbourne @ 5 Million* (Department of Planning, Community Development 2008) and the program both describe how the Victorian Government has integrated both short and long-term economic, environmental, social and equitable considerations into the strategic planning process for the long term development of Melbourne, of which the expansion of the UGB, being the subject of the program, is one element.

480. The Victorian Government's economic considerations include the ongoing provision of land and housing supplies to meet projected demand resulting from Melbourne's rapidly increasing population. The demand for affordable housing is a key driver behind the expansion of the UGB. The majority of the housing will be provided within the current UGB, minimising the extent of expansion required. The Victorian Government also intends to use the expanded UGB to establish new employment and industry centres, stimulating job creation and associated economic activity. The construction of the OMR/E6 road and rail arterials will enable freight movement more efficiently between major freight terminals located within Melbourne and Geelong.

481. Social considerations for the long and short term are aligned with land and housing availability for Melbourne's growing population. The Victorian Government have committed to developing an integrated transport network across the state in *The Victorian Transport Plan*, which will assist with movement within the expanded UGB. The development of transport projects associated with this program, including the regional rail link, will provide a diversity of options for commuters as well as increasing the capacity of metropolitan rail lines to accommodate an increase in public transport users.

482. In relation to the planning of new precincts, the stated overarching goal of the Victorian Government Growth Areas Authority is to "...create diverse, compact and well connected communities that are affordable and rich in local jobs, transport access, services and culture" (Growth Areas Authority 2009, p. 2). The PSP Guidelines set out how a sense of place and community will be established in vibrant communities with greater access to housing choice,

transport and employment areas while increasing environmental sustainability. Housing densities of 15 dwellings per hectare will be supported by multi-node settlement patterns with greater housing densities concentrated around transport corridors. This is expected to provide the framework for more integrated sustainable communities through transport-oriented development.

483. The environmental impacts, benefits and risks of the program are addressed in the impact assessment report and discussed elsewhere in this document (see section 4 and section 5).

484. Consideration of the environment is further demonstrated in the program by the exclusion of some areas of high conservation value, native vegetation and species habitat, for example the grasslands west of Melbourne and woodlands to the east of the northern growth area. Within the UGB the planning framework will take into account areas of high ecological value and important or threatened species, including MNES. At a finer scale the requirement of plans to manage flora and fauna during the construction phase through to ongoing day to day management is well described.

485. Where impacts cannot be avoided or mitigated the program establishes how environmental values lost through the implementation process can be offset elsewhere in the landscape. The creation of large grassland and woodland reserves and the protection of riparian corridors through legal mechanisms offering ongoing security and management will allow natural ecosystem functions to persist across the landscape.

3A (b) if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation (the Precautionary Principle).

486. The expansion of Melbourne's UGB is expected to lead to substantial impacts on MNES. Due to the long duration of the UGB expansion, the program adopts a process for identifying and protecting MNES and other biodiversity values, within the context of specific conservation outcomes. This necessarily involves some uncertainty regarding the extent of actual impacts at the time of making a decision on endorsement.

487. To address this uncertainty, the process the program adopts includes mandatory mitigation and offset requirements. The program also contains monitoring, auditing and reporting commitments and requirements designed to lower the risk of environmental damage. These processes and commitments are described in greater detail in section 3.3.10 of this report.

488. A number of the formally recommended modifications to the program sought to improve the processes established in the program (see section 7 for modifications). The modifications aimed to improve the level of certainty regarding the protection of the environment and the manner in which environmental degradation would be prevented.

489. In many cases the areas likely to be impacted contain substantial native vegetation and species habitat and facilitate ecological processes. However the

majority of areas are substantially modified from their pre-European condition and extent. Broadly, losses will be addressed through offsetting with a focus on protection through large contiguous reserves legally protected from development and managed for conservation in a consistent manner. The IAR concludes that focusing on achieving environmental gains in the targeted areas will lead to improved long-term outcomes compared with the existing approach of ad-hoc offsetting requirements generated by individual development actions.

490. The Victorian planning system allows for the consideration of biodiversity assets from a landscape scale to a local level. For example, biodiversity surveys within precincts will identify MNES, and then approved prescriptions are applied that outline how the matters are to be managed before any impacts can occur. The draft prescriptions in the IAR (which are yet to be approved) include protection and removal protocols and ongoing requirements for management. Additionally, species or ecological communities listed in the future are accounted for within the program planning framework which requires survey methodologies and prescriptions to be developed for those species or communities. These processes will manage future uncertainties and ensure all impacts are appropriately addressed.

491. The program requires the Victorian Government to develop a monitoring and reporting framework for approval by the Commonwealth Government. An independent monitor will be appointed to ensure the program is being properly implemented by all relevant parties, and commitments identified in the program are being met. Additionally, Victoria's own monitoring will indicate whether on-ground works are being undertaken in accordance with the program.

492. Results of reporting will be utilised in the adaptive management framework to be agreed upon by the Commonwealth and Victorian Governments. The framework will allow new information and listings to be accommodated within the scope of the program. These two frameworks will significantly reduce the risk of environmental degradation or damage, increase the likelihood of achieving good biodiversity outcomes and to protect and enhance MNES.

3A (c) the principle of inter-generational equity – that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.

493. To ensure the maintenance and enhancement of the environment, the Victorian Government aims to manage native vegetation to achieve a net gain in vegetation quality and extent across the landscape. The temporal scale of this program and the application of the adaptive management framework provides the opportunity to increase the security provided to broader biodiversity across the Victorian landscape over time.

494. The program proposes the reservation of a series of integrated conservation reserves across the greater Melbourne region. Reserves include two large (totalling 15 000 hectares) and three small grassland reserves (totalling 300 hectares) and a network of woodland reserves to protect the two critically endangered ecological communities. In addition, riparian corridors, Ramsar sites

and habitat for EPBC listed species that contributes to their long term persistence will be protected and managed.

495. The program provides for the management of large areas of land set aside for conservation purposes which will include targeted management measures to maximise biodiversity outcomes both now and into the future. Environmental significance overlays and targeted conservation zoning will be placed on land to protect ecological values.
496. High quality grasslands or any species occurring within the grasslands ecological community in areas of less than 100 hectares are unlikely to be retained in situ, based on the current formulation of the draft prescriptions. It is arguable that the clearing of areas within the UGB and offsetting elsewhere will lead to a decline in overall diversity and quality of grasslands across the Victorian Volcanic Plain. The basis of the draft prescriptions taking this approach is described further in section 4.
497. As discussed in section 4, large well managed reserves provide landscape-scale improvement and benefits for individual species through allowing free movement and preventing isolation from further disturbance. Smaller patches are considered to be more at risk to invasion and degradation by exotic species, urban edge effects and management limitations (paragraph 202). However areas providing high ecological function services will be protected and managed to maintain the health and diversity of specific MNES across the landscape. Combined with integrated management these areas will facilitate optimal outcomes for MNES in the long term.
498. The program establishes statutory and policy mechanisms and committed funding under which the majority of conservation activities will be carried out. Monitoring, reporting and adaptive management will provide an opportunity for improved environmental outcomes to be achieved as ecological systems are better understood over time.
499. Policy mechanisms such as the PSP Guidelines include requirements for integrated water management including water sensitive urban design as well as biodiversity planning requirements to ensure urban environments accommodate and enhance natural systems.

3A (d) the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making;

500. The program proposes large scale avoidance, mitigation and offsetting mechanisms together with a planning framework of legislation and integrated biodiversity strategies as the basis for the conservation of biodiversity and ecological integrity in planning for Melbourne's urban expansion.
501. *Melbourne @ 5 Million* (Department of Planning, Community Development 2008) plans for development to focus on existing urban areas and predominantly modified landscapes. This will reduce the extent of impacts on the environment than would otherwise occur if 1.8 million people needed to be housed in new growth areas alone. Almost 316 000 dwellings are anticipated to be in

Melbourne's established areas and over 284 000 dwellings are anticipated for Melbourne's growth areas.

502. A strategic assessment allows the Commonwealth Government to have a role in the planning for the expanded UGB, which it normally would not have. Strategic assessments also offer the opportunity to influence landscape outcomes, consolidate conservation measures such as offsets and reduce perception of additional bureaucracy by engaging in the planning stage. It is arguable that a strategic assessment may be the only way to deliver large, secure and managed reserves for critically endangered ecological communities.

503. The location of the UGB expansion and the development of the program clearly reflect the avoidance of large areas of grasslands, woodlands, Ramsar and other areas with high biodiversity values in the initial planning phases of the Melbourne's expansion (Department of Planning and Community Development, 2008).

504. The development and application of sub-regional species strategies and biodiversity conservation strategies at a landscape level will assist the conservation of biological diversity and maintenance of ecological integrity. This will be achieved through ensuring the needs of MNES are considered at a scale that spans precincts and development footprints and reflects the ecological function of the landscape.

505. Mitigation measures will be carried out as the planning framework is implemented. At a precinct level, surveying for species, the use of prescriptions to identify how species should be managed in the landscape and the subsequent development and application of native vegetation precinct plans and conservation management plans are mandatory processes in the planning process established by the program. These structured processes will facilitate improved conservation outcomes, and retain flexibility to adapt and evolve with the advance of relevant scientific knowledge and incorporating feedback from monitoring and auditing processes.

3A (e) *Improved valuation, pricing and incentive mechanisms should be promoted.*

506. The Victorian Government uses Victoria's Native Vegetation Management Framework (otherwise known as the habitat hectares approach) to quantify offsets. The approach is a metric based environmental valuation method that provides detailed information on the gains or losses of ecological characteristics. By knowing the values of the environment prior to impacts, the Victorian Government can calculate the expected loss to occur as a result the program and establish an area with commensurate gain (refer to section 3.3.8).

507. The program identifies the Bush Broker system as a way of accounting the clearing and offsetting that occurs as a result of the program. Bush Broker creates, advertises and sells native vegetation credits (offsets) generated by environmental improvements made elsewhere. The calculation of losses and gains in native vegetation and required offsets will be in accordance with Victoria's Native Vegetation Management Framework. Through the Bush Broker system the Victorian Government will offer native vegetation credits for

sale to developers, with the proceeds progressively funding the establishment and ongoing management of the western grassland reserves.

508. The program requirements for offsetting incorporate the valuation and pricing of environmental impacts and creates an incentive for developers to minimise the extent of impacts due to the cost associated with securing and managing suitable offsets. The requirement to secure necessary offset values before impacts are authorised also provides an incentive to retain higher value environmental assets rather than offset them, if they would prove difficult, time consuming or expensive to locate or secure.

509. The Victorian Government has committed to commencing the acquisition of the grassland reserves, with a view to being able to establish a “bank” of offsets from which developers can more efficiently secure the necessary offset values. This approach represents an innovative method to simultaneously deliver on conservation outcomes and improve the efficiency of development approval processes.

Conclusion

510. Melbourne’s growing population has increased the demand for land supply, more affordable housing, employment areas and access to transport. Establishing a multi-node settlement pattern, using existing urban areas and adopting sustainable community design principles demonstrates the Victorian Government has considered economic and social matters. The program considers protection of MNES within this context.

511. The program proposes broad conservation activities and outcomes supported by planning frameworks, strategies, policies, plans and mechanisms to ensure the long term protection of MNES for future generations.

512. The program will facilitate development of large grassland and woodland reserves to protect critically endangered ecological communities, a series of smaller reserves protecting threatened species, riparian corridors and broader biodiversity, and will ensure water quality inflows into Ramsar wetlands remain the same or improve.

513. A lack of full scientific certainty is managed by the program through requirements for species surveying, management strategies and monitoring, reporting and adaptive management frameworks.

514. The program adequately addresses the principals of ecologically sustainable development within the endorsement criteria.

7 Recommended Modifications

7.1 First recommended modifications

515. As stated in section 2.1.2 of this report, there have been two occasions where modifications have been recommended. The first recommended modifications were sent to the Victorian Government on 2 October 2009. The program was resubmitted by the Victorian Government on 23 October 2009.

516. The recommended modifications and Victoria's response are as follows.

1. The inclusion of a map indicating the general location of the proposed smaller reserves inside the UGB. This will illustrate Victoria's commitment to retaining areas of high biodiversity across the urban landscape and protecting matters of national environmental significance (NES).

517. Victoria have included four maps at the very back of the program report that broadly show where the reserves are likely to be within the expanded UGB. The maps do not detail exactly where these reserves will be located but give an indication of Victoria's intention to secure these areas for conservation purposes. Therefore the department therefore considers that this recommended modification has been addressed.

2. Clarification be provided of the actions to which the Program is intended to relate. Additionally, if any of these actions will impact on matters of NES in a manner not addressed in the impact assessment report, including through indirect consequential impacts, please provide further details.

518. The program report now includes a summary of activities (Victorian Government 2009b, p. 18). The summary should not be read as exhaustive. The department therefore considers that this recommended modification has been addressed.

3. The Program commit to submitting a "Grassy Eucalypt Woodland of the Victorian Volcanic Plain Strategy" to the Minister for approval, following endorsement. This strategy would be expected to provide a commensurate level of integrated and contiguous protection to that established within the Program for the Natural Temperate Grassland of the Victorian Volcanic Plain, which is also listed as critically endangered under the EPBC Act. It is expected that the approval of this strategy would be necessary before actions impacting on the woodlands could be approved.

519. The department considered that this recommendation was not sufficiently addressed. The program report as resubmitted did not address the following issues:

- no commitment or mention of a woodlands strategy
- did not state that an interim management plan will be implemented as for the grassland reserves
- did not state that a management plan will be established as it does for the grassland reserves, and
- did not state that any management reports or monitoring requirements need to be provided to the department as it does for the grasslands.

520. The program did state that a reserve will be established and that 80 per cent of all woodlands within the program area will be retained and managed in secure conservation reserves and an additional reserve will be established outside the UGB.

521. The approach to achieving conservation outcomes for woodlands included the application of an Environmental Significance Overlay to land identified for conservation of the woodlands, the development of a biodiversity conservation strategy and the develop of a proposal for a woodland reserve.

522. In summary the resubmitted program did not provide a commensurate level of protection for the woodlands that is established for the grasslands. It lacked clarity about how the woodlands will be dealt with by Victoria.

523. However, the department considers this was addressed in the second recommended modifications – see paragraph 536- 537.

4. The Program should clearly describe the commitment of the Victorian Government to involve the Australian Government and/or the department in the review or approval of specified key documents, strategies and plans, for example the biodiversity strategy and species prescriptions, that will inform and influence actions taken in the Program area. This will provide a foundation for robust adaptive management processes and clarify roles, responsibilities and expectations for future decision-making processes.

524. The Commonwealth Government, as represented by the Minister and the department, have a role in most of the planning processes. The roles vary from approval to comment with most aspects are adequately addressed.

525. However, there is less involvement and oversight in the OMR/E6 and the extractive industries planning processes in particular (the Commonwealth Government is at least consulted in the RRL). This carries the risk that the Commonwealth Government will not be able to adequately ensure that avoidance and mitigation measures are implemented, especially given that the draft prescriptions allow clearance for state significant infrastructure (such as the transport corridors).

526. The department considers that this risk can be adequately managed through conditioning approvals for these actions to require Commonwealth Government approval for environmental management plans if the program is endorsed. Therefore the department considers that this recommended modification is addressed.

5. Describe the method(s) used to determine the size or percentage thresholds for retention of specific species or populations, as contained in the proposed prescriptions within the impact assessment report. It is important that the basis of these settings be transparent, particularly where social and economic considerations are relevant factors, noting that there is a high degree of public interest in this issue.

527. In the IAR (Victorian Government 2009a, pp.135-137) the Victorian Government described why particular sizes and thresholds for protection within the prescriptions were chosen. A number of reasons are provided, including ecological principals and ease of management, and state that socio-economic reasons have "acted as constraints on widespread retention of conservation reserves over the urban area" (p. 137).

528. Therefore the department considers that this recommended modification is addressed.

7.2 Second recommended modifications

529. The second recommended modifications were sent to the Victorian Government on 16 December 2009. The Victorian Government submitted the final program on 29 December 2009.

530. The recommended modifications and Victoria's response are as follows.

1. To clarify the process for identifying, reporting and rectifying non-compliance with the program, I recommend the following requirements be included:

i. The public reporting of activities and outcomes of the program to improve transparency and accountability. In particular, the reporting should clearly account for offsets obtained in relation to matters of national environmental significance (NES) impacted through implementation of the program.

531. This modification has been made to the table 21 of monitoring and reporting commitments (Victorian Government 2009b, pp. 73-74). In this table, the Victorian Government has committed to public reporting of activities and outcomes. Hence the department considers that this recommended modification is addressed.

ii. The inclusion of a commitment to a 5-yearly independent review of the program, with a scope to be determined by agreement between the parties within 18 months of endorsement, to report on all aspects of the program's operation, with any further actions arising from this review to be agreed between the Commonwealth and the Victorian Government.

532. This modification has also been made to the table 21 of monitoring and reporting commitments (Victorian Government 2009b, pp. 73-74). In this table, the Victorian Government has committed to an independent review with the scope to be agreed between the Commonwealth and Victorian Governments. Hence the department considers that this recommended modification is addressed.

iii. A dispute resolution mechanism in the program to minimise potential conflict in relation to the operation of the program. This mechanism should define the process for handling a disagreement in the application of the program.

533. A dispute resolution clause has been included in the compliance and enforcement section of the program (Victorian Government 2009b, p. 86). Hence the department considers that this recommended modification is addressed.

- iv. A clear articulation of the continuing compliance relationship between approval holders and the Australian Government, including the ability to pursue compliance action for a failure to comply with requirements of approval or for taking actions that are not covered by a valid approval*

534. A statement to this effect has been included in the compliance and enforcement section of the program (Victorian Government 2009b, pp. 85-86). Hence the department considers that this recommended modification is addressed.

- v. Further clarification that a failure to deliver a conservation outcome or to comply with a procedural requirement specified in the program may result in any approval under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) no longer being valid for any related and subsequent actions. The process to be followed if such a non-conformance is detected should also be documented in the program, including a statement that I (the Minister) will be required to approve any remedial actions and these actions must be undertaken to my satisfaction.*

535. A statement to this effect has been included in the compliance and enforcement section of the program (Victorian Government 2009b, pp. 85-86). Hence the department considers that this recommended modification is addressed.

2. To provide more certainty regarding to the proposed Woodland Reserve:

- i. The identification of the funding, acquisition and other legal protection mechanisms that will be used to secure the protection of the woodland reserve.*

536. The Victorian Government has identified that a public consultation process is required to be undertaken to establish the woodlands reserve, and this process will assist in identifying the appropriate funding, acquisition and other legal protection mechanisms, as more cost efficient but secure arrangements may be established. Additional wording to this effect is included in the woodlands conservation activities table (Victorian Government 2009b, pp. 51-54). The department considers that this approach to securing a woodland reserve is acceptable and hence the recommended modification is addressed.

- ii. The development of an adaptive management, monitoring and reporting plan.*
- iii. Progress reports on the establishment of the woodland reserve and the interim management activities undertaken therein, at a similar frequency to that of the progress reports for the grassland reserves in the program.*
- iv. The preparation and implementation of arrangements for the long term protection and management of the proposed reserve after the term of the interim management plan has concluded, for example the preparation of a National Park or Reserve Management Plan.*

537. Additional requirements have been added to the woodlands conservation activities table (Victorian Government 2009b, pp. 51-54). Noting that arrangements for establishing the reserve may not be the same as the grassland reserves, the protection for the community should be similar and hence the department considers that these recommended modifications have been addressed.

3. To provide assurance regarding offsetting requirements

- i. The provision of further details regarding the timing, security and deliver mechanisms that all offsets proposed under the program must comply with, to ensure that minimum standards and consistent requirements are maintained.*

538. Additional wording has been provided in the offsets section of the program (Victorian Government 2009b, p. 32-33). Hence the department considers that this recommended modification is addressed.

4. To improve the program's ability to respond to new information and activities in relation to matters of national environmental significance:

- i. A statement clarifying the triggers for revising prescriptions, which could include:*
- *Any new recovery plan or policy statement relevant to any matter of national environmental significance (NES) subject to a prescription,*
 - *Any new substantial scientific information relating to a relevant matter of NES brought up by either party and as agreed;*
 - *Any indication that relevant conservation outcomes described in the program, conservation strategies or sub-regional species strategies may become unachievable.*

539. These additional triggers for revising prescriptions have been included in the program in the prescriptions section (Victorian Government 2009b, pp. 30-31). Hence the department considers that this recommended modification is addressed.

- ii. *A process describing how the revision of prescriptions would be conducted, including a statement that Australian Government approval of revised prescriptions is required within a specified period following the revision being agreed to, or the prescription will lapse and no further authorisation of impacts on the relevant matter of NES would be permitted under the program until an approved prescription is in place.*

540. The process for revising prescriptions is included in the program in the prescriptions section (Victorian Government 2009b, p. 31). Hence the department considers that this recommended modification is addressed.

7.3 Conclusion on recommended modifications

541. All the recommended modifications, or modifications having the same effect, have been made to the program.

8 Public Consultation

542. As discussed in section 2.1.5 of this report, public consultation on the IAR was undertaken for a period of 31 days from 17 June to 17 July 2009 (Victorian Government 2009c).

543. The Victorian Government published the IAR on the internet, sent approximately 15 000 letters to landholders directly affected by the program (for example their land was identified for compulsory acquisition) and conducted public meetings in affected areas.

544. Approximately 1500 submissions were received on Melbourne's proposals for urban and transport development. Of these, 246 related to the program and IAR and included specific comments on the proposed grassland reserves. The other submissions related to matters not covered by the strategic assessment (such as the growth areas infrastructure charge).

545. A summary of the issues and Victoria's response is in the following table.

Table 5: Summary of issues raised in public consultation and the response by the Victorian Government.

Issue	Description of issue	Response by Victorian Government
Consultation period	The public comment period was too short to provide effective feedback on the program and there was a general lack of understanding about what the program actually involved.	<ul style="list-style-type: none"> ○ Further targeted consultation with land holders, NGOs and the general public has occurred since the program was released for public comment. ○ Revised IAR and program published on internet in early/mid November 2009.
Survey, data and mapping inadequate	The number of surveys conducted and the quality of data used to produce species/vegetation mapping was inadequate.	<ul style="list-style-type: none"> ○ Addressed through better explanation of the planning process. Further surveys will be conducted at various scales during the planning process and in appropriate seasons for targeted species e.g. the golden sun moth, spiny rice flower and matted flax lily.
Avoiding, minimising and offsetting native vegetation	More grasslands and woodlands should be reserved. More native vegetation should be protected within the expanded urban growth boundary.	<ul style="list-style-type: none"> ○ It is not possible to protect all native vegetation within the new urban growth boundary, however Victoria are increasing the protection of grasslands from 2 to 20 per cent. ○ Significant areas of woodland have been avoided in the expansion of the urban growth boundary with a number of small reserves proposed.

Issue	Description of issue	Response by Victorian Government
Grasslands reserves issues	<p>The process of acquisition of land for reserves needs clarification.</p> <p>Extent of the grassland reserves should exclude homes and land with no native vegetation.</p> <p>Management of grasslands (weed, pest and fire management) is poorly described.</p>	<ul style="list-style-type: none"> ○ Clearing of native vegetation will not occur until an offset has been permanently established. The grassland reserves will be acquired within 10 years. ○ An acquisition schedule will allow people to remain on their properties for as long as practicable. ○ Consideration will be given to excluding land with lower-value biodiversity from the reserves. ○ A DEWHA approved interim management plan will be developed to ensure the quality of grassland is maximised in the future. A full management plan will eventually be developed by the reserve manager.
Policy tools inadequate	The policies will not protect MNES or are poorly described.	<ul style="list-style-type: none"> ○ Planning framework processes are being guided by Commonwealth Government approved biodiversity conservation strategies, specific species sub-regional management strategies and prescriptions.
Monitoring and auditing	How will actions be monitored, audited and reviewed in unclear.	<ul style="list-style-type: none"> ○ An auditor will be appointed to assess how well the planning processes are being implemented.

546. The department considers that the Victorian Government abided by the terms of the agreement for public consultation and that based on the issues raised and Victoria's response, the program and IAR has adequately addressed the comments received.

9 Overall conclusions

547. The department concludes that the program *Delivering Melbourne's Newest Sustainable Communities Program Report 2009* contains conservation outcomes and implementation measures that will protect MNES in the long term.

548. The department also considers that the impact assessment report, *Delivering Melbourne's Newest Sustainable Communities Strategic Impact Assessment Report October 2009*, adequately addresses the impact to which the strategic assessment agreement signed 4 March 2009 and revised 16 June 2009 relates. This is demonstrated by addressing the terms of reference and providing measures to avoid, mitigate and offset these impacts. The department's view is that the IAR sufficiently addressed the terms of reference as discussed in section 4 (impacts), section 5 (risks and compliance) and section 6 (ESD).

549. Modifications to the program were recommended by the Minister and his delegate and the department considers the recommended modifications have been made.

550. The Victorian Government undertook public consultation on the draft impact assessment report and the department concludes that the IAR and program has adequately addressed the comments received.

Schedule 1: MNES that could be impacted by the program

Table 6: MNES that could be impacted by the program

Name	Status	Presence	Paragraph no
Ecological Community			
Natural temperate Grassland of the Victorian Volcanic Plain	CE	Known to occur	
Grassy Eucalypt Woodland of the Victorian Volcanic Plain	CE	Known to occur	
Fauna - Mammals			
Southern Brown Bandicoot <i>Isoodon obesulus obesulus</i>	E	Known to occur and breeding likely within area	
Grey-headed Flying Fox <i>Pteropus poliocephalus</i>	V	Known to occur	
Fauna – Birds (non-migratory)			
Plains Wanderer <i>Pedionums torquatus</i>	V	Likely to occur	
Fauna - reptiles			
Grassland Earless Dragon, <i>Tympanocryptis Pinguicolla</i>	E	Likely to occur	
Striped Legless Lizard <i>Delma impar</i>	V	Known to occur	
Fauna - amphibians			
Growling grass frog	V	Known to occur	
Fauna - fish			
Australian Grayling <i>Prototroctes maraena</i>	V	Likely to occur	
Eastern Dwarf Galaxia <i>Galaxiella pusilla</i>	V	Likely to occur	
Fauna - insects			
Golden Sun Moth <i>Synemon plana</i>	CE	Known to occur	
Fauna – Migratory birds			
Cattle Egret <i>Ardea ibis</i>		Likely to occur	
Great/White Egret <i>Ardea alba</i>		Likely to occur	
Swift Parrot <i>Lathamus discolor</i>	E	Likely to occur	
Double-banded Plover <i>Charadrius bicinctus</i>		May occur	
Pacific Golden Plover <i>Pluvialis fulva</i>		May occur	
Red-necked stint <i>Calidrus ruficollis</i>		May occur	
Common Greenshank		May occur	
White-throated Needletail <i>Hirundapus caudacutus</i>		Likely to occur	
Fork-tailed Swift <i>Apus pacificus</i>		Likely to occur	
Sharp-tailed Sandpiper <i>Calidris acuminata</i>		May occur	
Curlew Sandpiper <i>Calidris ferruginea</i>		May occur	
Latham's Snipe <i>Gallinago hardwickii</i>		Likely to occur	
Painted Snipe <i>Rostratula benghalensis</i>	V	Likely to occur	
Rainbow Bee eater <i>Merops ornatus</i>		Likely to occur	
Satin Flycatcher <i>Myiagra cyanoleuca</i>		Likely to occur	
Rufous Fantail <i>Rhipudura rufifrons</i>		Likely to occur	
Black-faced Monarch <i>Monarcha melanopsis</i>		Likely to occur	
Flora - Asteraceae			
Button Wrinklewort <i>Rutidosis leptorrhynchoides</i>	E	Known to occur	
Swamp Everlasting <i>Xerochrysum palustre</i>	V	Known to occur	

Name	Status	Presence	Paragraph no
Large-fruit Groundsel/Fireweed <i>Senecio macrocarpus</i>	V	Known to occur	
Flora – Fabaceae			
Purple Clover <i>Glycine latrobeana</i>	V	Likely to occur	
Flora – Orchidaceae			
Small/Early Golden Moths <i>Diuris basaltica</i>	E	Likely to occur	
Maroon Leek Orchid *	E	Known to occur	
Cream Spider Orchid *	E	May occur	
Green-striped Greenhood *	V	May occur	
Metallic Sun-orchid *	E	Unlikely to occur	
Sunshine Diuris *	E	Unlikely to occur	
Flora – Phormaceae			
Matted Flax-lily <i>Dianella amoena</i>	E	Known to occur	
Flora – Poaceae			
Adamson's Blown Grass <i>Lachnagrostis adamsonii</i>	E	May occur	
River Swamp Wallaby Grass <i>Amphibromus fluitans</i>	V	Known to occur	
Flora – Thymelaeaceae			
Spiny Rice-Flower <i>Pimelea spinescens spinescens</i>	CE	Known to occur	

STATUS = V – Vulnerable; E – Endangered; CE – Critically Endangered

Table 7: Register of National Heritage List as of October 2009

NAME	CLASS	STATUS
Summerhill Homestead and Outbuildings	Historic	Indicative Place
The Mount Alexander - Murray Valley Railway Line	Historic	Indicative Place
John Batmans Pastoral Run Outstation Sites	Historic	Indicative Place
Camoola	Historic	Indicative Place
O'Herns Road Farming Complex & Ford	Historic	Indicative Place
Catholic Church (former)	Historic	Registered
St Johns Presbyterian Church (former)	Historic	Registered
Victoria Bridge	Historic	Registered
Deanside Group	Historic	Registered
John Kelly House (former)	Historic	Registered
Jacksons Creek Rail Bridge	Historic	Registered
Jacksons Creek Road Bridge	Historic	Registered
Sunbury Rings	Indigenous	Registered
Mount Fraser	Natural	Indicative Place
Truganina Cemetery Grasslands	Natural	Indicative Place
Craigieburn to Cooper Street Grasslands	Natural	Registered

Schedule 2: Commonwealth Government involvement in the Program to Revise the Melbourne Urban Growth Boundary

Table 8: Commonwealth Government approval of plans, strategies, etc. as stated in the program

References in the Program to Commonwealth Government approval of the following plans, strategies, documents etc.:	Page reference	Timeframe, if specified
Definition of the Program: Overarching statement about Commonwealth Government involvement in plans, policies and documents	5	If the Program specifies that a policy, plan or other document requires approval, then the Victorian Government must submit to the Minister a draft or variation of plan, policy or document for approval or modifications
If there are additional relevant recovery plans, future listed matters of NES, or new information affecting actions of the prescriptions, then the prescriptions are to be revised and resubmitted to the Minister for approval	26	
Prescriptions for management of matters of NES	40	Submitted to the Minister for approval, following endorsement of the Program
Actions or classes of actions	40	Submitted to the Minister for approval, following endorsement of the Program
Reporting and Monitoring framework for the Program.	40	Submitted to Minister for approval within 12 months of giving approval of actions or classes of actions taken in accordance with the Program
Sub-regional species strategies for the Golden Sun Moth, Growling Grass Frog, Southern Brown Bandicoot	40	Submitted to the Minister for approval between 2010 - 2011 and prior to finalisation of the relevant biodiversity conservation strategy
Biodiversity conservation strategies for each of the growth areas	40	Submitted to the Minister for approval between 2010 - 2011 and prior to the finalisation of the relevant growth area framework plans
A standard monitoring protocol for detecting environmental changes arising from site based interventions, including specific monitoring requirements for the proposed western grassland reserves	40	Submitted to the Minister for approval in 2011
Sub-regional species strategy for Golden Sun Moth	50	Submitted to the Minister for approval by June 2011

Schedule 2

References in the Program to Commonwealth Government approval of the following plans, strategies, documents etc.:	Page reference	Timeframe, if specified
Sub-regional species strategy for Growling Grass Frog and Southern Brown Bandicoot	53	Submitted to the Minister for approval by February 2011
Prescription for Large Fruit Groundsel based on occurrence at Rockbank site	60	Prescription is prepared and submitted to Minister for approval following surveys at Rockbank site
Prescription for Button Wrinklewort if new populations are located, to inform planning process	60	Prescription is prepared and submitted to Minister for approval following surveys for this species
Biodiversity conservation strategy for south-east investigation area that reflects values of disused railway line, and particularly focuses on the protection and management of the Maroon Leek-Orchid and Swamp Everlasting	61	Submitted to the Minister for approval by March 2011
All new prescriptions for matters of NES	62	<ul style="list-style-type: none"> • New prescriptions must be provided to Minister for approval before they are applied • Prescriptions must be “in place” prior to construction
Adaptive management framework prepared to support processes established in the Program	77 - 78	Submitted to the Minister for approval in 2011. Incorporate monitoring data every 3-5 years or otherwise agreed

Table 9: Commonwealth Government consultation on plans, strategies, etc as stated in the program

References in the Program to Commonwealth Government consultation on the following plans, strategies, documents etc	Page reference	Timeframe, if specified
Development of Regional Rail Link and Outer Metropolitan Ring/E6 Transport Corridor infrastructure: Any requirements for further environmental assessment that may be required under <i>Environmental Effects Act 1978</i> or other applicable Victorian Legislation will be conducted in consultation with the department to inform final decision on alignments, design and environmental management of infrastructure	13	
Growth Area framework draft plans will be submitted to the department for comment before finalisation	23	
Precinct Structure Plans: The Victorian Government will provide the department an opportunity to comment on changes to precinct structure plan guidelines, precinct structure planning notes, and the biodiversity precinct structure planning kit	24	
Following consultation with the Minister the ecological impact management plan for the Regional Rail Link is to be approved by the Victorian Minister for the Environment and Climate Change	27	
Victorian Minister for the Environment and Climate Change to consult with the Minister to ensure that matters of NES are appropriately considered and addressed in the ecological impact management plan for the Regional Rail Link	40	Consultation will take place when ecological impact management plan for the Regional Rail Link is submitted by to the Victorian Government
An adaptive management response to any species not specifically addressed in the Program will be developed if and when required in consultation with the Commonwealth Government	42	In response to any new information arising from detailed ecological surveys that are be undertaken in the initial stages of implementing the Program
Victorian Government reporting on transport corridor (Regional Rail Link-west of Werribee to Deer Park): Victorian Minister for the Environment and Climate Change will consult with the Minister on preparation of environmental management plan including measures for managing construction impacts	71	Ongoing

Table 10: Reporting to the Commonwealth Government as stated in the program

Program references to reporting to the Commonwealth Government on the following plans, strategies, documents etc	Page Reference	Timeframe, if specified
<i>Process reporting</i>		
Reporting and Monitoring Reports of the implementation of the Program	40	During stages 2 and 3 (Implementation and construction) consistent with the approved reporting and monitoring framework
Interim Management Reports on the Western Grassland Reserves	40	Every six-months during 2010 - 2011, then annually until land is acquired
<i>Stage 1 Program Approval (monitoring and reporting requirements):</i> Report outlining how, where and when the planning scheme amendment and amendment to <i>Planning and Environment Act 1987</i> has given effect to the Program	69	Report submitted within 3 months of the Victorian Government's approval of the amendment
<i>Stage 1 Program Approval (monitoring and reporting requirements):</i> Reporting and monitoring framework with schedules is established between the Victorian Government and the Commonwealth Government	69	Framework established within 12 months of the Victorian Government's approval of the framework
<i>Stage 2 Process Implementation</i> Independent party report on all projects defined by the program. Including: growth area framework plans, sub-regional species strategies, bio-diversity conservation strategies, conservation management plans, native vegetation precinct management plans, national park or reserve management plans, framework for transport Infrastructure, transport planning mechanisms, other activities within the Program such as quarry approvals, sewage treatment facilities.	70	Independent reporting will occur every 2 years for the first 4 years unless otherwise agreed OR To be determined within the agreed monitoring and reporting framework To ensure that planning mechanisms (urban planning frameworks, & reservations) are occurring as set out by the program.
<i>Stage 3 Construction and Works (monitoring and reporting requirements):</i> Independent party report on construction works compliance with Program	72	Every 5 years or as agreed under reporting & monitoring framework
<i>Stage 3 Construction and Works (monitoring and reporting requirements):</i> Victorian Government reporting on construction of Regional Rail Link infrastructure	73	Ongoing

Schedule 2

Program references to reporting to the Commonwealth Government on the following plans, strategies, documents etc	Page Reference	Timeframe, if specified
<i>Stage 3 Construction and Works (monitoring and reporting requirements):</i> Victorian Government reporting on construction of Outer Metropolitan Ring/E6 Transport Corridor infrastructure	74	Ongoing
<i>Grasslands</i>		
Grasslands Acquisition schedule	44	By December 2010 or following gazettal of the Planning scheme amendment
Grasslands Interim Mgmt Plan	44	by December 2010
Grasslands 'reports' (Interim Management reports as above??)	44	6 monthly in 2010-2011 then annually until land acquired
Grasslands Performance standards for management and monitoring methodology	45	by June 2011
Results of mapping for Environmental Significance Overlays (ESOs)	46	by June 2013
Report any breaches of planning permits, clearing not in accordance with NVPP or CMP	46	as agreed
<i>Grassy Woodlands</i>		
Report any breaches of planning permits, clearing not in accordance with NVPP or CMP	48	as agreed
Reserve proposal, acquisition, management approach and schedule	48	by June 2010
Reports on progress of reserve establishment through the acquisition schedule	49	by 2012 and 2015, or as determined by approved monitoring and reporting framework
<i>Golden Sun Moth, Spiny Rice-flower and Matted Flax Lily</i>		
Survey Data (for Recovery Planning processes)	50	annually
Sub-regional species strategy for GSM	50	by June 2011
Report any breaches of planning permits, clearing not in accordance with NVPP or CMP	50	as agreed
<i>Small Golden Moth Orchid</i>		
Provide Clarke's road reserve proposal, acquisition and management approach (as part of the BCS for the growth area)	51	by March 2011
Performance standards for management and monitoring	52	by June 2011
<i>Southern Brown Bandicoot (SBB) and Growling Grass Frog (GGF)</i>		
Sub-Regional-Species Strategies for SBB & GGF	53	by Feb 2011
Monitoring reports	54	at least every 2 years according to agreed schedule

Schedule 2

Program references to reporting to the Commonwealth Government on the following plans, strategies, documents etc	Page Reference	Timeframe, if specified
Performance report planning permits and land mgmt obligations NVPP and CMP or other	54	as agreed
<i>Striped Legless Lizard</i>		
Protocol for translocation	55	by 2010
Monitoring results as per park management plan	56	
<i>Button Wrinklewort/ Large-Fruit Groundsel</i>		
Monitoring results	59	
<i>Migratory, water, wetlands and Ramsar</i>		
Outcome of wetland investigation (to establish wetland area along with Biodiversity Conservation strategy for South East)	63	by March 2011
Monitoring results of the MIG spp, mgmt activities and compliance with Mgmt plan	63	2 x 4 yearly then 1 x 5 yearly
Breaches of any land mgmt obligations of planning approvals	64	as agreed
Breaches of any land mgmt obligations of planning permits	64	as agreed
Results of water quality testing, compliance with proposed conservation outcomes	65	
Report including mechanism for protecting Ramsar site values	65	as agreed

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- Victorian Government 2009c. *Delivering Melbourne's Newest Sustainable Communities: Summary of submissions made to the strategic assessment report and the proposed western grassland reserves October 2009*.

The Victorian Government's consultation and engagement on the Melbourne program for urban expansion

Purpose: To provide a summary of the public consultation undertaken by the Victorian Government for the urban growth boundary expansion and an assessment of Victoria's response to comments received during the statutory minimum 28 day public comment period on the draft impact assessment report (IAR) produced for this strategic assessment.

Chronology of community engagement:

Pre-assessment Urban Expansion Engagement

Date	Engagement description
2 December 2008	The planning document <i>Melbourne @ 5 Million</i> was released showing investigation areas for future urban development.
8 December 2008	The <i>Victorian Transport Plan</i> was released showing the Regional Rail Link (RRL) and Outer Melbourne Ring road and E6 (OMR/E6) transport corridors.
22 December 2008 - 20 February 2009	The Growth Areas Authority conducted a public submission process on land included within the investigation areas. Approximately 350 submissions were received.
Early 2009	Environmental reference group established by the Victorian Government. Representatives include government departments and agencies, local councils and non-government organisations such as the Victorian National Parks Association and Trust for Nature. The group was established to inform key stakeholders of progress on the development of the urban expansion program and the strategic assessment.

Strategic Assessment Program Engagement

Date	Engagement description
16 June	The Victorian Government sent approximately 15,000 letters to land holders affected by the urban expansion program informing them of the intention of the Victorian Government to compulsorily acquire their land for urban development or conservation purposes
17 June - 17 July 2009	The Victorian Government conducted 8 public meetings giving residents affected by the urban expansion program the opportunity to better understand the proposal and voice their concerns. Over 2,000 people attended.
17 June - 17 July 2009	The Victorian Government conducted the statutory minimum 28 day public comment period on the Melbourne IAR as required under s146 of the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act). Documents released included the program report, a report on the OMR/E6 and a report on the RRL along with other documents related to the urban expansion but not related to this assessment.
24 August - 21 September 2009	Additional public comment period conducted for landholders brought into the Urban Growth Boundary (UGB) through subsequent minor changes to the location of the UGB and transport alignments.

General engagement feedback summary:

Feedback from Victoria's public engagement process, letters to the department from the public and meetings between departmental officers and Victorian based environmental non-government organisations focused on the following issues:

- Conducting a strategic assessment is potentially a better way to plan for environmental protection.
- If managed appropriately, establishing a large grassland reserve will be a good outcome for listed species and listed ecological communities.
- The opportunity to comment during the strategic assessment process is very limited and would benefit from further opportunity to comment.
- There is inadequate information on what matters of national environmental significance occur on the ground and an understanding of what will be lost.
- The program needs to ensure retention of high quality vegetation within the expanded urban growth boundary.
- Victorian Government should provide secure and well managed protected areas and acquire them before clearing commences.
- Victorian legislation around the growth areas infrastructure charge places an unfair burden on current landowners (although this is not related to the strategic assessment).

Strategic assessment comment summary:

- During the statutory and additional public comment periods, approximately 1 500 submissions were received. Of these, 246 related to the program/IAR and included specific comments on the proposed grassland reserves. The other submissions related to matters not covered by the strategic assessment (such as the growth areas infrastructure charge).
- A submissions summary document titled *Delivering Melbourne's Newest Sustainable Communities: summary of submissions made to the strategic impact assessment report and the proposed western grassland reserves – October 2009* has been provided to the department by the Victorian Government with their responses to the public comments.
- The submissions summary document addresses Clause 9.1(d) of the strategic assessment agreement requiring the Victorian Government to provide "comments on how the public responses have been taken into account in the Final Report".

An overview of the issues raised in the submissions summary document is below.

Issue	Description of issue	Response by Victorian Government
Consultation period	The public comment period was too short to provide effective feedback on the program and there was a general lack of understanding about what the program actually involved.	<ul style="list-style-type: none"> ○ Further targeted consultation with land holders, NGOs and the general public has occurred since the program was released for public comment. ○ Revised IAR and program published on internet in early/mid November 2009.
Survey, data and mapping inadequate	The number of surveys conducted and the quality of data used to produce species/vegetation mapping was inadequate.	<ul style="list-style-type: none"> ○ Addressed through better explanation of the planning process. Further surveys will be conducted at various scales during the planning process and in appropriate seasons for targeted species e.g. the golden sun moth, spiny rice flower and matted flax lily.

Issue	Description of issue	Response by Victorian Government
Avoiding, minimising and offsetting native vegetation	<p>More grasslands and woodlands should be reserved.</p> <p>More native vegetation should be protected within the expanded urban growth boundary.</p>	<ul style="list-style-type: none"> ○ It is not possible to protect all native vegetation within the new urban growth boundary however the Victorian Government is increasing the protection of grasslands from 2 to 20%. ○ Significant areas of woodland have been avoided in the expansion of the urban growth boundary with a number of small reserves proposed.
Grassland reserves issues	<p>The process of acquisition of land for reserves needs clarification.</p> <p>Extent of the grassland reserves should exclude homes and land with no native vegetation.</p> <p>Management of grasslands (weed, pest and fire management) is poorly described.</p>	<ul style="list-style-type: none"> ○ Clearing of native vegetation will not occur until an offset has been permanently established. The grassland reserves will be acquired within 10 years. ○ An acquisition schedule will allow people to remain on their properties for as long as practicable. ○ Consideration will be given to excluding land with lower value biodiversity from the reserves. ○ A Commonwealth Government approved interim management plan will be developed to ensure the quality of grassland is maximised in the future. A full management plan will eventually be developed by the reserve manager.
Policy tools inadequate	The policies will not protect MNES or are poorly described.	<ul style="list-style-type: none"> ○ Planning framework processes are being guided by Commonwealth Government approved biodiversity conservation strategies, specific species subregional management strategies and prescriptions.
Monitoring and auditing	How will actions be monitored, audited and reviewed in unclear.	<ul style="list-style-type: none"> ○ An auditor will be appointed to assess how well the planning processes are being implemented.

Assessment of Victoria's response to comments:

- The submission summary document is an accurate representation of the views expressed during the statutory public comment period when compared against the original submissions.
- The issues raised in submissions have been adequately dealt with in the revised program/IAR submitted to the department for endorsement.
- The Victorian Governments responses to the issues raised in the statutory public comment period meet the requirements of the EPBC Act and the requirements of Clause 9.1(d) of the strategic assessment agreement.

Follow up options from issues raised:

- In response to concerns about the consultation period, it would be possible to seek public comment on proposed approval of actions following endorsement.

DELIVERING MELBOURNE'S NEWEST SUSTAINABLE COMMUNITIES

SUMMARY OF SUBMISSIONS MADE TO THE STRATEGIC IMPACT ASSESSMENT REPORT AND THE PROPOSED WESTERN GRASSLANDS RESERVES

OCTOBER 2009

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1. INTRODUCTION

The Victorian Government has entered into an agreement with the Commonwealth Government, under section 146 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), to conduct a strategic assessment of the potential impact of the Program 'Delivering Melbourne's newest sustainable communities' on matters of national environmental significance.

Seven matters of national environmental significance are identified under the EPBC Act, including threatened species and ecological communities, migratory species and World heritage properties. Any proposal to undertake an action (including strategic or policy proposals) that could have a significant effect on matters of national environmental significance requires approval from the Commonwealth Government.

The Program seeks to expand Melbourne's Urban Growth Boundary to develop residential and employment areas and related infrastructure within the growth areas and to construct the Regional Rail Link (west of Werribee to Deer Park) and Outer Metropolitan Ring (OMR) /E6 Transport Corridor.

In addition to the strategic assessment process, the Program will be subject to assessment and approvals under Victorian legislation.

In Melbourne 2030: a planning update – Melbourne @ 5 million (2008), the Victorian Government identified the need to review Melbourne's Urban Growth Boundary around the growth areas of Melbourne in response to population projections showing Melbourne will reach five million people faster than anticipated.

The Victorian Government anticipates that an additional 600,000 new dwellings will need to be accommodated in Melbourne over the next 20 years of which 316,000 new dwellings will be located in the established areas and 216,000 will be located in the growth areas.

In order for Melbourne's outward growth to occur in a sustainable way, it is important that sufficient land is allocated for housing, retail, local employment, open space, recreational facilities, schools and other community infrastructure; and for major infrastructure corridors and regional employment areas. The Victorian Government is seeking to do so with no net loss to biodiversity outcomes.

The Victorian Government has identified two major transport initiatives to facilitate Melbourne's growth: the Regional Rail Link and the OMR/E6 Transport Corridor. Refer to The Victorian Transport Plan (2008) and Freight Futures: Victorian Freight Network Strategy (2008).

On 2 December 2008, the Victorian Government announced its intention to expand Melbourne's Urban Growth Boundary to support a city of five million.

Melbourne @ 5 million identifies investigation areas to accommodate an additional 134,000 homes in an expanded Urban Growth Boundary.

The investigation areas are:

- Melbourne West, which includes land in the City of Wyndham and the Shire of Melton;
- Melbourne North, which includes land in the Cities of Whittlesea and Hume, and the Shire of Mitchell; and

- Melbourne South-East, which includes land in the City of Casey.

A consultation process was run by the Growth Areas Authority in early 2009 to consider submissions relating to land within the announced investigation areas and relating to the draft Urban Growth Boundary.

The Government received submissions into May 2009. A report summarising those submissions was prepared by the Growth Areas Authority.

Delivering Melbourne's newest sustainable communities was released for public comment in June 2009, which provided information about the Program including the rationale and proposed location of:

- Melbourne's revised Urban Growth Boundary and land for development;
- The alignment of the Regional Rail Link (west of Werribee to Deer Park) and the OMR/E6 Transport Corridor; and
- Grassland reserves in Melbourne's west.

A Strategic Impact Assessment Report for EPBC Act which outlined the strategic assessment of the Program, was released at the same time for public comment. Submissions were received between 17 June and 17 July 2009. A third round of consultation for property owners and occupiers affected by minor changes to the alignments of the transport corridors and boundaries of the grassland reserve was held from 26 August to 21 September 2009.

The Victorian Government has considered all submissions received in response to the Program and Strategic Impact Assessment.

1.1 PURPOSE OF THIS DOCUMENT

The purpose of this document is to report on the submissions received during public consultation in accordance with the requirements of the agreement with the Commonwealth Government, under section 146 of the EPBC Act.

The report is structured as follows:

- Section 2 provides a summary of public consultation processes:
- Section 2.1 summarises the submissions received for the Strategic Impact Assessment Report including the Government's response to issues raised.
- Section 2.2 summarises the submissions received for the proposed western grassland reserves including the Government's response to issues raised.
- Section 3 provides a list of submitters.

2. SUMMARY OF PUBLIC CONSULTATION PROCESS

Participatory processes involving key non-government stakeholders were commenced early in 2009 with the signing of the agreement to undertake the strategic assessment. An Environmental Reference Group was established and has held regular meetings. Members of the Environmental Reference Group include representatives from the Parks Victoria, Melbourne Water, Port Phillip and Westernport Catchment Management Authority, Victorian National Parks Association, Trust for Nature and Wyndham City Council, as well as the Department of Sustainability and Environment and Department of Planning and Community Development.

Major public consultation was conducted between 17 June and 17 July 2009. Letters were sent to 15,000 landowners and occupiers directly affected by the program, advertisements were placed in state and national newspapers outlining the program and inviting participation in eight public information sessions. Information was also provided on the websites of the Victorian Government agencies involved. Over 2,000 people participated in these information sessions, hundreds of calls were made to the call centre established for the program and calls were logged for follow-up by agency staff.

A web-portal was also established to receive formal submissions on the program. Approximately 1,500 submissions were received on the Delivering Melbourne's Newest Sustainable Communities Program. Ninety submissions were received on the Strategic Impact Assessment report and including 148 on the proposed Western Grasslands Reserves.

Following a preliminary review of submissions and analysis of new biodiversity data gathered during the major public consultation period, refinements were made to the alignments of the transport corridors and boundaries of the grassland reserves. Property owners and occupiers affected by these changes were sent a detailed package of information and maps and given an opportunity to make a submission during a third round of consultation from 26 August to 21 September 2009. Eight submissions regarding the grassland reserves were received during this period.

2.1 SUBMISSIONS MADE TO THE STRATEGIC IMPACT ASSESSMENT REPORT

2.1.1 OVERVIEW OF SUBMISSIONS

There were 90 submissions regarding the Strategic Impact Assessment Report. These came from a variety of individuals and organisations. The general themes covered included:

- scope and methodology of the Strategic Impact Assessment;
- process for consultation;
- survey, data and mapping issues;

- species not listed under the EPBC Act;
- the three step approach from Victoria's Native Vegetation Management - A Framework for Action (DNRE 2002);
- protection or retention of native vegetation within urban areas, including of woodland and grassland communities;
- offsets for clearing;
- mitigation measures;
- the land acquisition process and management of the proposed grassland reserves;
- principles of Ecologically Sustainable Development and population growth;
- cumulative impacts and threatening processes;
- landscape connectivity;
- waterways and wetlands;
- the use of policy tools and precinct planning to manage and plan for biodiversity values;
- monitoring, auditing and review.

Submissions from peak bodies, municipalities and academic institution are described below.

UNIVERSITY OF MELBOURNE AND OTHERS (SUBMISSION 8662)

The submission states that the report represents a step forward for integrated land-use planning in Victoria, but views the Report as not meeting some of the requirements of the EPBC Act.

In particular the submission states that:

- the overall methodology for the Strategic Impact Assessment is flawed;
- the Terms of Reference have not been met;
- the data are incomplete and more detailed surveys should be undertaken at appropriate time of year;
- avoidance has not been adequately addressed;
- key threatening processes have not been specifically addressed;
- there is uncertainty about how the grassland reserves will be secured and their values will be maintained prior to acquisition;
- grassland patches smaller than 150 hectares are viable and should be considered for retention within urban areas;
- there is a lack of detail about mitigation measures for grassy eucalypt woodland;
- mitigation measures for species have not been rigorously assessed to determine their effectiveness.

The submission recommends:

- improvements to the methodology including steps that should be included in an Strategic Impact Assessment;
- assessment of alternative options;
- use of more sophisticated habitat modelling and population analysis;
- that the Strategic Impact Assessment also address State regulatory requirements, particularly items listed under the *Flora and Fauna Guarantee Act 1988*.

ENVIRONMENT DEFENDERS OFFICE - VICTORIA (SUBMISSION 6661)

The submission supports the notion of Strategic Impact Assessment in principle but asserts that this assessment is not ideal.

In particular the submission states that:

- the process has been too short with not enough time devoted to public consultation;
- the overall methodology for the Strategic Impact Assessment is flawed;
- the Terms of Reference have not been met;
- the data are incomplete and further surveys are required;
- cumulative impacts are not addressed;
- avoidance has not been adequately addressed;
- the adequacy of current policies and tools to conserve biodiversity has not been evaluated;
- there is uncertainty about how the grassland reserves will be secured and their values will be maintained prior to acquisition;
- grassland patches smaller than 150 hectares are viable and should be considered for retention within urban areas;
- there is a lack of detail about mitigation measures for grassy eucalypt woodland;
- mitigation measures for species have not been rigorously assessed to determine their effectiveness;
- there is a lack of detail on the maintenance, operational, compliance and enforcement requirements of the management measures and that there is uncertainty regarding their implementation.

The submission recommends:

- improvements to the methodology;
- establishment of an independent monitoring authority;
- retention of sites with biodiversity values within the Urban Growth Boundary;

- that the Strategic Impact Assessment also address State regulatory requirements, particularly items listed under the *Flora and Fauna Guarantee Act 1988*.

CSONGRASS (SUBMISSION 6214)

The submission states that there are some extremely positive steps from a grassland conservation point of view, but that the vision falls short. The submission largely focuses on the Western Investigation Area.

In particular the submission states that:

- the process has been too short with not enough time devoted to public consultation;
- grassland patches smaller than 150 hectares are viable and should be considered for retention within urban areas;
- the data are incomplete and further surveys are required;
- there is a lack of detail on how wetland management outcomes will be achieved.

The submission recommends:

- more detailed mapping and further surveys;
- assessment of impacts on non-listed taxon;
- specific management actions for the proposed reserves, including the establishment of a Grassland Management Team;
- inclusion of specific additional areas in grassland reserves;
- creation of habitat links;
- land swaps to allow high quality sites within the Urban Growth Boundary to be retained;
- that the OMR Transport Corridor should be realigned to avoid high value sites.

URBAN DEVELOPMENT INSTITUTE OF AUSTRALIA - VICTORIA (SUBMISSION 4512)

The submission supports the use of a Strategic Impact Assessment to reduce red tape and costs to business, but states that there are areas that could be improved.

The submission recommends:

- that the Strategic Impact Assessment also address State regulatory requirements;
- that the Strategic Impact Assessment should provide blanket approval under Commonwealth and State law and remove the need for further approvals;
- reconsideration of requirements to avoid, minimise and offset impacts at later stages (eg. the Precinct Structure Planning Process);
- simplification of species prescriptions so that proposed management and mitigation measures for threatened communities are considered to also address species requirements;

- development of an offset transaction model.

CITY OF WHITTLESEA (SUBMISSION 7238)

The submission commends the Government on the foresight to prepare an integrated long-term plan but states that there are a number of matters that require further consideration before the Program is approved. The submission focuses on the Northern Investigation Area.

In particular, the submission states:

- data are incomplete and more detailed surveys should be undertaken at appropriate time of year;
- there is a lack of clarity about future use, ownership and treatment of areas to be retained within the Northern Investigation Area;
- the City supports exclusion of woodland between Summerhill Road and Donnybrook Road, in principle;
- that it is inappropriate for grasslands cleared within the Northern Investigation Area to be offset within the proposed western grasslands reserves.

The submission recommends:

- reconsideration of development in the Quarry Hills area
- that native vegetation should be offset in the same municipality where it is cleared;
- reservation of a buffer to Merri Creek;
- exploration of strategies to protect biodiversity values in “retained areas” including through provision of offsets and incentives through land stewardship programs;
- assessment of development areas under the *Victoria’s Native Vegetation Management – A Framework for Action* (DNRE 2002).

MERRI CREEK MANAGEMENT COMMITTEE (SUBMISSION 8005)

The submission states that the Program described in the Strategic Impact Assessment report should not be endorsed by the Commonwealth Minister as it does not meet the Terms of Reference and is not consistent with the EPBC Act. The submission focuses on the Northern Investigation Area.

In particular, the submission states:

- the process has been too short with not enough time devoted to public consultation;
- the Terms of Reference have not been met;
- data are incomplete and further surveys are required;
- there is a lack of clarity about the locations and mechanisms for protecting “retained areas”;
- landscape connectivity is not adequately addressed;

- avoidance has not been adequately addressed;
- grassland patches smaller than 150 hectares are viable and should be considered for retention within urban areas;
- the amount of grassland to be removed in the Northern Investigation Area is not quantified;
- it is inappropriate to offset clearance of grasslands within the Northern Investigation Area within the proposed western grasslands reserves;
- there is a lack of clear, transparent information on why areas were either included or excluded from development in the Northern Investigation Area;
- there is an over-reliance on the Precinct Structure Planning process to “fine-tune” planning and management;
- there is a lack of detail on processes for monitoring, audit and review;
- issues of water quality and hydrology have not been addressed;
- the Merriang Biodiversity Action Plan and associated work done to involve landowners in land stewardship is not reflected;
- there is a lack of consideration of biodiversity impacts from Sewage Treatment Plants, Freight Logistics Precinct and additional infrastructure associated with the program.

The submission recommends:

- that VicRoads consult with Merri Creek Management Committee regarding the OMR/E6 Transport Corridor;
- there should be buffers to creeks.

LA TROBE UNIVERSITY AND OTHERS (SUBMISSION 6437)

The submission notes that the Strategic Impact Assessment attempts to put in place rigorous prescriptive measures to ensure that impacts from development are minimised, but notes concerns with indirect impacts on listed matters outside of the Urban Growth Boundary and grassland reserves.

In particular, the submission states that the direction of all offsets from the expansion of the Urban Growth Boundary into the proposed grassland reserves will destroy the market for offsets; place many remnants in immediate danger of clearing and remove offset funds available for conservation.

It recommends that Department of Environment, Water, Heritage and Arts determine a defined offset ratio and provides examples.

ROYAL BOTANIC GARDENS MELBOURNE, INCLUDING THE AUSTRALIAN RESEARCH CENTRE FOR URBAN ECOLOGY (SUBMISSION 6522)

The submission notes that the Royal Botanic Gardens shares the Government's commitment to maintaining and enhancing biodiversity, but provides comment on ways to improve the Report.

In particular, the submission states:

- the data are incomplete;
- the Victoria Planning Provisions are currently deficient in their ability to incorporate biodiversity values at the regional level into strategic planning;
- landscape connectivity is not adequately addressed;
- preservation of remnant vegetation should be the first priority;
- the offsets proposed for clearance of grassy eucalypt woodlands are inadequate;
- the proposed mitigation options lack sufficient scientific knowledge;
- there is a lack of detail about the development and implementation of the Precinct Planning Guidelines and Biodiversity Precinct Planning Kit.

The submission recommends:

- improved data collation and assessment;
- further research and development of new policies to achieve conservation outcomes;
- the creation and implementation of regional defragmentation plans;
- urban developments should be designed to provide ecosystem services and habitat;
- improving the approach to better promote ecologically sustainable development;
- consideration be given to additional reserve areas within the North and South east Investigation Areas;
- that the Strategic Impact Assessment also address State regulatory requirements, particularly items listed under the *Flora and Fauna Guarantee Act 1988*.

CARDINIA SHIRE COUNCIL (SUBMISSION 8012)

The submission notes extensive concerns about the Strategic Impact Assessment and its potential to significantly impact on the timetable for delivery of the Shire's structure plans.

In particular, the submission states:

- not enough time has been devoted to public consultation;
- the data are incomplete and further surveys are required;
- the timing for additional work will impact on precinct structure plans that are currently underway;
- there are resource constraints on implementation, including any monitoring that responsible authorities are required to undertake.

The submission recommends:

- a review process for the Department of Sustainability and Environment decisions;
- that mitigation measures for species and habitats should be more flexible and respond to site context;
- clearer parameters for minimisation and offsets;
- guidance on further work that is to be undertaken.

VICTORIAN NATIONAL PARKS ASSOCIATION (SUBMISSION 8289)

The submission welcomes the Government's commitment to the new grasslands reserves and supports the idea of a strategic approach, but raises a range of issues.

In particular, the submission states:

- the process has been too short with not enough time devoted to public consultation;
- the data are incomplete and further surveys are required;
- there is a lack of clear, transparent information on why areas were either included or excluded from development;
- avoidance has not been adequately addressed;
- there is no assessment of gains that will be achieved by the proposed offsets;
- there is uncertainty about how the grassland reserves will be secured and their values will be maintained prior to acquisition;
- grassland patches smaller than 150 hectares are viable and should be considered for retention within urban areas ;
- there is a lack of detail about mitigation measures for grassy eucalypt woodland;
- mitigation measures for species lack detail and have not been rigorously assessed to determine their effectiveness;
- there is an over-reliance on the Precinct Structure Planning process to "fine-tune" planning and management and that values need to be identified prior to this process.

The submission recommends:

- extending the consultation period;
- further targeted survey work;
- that the OMR/E6 Transport Corridor be realigned to avoid high value sites;
- that trade-offs be made clear in a science-based, consultative process;

- retention of grassland sites within the urban area if they contain multiple values and can be logically included in an urban conservation network;
- retention of grassy eucalypt woodlands within the urban area;
- retention of grassy wetlands within the urban area with buffers;
- protection of specific additional high values sites within urban areas;
- reservation of a buffer to Merri Creek;
- development of a transparent and detailed grassland reserve design plan;
- development of enforceable management guidelines and plans for all organisations with responsibility for managing significant grassland patches;
- development of strategic plans that address each threatened species.

2.1.2 RESPONSE TO ISSUES RAISED

SCOPE OF STRATEGIC IMPACT ASSESSMENT

Some submissions queried the scope of the Strategic Impact Assessment process as it pertains to various future Commonwealth and State Government approvals processes.

Government response

The Strategic Impact Assessment has been developed to satisfy Commonwealth Government requirements for assessment of matters of national environmental significance (MNES). It does not replace State processes.

The Strategic Impact Assessment accounts for MNES that are described in the program documentation. Additional MNES that are not covered by the Strategic Impact Assessment will require the preparation of a prescription for managing the issue. Any such prescriptions will be developed in consultation with the Commonwealth Government.

EQUITY AND PROCESS

Several submissions were concerned that there was limited time available for public consultation.

Government response

The Victorian Government has endeavoured to make the consultation process as inclusive and accessible as possible. There have been two periods of public consultation. An initial two month consultation period following the release of Melbourne @ 5 Million in December 2008 encouraged interested parties to provide comment on the broad proposal. This included the four investigation areas and creation of two grassland protected areas. The second consultation period involved establishment of a government website and specific information line; eight information sessions in locations across the investigation areas; a mail out to those directly affected by the proposals; and a one-month public submission period.

Further targeted consultation has occurred. Releasing the Program report into the public domain will allow the community to better understand the Program

DATA AND METHODOLOGY

A number of submissions raised questions about the quality and quantity of data used in developing the proposals described in the Strategic Impact Assessment report.

Government response

To the west of Melbourne, detailed on-ground surveys were undertaken over the past 18 months. All relevant properties were surveyed unless permission to access the property was not able to be gained from the owner.

Throughout the study area, the best available information including field data from the Department of Sustainability and Environment and the Growth Areas Authority, consultant's reports and Department of Sustainability and Environment modelling were used to develop the proposed program. A precautionary approach was used in developing the proposed program.

The amount and type of data used in the revised Strategic Impact Assessment report is described in detail in the report.

Additional data will be collected during 'downstream' processes. This will include further subregional surveys, Precinct Structure Planning Surveys, and ecological monitoring.

Surveying will be conducted at varying scales, at appropriate seasons and for targeted species, such as the Golden Sun Moth, Matted Flax-lily and Spiny Rice-flower.

CONSIDERATION OF PRINCIPLES OF ECOLOGICALLY SUSTAINABLE DEVELOPMENT

Several submissions referred to principles of ecologically sustainable development, urging that the proposals accord with these principles. Others raised the issue of population growth. Some of these submissions suggested a greater emphasis be placed on urban consolidation within the existing Urban Growth Boundary.

Government response

Population projections released in 2008 show that Melbourne is growing rapidly, and will reach 5 million people faster than anticipated. The proposals announced, including proposals for the western grassland reserves, take an integrated long term approach to land use and transport planning to ensure that infrastructure and essential services will be ready as communities grow. A vital part of the approach has been the agreement with the Commonwealth Government to undertake a strategic assessment of the likely impact of the projects on matters of national environmental significance, bringing a deeper appreciation of how to balance urban development with environmental impacts.

A combination of urban consolidation and Greenfield development will be required to accommodate Melbourne's population growth. Of the new dwellings required, it is anticipated that 316,000 will be accommodated in the established areas and 284,000 dwellings will be accommodated in the growth areas.

AVOIDANCE, MINIMISATION AND OFFSETTING NATIVE VEGETATION

Some submissions placed emphasis on the importance of the three step approach of avoiding, minimising and offsetting native vegetation clearing outlined in Victoria's Native Vegetation Management Framework.

Several submissions urged that more native vegetation be protected, or that all native vegetation in the study area be protected.

Several submissions proposed more grassland or woodlands be reserved. or expressed interest in better understanding how woodland communities would be protected. A number of submissions proposed the permanent protection of woodland communities which are to be excluded from the Urban Growth Boundary in order to avoid vegetation clearing.

Some submissions questioned whether the offsets proposed were adequate, or questioned the concept of offsetting as a general strategy or the provision of offsets within the grassland reserve.

Several submissions urged that offset areas be secured prior to any clearing being permitted and/or that funds for purchase of offsets be secured at the outset.

Government response

The proposed program, including all offsets that will be required as a result of permitted clearing, is consistent with the requirements of the Victoria's Native Vegetation Management – A Framework for Action (DNRE 2002):

- *Avoidance has been achieved across the programme.*
- *Minimisation will occur during Growth Area Framework Plan and Precinct Structure plan development.*
- *Offsetting will be required where clearing has not been avoided. In most cases clearing of native vegetation will not occur until an offset has been permanently established, as required by the Native Vegetation Management Framework.*

It is not possible to protect all native vegetation. However, in response to the likely clearing of native grassland vegetation within the new Urban Growth Boundary, Victoria will protect the largest consolidated area remaining of volcanic plains grasslands. This will increase the representation of native grasslands in the protected area system from 2 per cent to 20 per cent.

Areas proposed for inclusion in the western grassland reserves will contribute to the long-term conservation of the largest remaining area of western plains grassland and associated threatened species habitat in Victoria. Co-locating the offsets for clearing for further development provides a substantially better outcomes than if offset sites were scattered. Controlling weeds, pests and fire is more cost-effective and easily done in a large reserve than many small reserves. Past management of small reserves has been poorly funded with poor results.

The new grassland reserves will be acquired as quickly as practicable. The process will be completed within ten years.

Significant areas of woodland clearing have been avoided and minimized in the expansion of the Urban Growth Boundary. All offsets for permitted clearing of grassy woodlands, including the EPBC-listed Grassy Eucalypt Woodland of the Victorian Volcanic Plain will meet the requirements of the Native Vegetation Management Framework. Improved security for key woodland remnants

is proposed in the revised Strategic Impact Assessment report. An indicative map will a number of small reserves to be established with the Urban Growth Boundary.

Growth Area Framework Planning will be undertaken for all new development areas. This process will allow for environmental values to be taken into account through sub-regional conservation strategies and designation of broad open space areas and habitat linkages. Precinct structure planning will provide detailed resolution of these areas in conjunction with further detailed data collection.

CONSIDERATION OF SPECIES NOT LISTED UNDER THE EPBC-ACT

Several submissions expressed concern that species not listed under Commonwealth legislation were not being considered.

Government response

The Strategic Impact Assessment has been developed to satisfy Commonwealth Government requirements for assessment of matters of MNES. It does not replace State processes. The Strategic Impact Assessment accounts for current MNES as described in the program documentation. Where relevant, additional matters of MNES not covered by the Strategic Impact Assessment will require the preparation of a prescription for managing the issue developed in consultation with the Commonwealth Government.

Impacts on species other than those listed under the EPBC Act will be considered through subsequent processes including precinct structure planning processes.

Prescriptions for species not currently listed under the EPBC Act will be developed if they are listed in the future (Please see page 61 of the Strategic Impact Assessment report.)

WATERWAYS AND WETLANDS

Some submissions raised concerns about the impact of urbanisation on hydrology and water quality in creeks and wetlands, often recommending buffers.

Government response

Excepting Ramsar listed wetlands, the issues of waterways and wetlands were outside the scope of the Strategic Impact Assessment. These issues will be dealt with through urban design during the Precinct Structure Planning process.

CONSIDERATION OF CUMULATIVE IMPACTS AND LANDSCAPE CONNECTIVITY

Some submissions were concerned that cumulative impacts and threatening processes were not adequately addressed.

Some submissions were concerned about landscape connectivity and proposed habitat links through the urban area.

Government response

The Strategic Impact Assessment is a new approach to considering impacts from urban development within metropolitan Melbourne. The consideration of potential impacts across the investigation areas through the Strategic Impact Assessment, rather than during ad-hoc development referrals, ensures that potential cumulative impacts from this Program are considered at a strategic level with the development of appropriate mitigation and offset approaches.

Issues of landscape connectivity and habitat links have been considered during the design of areas to be retained within the Urban Growth Boundary and the Grassland Reserves

Landscape design and protection of corridors is a key feature of the mitigation measures proposed for Southern Brown Bandicoot, Growling Grass Frog and other species.

Corridors will be fully identified through Growth Area Framework Plans and Precinct Structure Planning processes..

MITIGATIONS MEASURES AND PRESCRIPTIONS

Some submissions called for greater detail regarding mitigation measures.

Some submissions raised concerns about the adequacy of current tools, particularly the precinct planning process to deliver biodiversity outcomes. Others were concerned about the impact of proposed mitigation actions and further work on the progress of precinct plans.

Government response

Greater detail has been included in the revised Strategic Impact Assessment report about management commitments and the way in which mitigation measures will be achieved.

Prescriptions for management of MNES within precinct structure planning areas have been refined as described in the revised Strategic Impact Assessment report.

A review of current policy tools used to deliver biodiversity outcomes was outside the scope of the Strategic Impact Assessment.

Prescriptions within the Strategic Impact Assessment Report will guide the consideration of biodiversity issues during precinct structure planning.

The Growth Area Framework Planning, Precinct Structure Planning, Native Vegetation Precinct Planning and CMP processes will be guided by a regional biodiversity conservation strategy and specific species sub-regional management strategies to be approved by DEWHA. This will provide greater certainty to protect matters of national environmental significance.

MONITORING AND AUDITING

Some submissions raised concerns about how actions were going to be monitored, audited and reviewed, including who would be responsible and what resources were available for this.

Government response

The Strategic Impact Assessment Report includes commitments to appoint an auditor to assess how well the Precinct Structure Planning Guidelines support the protection of matters of national environmental significance under the EPBC Act; to provide biennial audit reports to the State and Commonwealth Governments; and five-yearly reviews of the Precinct Structure Planning Guidelines.

Responsibility for undertaking monitoring within the Western Grasslands Reserves and on public land will rest with the Department of Sustainability and Environment. The Growth Areas Authority will ensure that monitoring arrangements for retained areas of private land are clarified as an outcome of the Precinct Structure Planning process.

2.2 SUBMISSIONS MADE TO THE PROPOSED WESTERN GRASSLANDS RESERVES

2.2.1 OVERVIEW OF SUBMISSIONS RECEIVED

There were 148 submissions received regarding the proposed Western Grassland Reserves. Ninety per cent of these submissions opposed the proposed Western Grassland Reserves.

A survey commissioned by Department of Sustainability and Environment identified 48 homes and approximately 200 properties within the proposed Western Grassland Reserves area. Submissions were received from 48 home owners and 39 property owners. All of these object to the proposed Western Grassland Reserves.

The total number of submissions received does not directly correspond to the number of individuals or organisations who made submissions. In some cases individuals made multiple submissions and a number of joint submissions from groups of land owners were also received. In some cases individuals who contributed to joint submissions also made submissions independently.

2.2.2 SUBMISSIONS OPPOSING PROPOSAL

Common thematic issues about the creation of a Western Grasslands Reserve:

- Many propose grasslands of high value in the proposed Urban Growth Boundary must be similarly protected.
- Some propose clearing in the Urban Growth Boundary must not proceed until the Western Grassland Reserves have been established.
- Many propose extending the consultation process to undertake further data analysis to inform Strategic Impact Assessment Report and to allow better community consultation
- Many are concerned that appropriate weed control will be difficult.
- Many are concerned that appropriate pest control will be difficult.
- Many are concerned that appropriate fire risk management for urban boundary dwellings will be difficult.
- Many are concerned about ongoing management and sufficient funding of the Western Grassland Reserves by Government.
- Many question the net gain policy three step approach, and believe proposed offsets are not adequate or that avoid and minimise steps have been ignored.
- Some are concerned that high quality native vegetation in the proposed Urban Growth Boundary is being offset with poor quality native vegetation in the proposed Western Grassland Reserves.
- Some are concerned that habitat corridors between biodiversity areas will be destroyed/not actively created.

Additional thematic issues raised by home and property owners within the proposed Western Grassland Reserves:

- Many propose that owners be allowed to remain in homes or continue to use land productively for social, historical or financial reasons and are not seeking rezoning of their land into the Urban Growth Boundary.
- Many propose that owners remain in their homes and manage the land in partnership with Government.
- Many propose altering the Western Grassland Reserves boundaries to exclude established homes and businesses from the reserve, with some proposing the inclusion of established homes and businesses in the Urban Growth Boundary citing land as suitable for development given proximity to infrastructure and facilities.
- Some propose alternative areas that could be used for offsets, and provide site specific details.
- Many state that no native vegetation of value exists on their property, with the expectation that the area would as such be re-zoned in the future.
- Many are concerned regarding significant financial and emotional hardship through the acquisition process.
- Many are concerned regarding the quality and quantity of data used in developing the proposals described in the Strategic Impact Assessment report.
- Many are concerned regarding the consultation process: for not providing enough time to response adequately, nor enough accessible information (in particular for those with no access to computers, or with English as a second language).
- Many question the logic and fairness of destroying old homes to establish new ones.
- Many question the logic and fairness of acquiring established land to offset damage caused by developers and new home buyers.
- Some state that they had not been contacted to organise surveying of their land.
- Some disagree with Strategic Impact Assessment of Golden Sun Moth and Spiny Rice Flower habitats.
- Some question government commitment to acquiring land under the Land Acquisition and Compensation Act 1986 (LAC Act).

2.2.3 SUBMISSIONS SUPPORTING PROPOSAL

Common thematic issues raised in general:

- Many submissions confirm support for protection of Victorian grasslands.
- Many propose expanding proposed Western Grassland Reserves to include more grasslands, or all that within the study areas.
- Some propose permanent reservation of the woodland communities excluded from the Urban Growth Boundary.

- Some propose that clearing in the Urban Growth Boundary does not proceed until WGR have been established and/or upfront funding confirmed.
- Some propose project timelines be extended to include improved data collection from surveys and community consultation.

2.2.4 RESPONSE TO ISSUES RAISED

GRASSLANDS RESERVES EXTENT AND QUALITY

Some submitters proposed altering the reserves boundaries to exclude homes and businesses from the western grassland reserves and in some cases rezoning that land to urban growth.

Some submissions queried why land with no native vegetation was being acquired.

Government response

The grassland reserves include the largest consolidated area remaining of volcanic plains grasslands in the country. Consideration will be given to excluding land with lower value biodiversity from the reserve, where this does not compromise the integrity or management of the reserve.

Areas proposed for inclusion in the western grassland reserves include remnant native grasslands in a range of conditions as well as areas proposed for restoration of habitat values in order to contribute to the long-term conservation of the largest remaining area of western grassland and associated threatened species habitat in Victoria.

New land will be included within the boundary to the south of the large western grassland reserve.

The land within the new Urban Growth Boundary provides sufficient land for Melbourne's future population growth.

GRASSLANDS RESERVES ACQUISITION AND MANAGEMENT

Several submissions proposed that funding should be provided upfront and/or the reserves established prior to clearing.

Many submissions sought clarification on issues relating to land acquisition for the proposed grassland reserves.

Some submissions queried the commitment to ongoing management of reserve by Government and/or proposed weed control, pest animal control or fire management.

Some homeowners proposed that they should retain ownership of their properties and manage the land with the Government.

Government response

In most cases clearing of native vegetation will not occur until an offset has been permanently established, as required by the Native Vegetation Management Framework. The new grassland reserves will be acquired as quickly as practicable. The process will be completed within ten years.

The acquisition schedule will allow people to remain on their properties for as long as practicable. Acquisition of properties will be based on fair payment to landholders for land and capital improvements such as buildings, as required by the LAC Act.

Values will be protected prior to acquisition through the provision of community grants to assist in management and through compliance programmes under the Catchment and Land Protection Act 1994, Planning and Environment Act 1987 and the EPBC Act. A DEWHA approved interim management plan will be developed to ensure the quality of listed grasslands is maximised for the future of the reserve.

Details of reserve management will be determined through a detailed reserve planning process led by the Department of Sustainability and Environment. Community and expert input will be sought.

Control of weeds will be a major focus of management efforts from the commencement of the acquisition program. Incentives will be provided to assist landowners to continue to manage weeds in the short-term. Over the longer term management of weeds will be in accordance with a management plan for the reserves which will be prepared by the reserve manager in consultation with the community.

Management of pest animals and of wildlife will be in accordance with a management plan for the reserves which will be prepared by the reserve manager in consultation with the community.

Consistent best practice fire management will be applied through an integrated fire management planning approach.

Consideration is being given to alternative land stewardship arrangements which may satisfy the requirements of the EPBC Act and Victoria's Native Vegetation Management - A Framework for Action. Acquisition remains the preferred option and such arrangements would only be considered in special cases.

EQUITY AND PROCESS

Some submission queried the length of the consultation period.

Some submissions queried the fairness and logic of entire project and acquisition process.

Government response

The Victorian Government has endeavoured to make the consultation process as inclusive and accessible as possible. There have been two periods of public consultation. An initial two month consultation period following the released of Melbourne @ 5 Million in December 2008 encouraged interested parties to provide comment on the broad proposal. This included the four investigation areas and creation of two grassland protected areas.

The second consultation period involved establishment of a government website and specific information line; eight information sessions in locations across the investigation areas; a mail out to those directly affected by the proposals; and a one-month public submission period.

A third round of consultation has occurred following refinement of the grassland reserves boundaries.

The expansion of the Urban Growth Boundary will result in the loss of areas of native grassland. The establishment of the western grassland reserves will offset the loss of native grassland through the long-term conservation of the largest remaining area of western grassland and associated threatened species habitat in Victoria.

Issues of fairness in the provisions of compensation for the acquisition of land for a public purpose is dealt with through the LAC Act.

This includes a requirement for the payment of fair compensation to land holders for land and capital improvements such as buildings. The LAC Act also provides dispute resolution mechanisms where the amount of compensation offered is disputed by land holders. Depending on the value of the claim, a determination can be made by either by the Victorian Civil and Administrative Tribunal or a Court.

The schedule for the acquisition of the reserve will allow people to remain on their properties for as long as practicable. Acquisition of properties will be based on fair payment to landholders for land and capital improvements such as buildings, as required by the LAC Act.

FINANCIAL AND EMOTIONAL HARDSHIP

Some submissions cited financial and emotional hardship of home acquisition.

Government response

Land acquisition and compensation issues will be managed in accordance with the LAC Act.

The acquisition schedule will allow people to remain on their properties for as long as practicable. Acquisition of properties will be based on fair payment to landholders for land and capital improvements such as buildings, as required by the LAC Act.

OTHER ISSUES

Other issues raised in the grassland reserve submissions including data quality; avoidance minimisation, and offsetting of native vegetation; and landscape connectivity were also raised in submissions to the Strategic Impact Assessment report. The government response to these issues is outlined under Strategic Impact Assessment Report – Response to Issues Raised.

2.3 SUBMISSIONS MADE IN THE THIRD ROUND OF PUBLIC CONSULTATION

2.3.1 OVERVIEW OF SUBMISSIONS

There were eight submissions to the third round of consultation relating to small variations to the grassland reserves. These included five submissions relating to the proposed changes to the grassland reserves and three submissions relating to the original grassland reserve boundaries. Five submissions objected to the acquisition of properties for the grassland reserves and questioned whether their properties contained any biodiversity values and recommended further survey work. One submission related to a property which was being partially acquired and requested that all or none of the property be acquired. The other two submissions supported the grassland reserves, one made recommendations to their management and the other recommended the reserves be further extended.

2.3.2 RESPONSE TO ISSUES RAISED

The Government responses provided in section 2.2.4 are relevant to these eight new submissions. No additional responses are required.

3 REFERENCES

Department of Natural Resources and Environment (2002). *Victoria's Native Vegetation Management Framework: A Framework for Action*. Department of Natural Resources and Environment, East Melbourne.

State Government of Victoria (2008). *Freight futures: Victorian Freight Network Strategy: for a more prosperous and liveable Victoria*. Department of Transport, Melbourne.

State Government of Victoria (2008). *The Victorian Transport Plan*. Department of Transport, Melbourne.

4 LIST OF SUBMITTERS

4.1 STRATEGIC IMPACT ASSESSMENT REPORT

Name	Organisation
Mrs Christine Adams	
Karen Alexander	The Victoria Naturally Alliance
Mario Attard	
Ms A Azaris	Sunbury Maribyrnong Valley Green Wedge Defenders
Ms Arnie Azaris	Sunbury Conservation Society Inc.
Ms Arnie Azaris	Sunbury Conservation Society Inc.
Dr Russell Best	
Somia Blain	SMH Andrew Nominees Pty. Ltd
Sonya Blain	SMH Andrew Nominees Pty Ltd
T.D. Blain	SMH Andrew Nominees Pty. Ltd
M Janette Carr	
Mr Brendan Casey	private
Ms Karina Castan	
Miss Adele Cerosoli	
Mr & Mrs Pamela and Colin Clune	
Ms Maggie Cowling	
Mr Michael Davies	
Ms Susan Davies	Westernport Swamp Landcare Network
Ms Susan Davies	Westernport Swamp Landcare Network
Susan Davies	Westernport Swamp Landcare Network Southern Brown
Mr Giorgio De Nola	CSonGrass
Ms Carrie Deutsch	
Mr Dennis Emberson	
Mr Nicholas Evans	
Mr Tony Faithfull	Indigenous Flora and Fauna Association Inc
Ms Jane Farnan	
Mr. Walter Fioritti	
Mr Patrick Fitzgerald	
Mr Michael Fogarty	
Margaret A Gray	on behalf of 14 neighbours
Miranda Haler	
Miranda S. Haler	SMH Andrew Nominees Pty.Ltd
Mr Dietmar Hildebrand	
Robin H Hocking	
John Holland	Cardinia Shire Council
Adrian Infanti	Darebin Creek Management Committee Inc
Ms Marnie Ireland	Australian Research Centre for Urban Ecology
Claudia James	Friends of Wallan Creek
Mrs Alison Joseph	
mr karl just	
Mr Chris Lewis	

Name	Organisation
MS Julie Macdonald	Clarkefield and District Farm/Landcare
Luisa Macmillan	Merri Creek Management Committee
Ms Julie Mason	
Dr Freya Mathews	Philosophy/CACE Latrobe University
Mr Craig` McGrath	City of Yarra
Garry McQuillan	Cardinia Shire Council
Greg Miller	Stockland
Ms Anna Molan	
Dr David Moon	
Mr Ian Morgans	Port Phillip & Western Port CMA
Carol Morley	
Mr Peter Moulton	Trust for Nature
Martin Muscat	
Mr Martin Musgrave	Urban Development Institute of Australia (Vic)
Mrs Carol Nelson	
Marie Ormonde	
Mr Glenn Osboldstone	
Justine O'Meara	City of Whittlesea
Dr Megan O'Shea	
Dr. Kirsten Parris	School of Botany, University of Melbourne
Dr Ian Patrick	
Mr Justin Pegg	
Dr Susan Peirce	
Ms Julia Perdevich	
Pascale Pitot	
Mr Ray Radford	
Miss Deborah Reynolds	Victoria University, Sustainable Ecology, building
Miss Maria Riedl	
Mr Andre Rigoni	
Mr Martin Roberts	
John Robinson	Port Phillip & Westernport Catchment Authority
Ms Louise Romanin	
Matt Ruchel	Victorian National Parks Association
AProfessor James Thom	
Mr Ben Thomas	Pimelea spinescens Recovery Team
Mrs Kylie Thorburn	
Miss Angela Tiede	
Mr Warren Tomlinson	
Mr Karl Tracksdorf	
John Upsher	Internode
John Upsher	
Mr Wayne Vella	
Mrs Martine Wakeham	
Cam Walker	Friends of the Earth Melbourne
Mr Sean Walsh	Friends of Darebin Creek
Mr Rupert Watters	Environment Defenders Office
Miss Esther Wong	
Mr Nathan Wong	La Trobe University
Peng Hong Wong	VIP Rockbank Pty Ltd

4.2 WESTERN GRASSLAND RESERVES

Name	Organisation
#Not Supplied# #Not Supplied#	
#Not Supplied# #Not Supplied#	Sunpork Enterprises P/L
#Not Supplied# #Not Supplied#	Holt & MacDonald Pty Ltd
#Not Supplied# #Not Supplied#	Public and Rockbank residence
Mr Daryl Akers	
Karen Alexander	Victoria Naturally Alliance
Karen Alexander	Victoria Naturally Alliance
Eerzulla Alievski	
Rifat Alievski	
B. Armstrong	
B. Armstrong	
Barry Armstrong	
Barry Armstrong	
Barry Armstrong	
S. Armstrong	
Ms A Azaris	Sunbury Maribyrnong Valley Green Wedge Defenders
Ms Arnie Azaris	Sunbury Conservation Society Inc.
Mary Rose Azzopardi	
A.M. Blain	SMH Andrew Nominees Pty. Ltd
J Blain	SMH Andrew Nominees Pty. Ltd
Jata Blain	SMH Andrew Nominees Pty Ltd
Sonya Blain	
Corie Bugeja	
Corie & Sylvia Bugeja	
Corie and Sylvia Bugeja	
J and G Buhagia	SMH Andrew Nominees Pty Ltd
Joe and Gina Buhgjar	
Mr Robert Burns	
Frank Buttigieg	
Paul and Maria Capela	
Paul and Maria Capela	SMH Andrew Nominees Pty Ltd
mr Andrew Cassar	
Mr Dan Cassar	
Mr Jeff Cassar	
Mr Shane Cassar	
Mrs Tamara Cassar-Gray	
Miss Adele Cerosoli	
Mr John Cicero	Best Hooper Solicitors
Pamela and Colin Clune	
Rosalie Counsell	Green Wedges Coalition
Don and Rosemaria Curmi	
Rita and Joseph Curmi	
K. Czerwinski	
Mr & Ms D Knight & S	

Name	Organisation
Armstrong	
Mr & Ms D Knight & S Armstrong	
Mr Giorgio De Nola	CsonGrass
M.G. Dennis	M.G.Pastoral Co. Pty. Ltd.
Mr Bohdan Drozdowskyj	
Dennis Emberson	
Robert Emmins	
Ms Jennie Epstein	
Mr Nicholas Evans	
Steven Geoffrey and Christine Evans	
Mr Tony Faithfull	Indigenous Flora and Fauna Association Inc
Miss Julie Fanning	"Sunnyside"
Andrew and Tania Fava	
Dr Denise Fernando	
Mr. Walter Fioritti	
Bernie Fox	
Ms Stacey Gardiner	Hume City Council
MR JEFF GARFIELD	GARFIELD MAYALL PTY LTD
Peter Gibbs	
Miss Anuradah Gnanathimuthalian	
Walter Grahame	
Mr Andrew Gray	ARG Planning
John Grech	
John Grech	SMH Andrew Nominees Pty.Ltd
Mr John Gregg	
Mr Peter Griffiths	
Miranda S. Haler	SMH Andrew Nominees Pty. Ltd
M Haler	SMH Andrew Nominees Pty. Ltd
S Haler	SMH Andrew Nominees Pty. Ltd
Sonia Haler	
Francis Hinchliffe	
Mr Tong Hu Huang	
Mrs Alison Joseph	
Ziili Joung	
mr karl just	
mr karl just	
Mrs Margo Karagiozakis	
Mr Mark Karagiozakis	
J and S Karathanasis	Asplan Town Planning
Terrence John Keating	
Norman Keegel	
Mrs Sapna Khan	Legoll Legal Practitioners
D. Knight	
Mr William Kuszniczuk	Clement Stone Town Planners
Mr Phat Lam	Tekcon Group Pty LTd
Ms Jody Laughton	
Erin and Tony Levy	

Name	Organisation
Mr Chris Lewis	
Swbi Lika	SMH Andrew Nominees Pty.Ltd
Ana Liptak	
Maria and Michael Liptak	
Mr Hanbiao Liu	Amazon Group Holdings Pty Ltd
Mr Tristan Martin	
Mr Greg Megson	
Anthony Melissari	
Nino Melissari	
Alfred Micallef	
Greg Miller	Stockland
Greg Miller	Stockland
Ines Mizzi	
Pattie Morgan	
Mr M Morizzi	
Ms Mimi Morizzi	
John and Mary Morton	
Mr Martin Musgrave	Urban Development Institute of Australia (Vic)
Mr David Ngo	
Giovanni and Pasquale Nigro	
Dr Megan O'Shea	
Agata Ostric	
Mr Scott patten	
Darrel Pearce	
Leanne Pearce	
Terry Pearce	
Terry Pearce	
Mr Justin Pegg	
Pascale Pitot	
Martin Purslow	National Trust
Mrs Janette Quayle	
Miss Deborah Reynolds	Victoria University, Sustainable Ecology, building
Miss Maria Riedl	
Peter Roberts	
Mr George Romanella	George Romanella Barrister & Solicitor
Bepina Sabali	
Mia Sablic	
Tanya Sammut	
Mr Sellathurai Selvarajah	
Mr Eric Sharkey	
Mr Keith Sheridan	
Mr Kieran Patrick Sheridan	
Marie Mier Sobolie	SMH Andrew Nominees Pty.Ltd
Charlie Spiteri	
Mr Frank and Michelle Spiteri	
Mr. Frank and Michelle Spiteri	
Mr John STEVENS	"RockRidge"
Jason Summers	
Sue Tardif	

Name	Organisation
Mr Rodney Thynne	
Miss Angela Tiede	
Mr Warren Tomlinson	
Mr Simon Travlos	
Helen van den Berg	Friends of Steele Creek Inc.
Mr Peter Vella	
Mrs Martine Wakeham	
Rosemary West	Green Wedges Coalition
Miss Esther Wong	

4.3 THIRD ROUND OF PUBLIC CONSULTATION

Name	Organisation
Mr John Glossop	Glossop Town Planning Pty Ltd
Sapna Khan	Legoll
	Asplan Town Planning (for C&M Kyriazis)
	Asplan Town Planning (for T & G Galea)
Maurice Stabb	Wyndham City Council
Alice Buscombe	
Lynne Josephs	The Planning Group (for Lionsbrau Manor Pty Ltd)
Lynne Josephs	The Planning Group (for Mr Mario Attard)

Delivering Melbourne's newest sustainable communities

Public Consultation Final Report on Submissions

November 2009

Delivering Melbourne's newest sustainable communities

Public Consultation Final Report on Submissions

The discussion of the Urban Growth Boundary, Regional Rail Link, Outer Metropolitan Ring / E6 Transport Corridor and Grassland Reserves within this report reflects the content of Amendment VC55 as approved by the Minister for Planning, which is still subject to ratification by Parliament before the Amendment comes into operation.

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Introduction

Purpose of report

This is the final report on submissions received throughout the consultation period for *Delivering Melbourne's newest sustainable communities*, which includes a review of the Urban Growth Boundary and the identification of alignments / reservations for the Regional Rail Link, Outer Metropolitan Ring / E6 Transport Corridor, and two grassland reserves. The report outlines the consultation process, including an explanation of how submissions were considered, where changes were made to the proposals and a summary of issues raised and the Government's response to those issues.

Project context

In December 2008, the Victorian Government released the following four documents for shaping Melbourne:

- > *Victoria in Future 2008*;
- > *Melbourne 2030: a planning update – Melbourne @ 5 million* (“Melbourne @ 5 million”);
- > *The Victorian Transport Plan*; and
- > *Freight Futures: Victorian Freight Network Strategy* (“Freight Futures”).

Victoria in Future 2008 provided an update to Victoria's population projections. It indicated that Melbourne will reach a population of five million people faster than anticipated. Over the 30 years from 2006 to 2036, Victoria will grow by 2.3 million people, with 1.8 million additional people in metropolitan Melbourne and about 477,000 in regional Victoria.

Melbourne @ 5 million outlined the implications of *Victoria in Future 2008* growth projections for Melbourne's future settlement pattern and provided essential land use and development context for *The Victorian Transport Plan*. It defined a refined settlement pattern needed to ensure that Melbourne remains liveable as the population approaches five million, which included the designation of six Central Activities Districts, employment corridors and the need to accommodate an additional 600,000 dwellings in metropolitan Melbourne over the next 20 years of which:

- > Almost 316,000 dwellings are anticipated to be in Melbourne's established areas, where access to trams and other public transport services will be important; and
- > Approximately 284,000 dwellings are anticipated to be in Melbourne's growth areas.

Melbourne @ 5 million signalled the Government's commitment to review Melbourne's Urban Growth Boundary during 2009 and designated 'Investigation Areas' in Melbourne's north, west and south-east as potential areas for inclusion within the Urban Growth Boundary. It also identified the need to determine the boundaries of proposed grassland areas for protection in Melbourne's west. These grasslands are listed as critically endangered under the *Environment Protection and Biodiversity Conservation Act 1999* and provide habitat for a range of endangered flora and fauna species.

The need to ensure new growth areas are adequately serviced with infrastructure and the implementation of the Growth Areas Infrastructure Contribution were also outlined in *Melbourne @ 5 million*.

The Victorian Transport Plan and Freight Futures identified major transport initiatives to facilitate Melbourne's growth including the Regional Rail Link and the Outer Metropolitan Ring / E6 Transport Corridor.

The Regional Rail Link is a 50 kilometre railway connection that will link the Melbourne-Geelong railway from west of Werribee to Southern Cross Station via the Melbourne-Ballarat railway, connecting at Deer Park. It delivers improved regional network outcomes and provides an opportunity for enhanced local passenger services.

The Outer Metropolitan Ring / E6 Transport Corridor is a long term transport project which will accommodate the large increases expected in the volume of freight and people moving around outer metropolitan Melbourne and Victoria in the longer term. It is a 100 kilometre long corridor that is intended to link Avalon Airport, Werribee, Melton, Melbourne Airport and Donnybrook and then via the proposed E6 Transport Corridor, link Donnybrook to the Metropolitan Ring Road at Thomastown.

In March 2009, the Victorian Government entered into an agreement with the Commonwealth Government, under section 146 of the *Environment Protection and Biodiversity Conservation Act 1999*, to conduct a strategic assessment of the potential impact of expanding the growth areas of Melbourne and related transport and infrastructure on matters of national environmental significance. Matters of national environmental significance include threatened species and ecological communities, migratory species, World and National Heritage properties and Ramsar wetlands. The undertaking of any action that could have a significant impact on a matter of national environmental significance requires approval from the Commonwealth Minister for the Environment, Heritage and the Arts.

In May 2009, the Victorian Government made a small modification to the boundary of the Investigation Areas designated in *Melbourne @ 5 million* in Melbourne's west in light of updated information regarding the Volcanic Plains Grasslands in the vicinity of Troups Road, Melton.

In June 2009, the Victorian Government released *Delivering Melbourne's newest sustainable communities* for public comment. It provided the rationale for the four integrated land use and transport proposals to:

- > Revise Melbourne's Urban Growth Boundary and designate land for development;
- > Plan the alignment of the Regional Rail Link (west of Werribee to Deer Park) and the Outer Metropolitan Ring / E6 Transport Corridor; and
- > Define the boundaries and management of areas for grassland reserves in Melbourne's west.

The *Delivering Melbourne's newest sustainable communities* documentation included a range of background studies for each of the proposals, and the Strategic Impact Assessment report to meet the requirements of the *Environment Protection and Biodiversity Conservation Act 1999*.

In August 2009, the Victorian Government submitted to the Commonwealth Government its draft final Program Report and updated Strategic Impact Assessment Report. These reports identified the Victorian Government's commitments to manage and mitigate the potential impacts of future development on matters of national environmental significance.

In August / September 2009 further targeted consultation occurred around variations for the Regional Rail Link, the Outer Metropolitan Ring / E6 Transport Corridor and the Grasslands reserves that responded to issues raised in earlier consultation.

Consultation on *Delivering Melbourne's newest sustainable communities* took place over three stages, the first starting in December 2008 and the third finishing in September 2009. The proposals have been refined at each stage of the consultation process following further evidence raised in the submissions or further detailed work. The final changes to the proposals are outlined in section 4.

Consultation overview

Public consultation has been an essential part of the process for determining the revisions to Melbourne's Urban Growth Boundary; designating new areas for development; and for reserving land for the Regional Rail Link, Outer Metropolitan Ring / E6 Transport Corridor and grassland areas. Public feedback was formally sought at three stages. Figure 1 outlines the steps in the consultation process, which is also described in brief below.

Figure 1: Consultation process

Stage 1 – Submissions on Investigation Areas (22 December 2008 to 20 February 2009)

Undertaken from 22 December 2008 to 20 February 2009, and resulted in approximately 350 submissions being received. Notification included:

- > Advertisement in metropolitan papers and relevant local papers in mid December 2008;
- > Notification and information on websites of the Growth Areas Authority and Department of Planning and Community Development; and
- > All affected landholders were sent a letter regarding the review process and the proposed Growth Areas Infrastructure Contribution in February 2009.

The objectives of the Stage 1 consultation process were:

- > To gain a more comprehensive understanding of the range of issues affecting the Growth Areas; and
- > To provide an opportunity for landowners seeking to be included in the Urban Growth Boundary to outline the development potential of their land within the investigation area and to advise their knowledge on the opportunities and constraints of land.

On 19 May 2009, the Minister for Planning announced an extension to the boundary for the western Investigation Area. All property owners within the Troups Road extension of the Investigation Area were notified by mail that the Growth Areas Infrastructure Contribution may apply, should their land be included in the revised UGB.

A *Summary and Response to Submissions Report* that documented public submissions received during Stage 1 was released with the *Delivering Melbourne's newest sustainable communities* package in June 2009.

Stage 2 – Submissions on Delivering Melbourne’s newest sustainable communities (17 June 2009 to 17 July 2009)

Undertaken from 17 June 2009 to 17 July 2009, and approximately 1400 submissions were received. Notification included:

- > All landowners and occupiers affected by any of the four projects were notified by mail. Approximately 11,200 letters were sent on 17 June 2009; and
- > Advertisement in metropolitan papers and relevant local papers.

Consultation for the program *Delivering Melbourne’s newest sustainable communities* included:

- > A dedicated website with a Portal for online submissions;
- > A dedicated call centre providing support seven days per week;
- > Eight information sessions held across the areas affected by the proposals; and
- > Letters of acknowledgement of submissions were sent to all who made a submission.

The objective of the Stage 2 consultation process was to seek public feedback on:

- > Melbourne’s revised Urban Growth Boundary and the land designated for development;
- > An alignment for the Regional Rail Link (west of Werribee to Deer Park);
- > An alignment for the Outer Metropolitan Ring / E6 Transport Corridor;
- > The boundaries and management of proposed grassland reserves in Melbourne’s west; and
- > The findings of the strategic impact assessment of matters of national environmental significance.

Stage 3 – Submissions on Alternative Options (24 August 2009 to 21 September 2009)

Stage 3 was a targeted process directed to those affected by the proposed alternative alignments / boundaries. It was undertaken from 24 August 2009 to 21 September 2009, and approximately 280 submissions were received. Notification included:

- > All landowners and occupiers affected by any of the four projects were notified by mail;
- > Notification and information was also available on the Department of Planning and Community Development website;
- > Information sessions in the areas affected by the alternative proposal, conducted in late August and early September; and
- > Letters of acknowledgement of submissions were sent to all who made a submission.

The objective of the Stage 3 consultation process was to seek feedback from affected property owners, occupiers and councils on alternative options for parts of the Regional Rail Link (west of Werribee to Deer Park), Outer Metropolitan Ring / E6 Transport Corridor and grassland reserves in Melbourne's west.

Submissions from stage 2 and 3 of the consultation process are now available to view on www.dpcd.vic.gov.au

Submissions Assessment

This section outlines the approach the Government undertook to analyse and assess submissions. This section will help explain the methodology and decision making regarding the submissions process.

Submissions were considered in the context of the objectives for each project and the package as a whole. These objectives for the package and individual projects are outlined below.

Delivering Melbourne's newest sustainable communities

The objectives are to:

- > Ensure Melbourne's outward growth occurs in a sustainable way by addressing the future settlement, employment and transport needs of Melbourne, having regard to the directions and policies of *Melbourne 2030*, *Melbourne @ 5 million*, *The Victorian Transport Plan* and *Freight Futures*;
- > Define a revised Urban Growth Boundary to manage the growth of Melbourne's metropolitan urban area;
- > Define alignments for the Regional Rail Link (west of Werribee to Deer Park) and the Outer Metropolitan Ring / E6 Transport Corridor;
- > Inform the planning of other long term transport infrastructure projects required to support future growth in population and the way goods are moved across the metropolitan area;
- > Identify opportunities for improving environmental outcomes within Melbourne's growth areas and protecting the values of adjoining green wedges including designating permanent grassland reserves in Melbourne's west; and
- > Provide certainty to local communities, developers and other investors about future development in the growth areas.

Implicit in these objectives is a need for an integrated resolution of the outcomes.

Review of Melbourne's Urban Growth Boundary

The directions and principles that underpin *Melbourne 2030* and its update *Melbourne @ 5 million* were taken into account. In addition the following principles, as outlined in the consultation material of 17 June 2009, have also guided the Urban Growth Boundary Review:

- > The majority of new development is within approximately three kilometres of high capacity public transport (existing, planned or potential);
- > There is potential to develop contiguous extensions of urban areas, to allow efficient use of infrastructure and build on or add value to existing communities;
- > Improved biodiversity values and environmental outcomes may be achieved;
- > Communities can be created that are of sufficient size to support the provision of necessary regional and local infrastructure and services;
- > The pattern of development would allow for efficient public transport networks at a sub-regional level;
- > New residential development can be planned with access to existing and/or future employment opportunities; and
- > Land use conflict between industry and sensitive land uses can be avoided or minimised.

The assessment of submissions was also influenced by a **precautionary approach** to constraints assessments. In particular:

- > A conservative approach was taken to identifying land as available for urban development within the Urban Growth Boundary. This approach has been followed to allow the future protection of areas that may require it and to respond to the implications of the Growth Area Infrastructure Contribution. Further refinement of the areas that have been assumed as not available for urban development will take place when more detailed work has taken place during the Growth Area Framework Plan or subsequent Precinct Structure Plan processes.
- > For matters of environmental significance such as areas with known or potential biodiversity values, landscape values, creeks, wetlands, flood ways, drainage areas and for areas requiring buffers the precautionary approach has been taken. This approach means that buffer sizes and areas of constrained land maybe larger than might be necessary in the longer term, however they leave the ability to protect the land (or release it for development if appropriate) as a result of further studies and more detailed planning.
- > This issue has been highlighted as a large number of submissions related to land identified as constrained and in particular that this land is suitable for development. Generally the approach has been to retain the constrained status of the land due to the reasons set out above so that further refinements can take place at the Growth Area Framework Plan and Precinct Structure Plan stages.

Some submissions were **beyond the scope** of the Urban Growth Boundary Review, which means:

- > The submission was about policy decisions already made by Government such as the direction to accommodate more housing in the growth areas or to implement a Growth Areas Infrastructure Contribution; and
- > The submission referred to land outside of the Investigation Areas designated by Government. Land included in the Investigation Areas was based on a consideration of the land required to accommodate the development envisaged in *Melbourne @ 5 million* and a preliminary assessment of areas that might prove most suitable for creating sustainable new communities.

Regional Rail Link (West of Werribee to Deer Park)

The overall objective is “to reserve land for a high-quality transit corridor serving Melbourne’s and Victoria’s west.”

It is envisaged that the project will achieve the following desired outcomes for transport in Victoria:

- > Separate Geelong, Ballarat and Bendigo trains from suburban trains in Melbourne;
- > End the conflict between Geelong regional trains and Werribee suburban trains, thereby providing a substantial increase in capacity, reliability and frequency for both lines;
- > Provide a dedicated V/Line track on new alignment through the new growth areas of Tarneit and Derrimut giving residents and other key stakeholders a high quality rail link; and
- > Allow a major boost in services; particularly much needed peak hour services for regional commuters on the Geelong, Ballarat and Bendigo lines.

The project has been planned to support sustainable development of growth areas in Wyndham. It will help shape these areas by ensuring forecast residential growth can be catered for and provides an opportunity for higher value land development around key activity nodes which currently exist or which could be readily developed around the alignment.

As the Regional Rail Link – West of Werribee to Deer Park is part of a broader suite of rail projects, it will also indirectly provide the following outcomes for transport in Melbourne:

- > Increased passenger carrying capacity into and out of Melbourne's Central Business District;
- > Improved train service punctuality;
- > Greater choice of transport options to, from and across the city;
- > Reduced road congestion on the western and south-western metropolitan road corridors;
- > Changes in travel patterns and increased modal interchange; and
- > Relief for rail congestion in the inner rail network.

The Outer Metropolitan Ring / E6 Transport Corridor

The Outer Metropolitan Ring / E6 Transport Corridor is being planned to provide an ultimate high speed transport link for freight and people that would:

- > Enhance connectivity between key international transport hubs such as Melbourne Airport, Avalon Airport and Port of Geelong;
- > Improve access to the proposed Beveridge Interstate Rail Terminal;
- > Serve as an important route to interstate and major regional destinations;
- > Link residential and employment growth areas in the north and west of Melbourne; and
- > Improve access in this major employment corridor which includes Avalon Airport, Werribee, Melton, Melbourne Airport and Donnybrook.

As with all infrastructure projects other key objectives based on compliance with government legislation or good planning practice are to:

- > Ensure that the project is capable of performing its function of providing safe and efficient movement;
- > Ensure that the project is technically feasible;
- > Avoid as far as possible, minimise where unavoidable and provide offsets for any biodiversity impacts;
- > Avoid as far as possible, minimise where unavoidable and prepare a Cultural Heritage Management Plan to mitigate any Cultural Heritage impacts; and
- > Minimise socio-economic impacts in relation to existing and future residential and industrial development and maximise opportunities for future urban development.

A set of assessment criteria was used to compare the alternative alignments for the Outer Metropolitan Ring / E6 Transport Corridor. The criteria used included: number of houses/buildings affected; route length; impact on urban development; environmental impacts; community impacts; commercial impacts; cultural heritage impacts; and construction feasibility.

Grassland Reserves

The objectives are to:

- > Permanently protect the two largest remaining areas of native grasslands on the Victorian Volcanic Plain;
- > Create a ready supply of native vegetation offsets sufficient to compensate for the likely clearing of native grasslands within the expanded urban area; and
- > Establish a consolidated conservation reserve that will be managed to improve the quality of native vegetation and maximise opportunities for the long-term viability of threatened flora and fauna species through a dedicated program of adaptive management.

Strategic Impact Assessment

The objectives are to:

- > Undertake a strategic assessment of matters of national environmental significance within the Program in the context of s146 of the *Environment Protection and Biodiversity Conservation Act 1999*;
- > Ensure the impacts of the Program on matters of national environmental significance are considered;
- > Identify appropriate mitigation measures for any impacts on matters of national environmental significance considered; and
- > Ensure the Urban Growth Boundary Review Program incorporates mitigation measures.

Future steps

The process undertaken to-date has focussed on delineating an Urban Growth Boundary and land suitable for development within that boundary, and the designation of reservations for the Regional Rail Link, Outer Metropolitan Ring / E6 Transport Corridor and grassland reserves. Further planning is required for each of these initiatives as they are progressively delivered. Tasks will include:

- > Biodiversity Conservation Strategies ;
- > Growth Area Framework Plans;
- > Sub-Regional Species Strategies;
- > Precinct Structure Plans;
- > Native Vegetation Precinct Plans;
- > Green Wedge Management Plans;
- > Regional Rail Link: undertaking of actions required by Minister for Planning in response to a decision on a referral under the *Environment Effects Act 1978*; and
- > Outer Metropolitan Ring / E6 Transport Corridor: undertaking of actions required by Minister for Planning in response to a decision on a referral under the *Environment Effects Act 1978*.

Changes made since Consultation (June 2009)

This section outlines the changes made compared to the documentation released in June 2009.

Regional Rail Link, alignment refinements include (refer Map 1):

- > In the vicinity of Davis Road (Mount Cottrell / Tarneit), the alignment has been moved approximately 200m north. An assessment of the potential property impacts indicated that the realignment option would have significantly less impact on six properties (houses not affected or property missed entirely).
- > A number of splays (required for embankments) for road crossing have been slightly widened.

Outer Metropolitan Ring / E6 Transport Corridor, alignment refinements include (refer Map 2):

- > Around Bulban Road in Mambourin, the reservation has been widened to the west to provide flexibility to respond to potential operations planned for the quarry in that area.
- > In Mount Cottrell the alignment has been straightened, which delivers an improved biodiversity outcome and impacts on fewer houses and buildings compared with the original alignment.
- > In Woodstock / Wollert the alignment has been moved east of Epping Road. The alignment shift results in a very significant reduction in the number of houses to be acquired – 12 in total, which is 35 fewer than the originally displayed alignment. The alignment has also been relocated to minimise impact on remnant areas of Plains Grassy Woodland habitat (which is classified as critically endangered).
- > North of Findon Road the alignment has been moved marginally westward to avoid operational equipment of the quarry in that area.
- > There have been minor modifications to access restorations in a number of locations.
- > For the length of the alignment, the reservation has been narrowed marginally, in numerous places, in light of improved information on the terrain.

Grassland Reserves, boundary refinements include (refer Map 3):

- > In the vicinity of Troups Road Middle Road, Faulkners Road, Dohertys Road, Ballan Road and Ripley Road a number of small exclusions have been made to exclude highly degraded areas or existing residences, based on more detailed advice
- > South of Boundary Road an additional approximately 100 ha was included resulting from the change in the alignment of the Outer Metropolitan Ring / E6 Transport Corridor.
- > An expansion south of Bulban Road of approximately 600 ha, based on new information about the extent and condition of Natural Temperate Grasslands.

Constrained Land, refinements include:

- > Changes to the status of quarries / buffers. Including the change in status of a quarry (250 ha) in Mambourin where the lessee has indicated an intention to utilise a works approval which results in a significant reduction of developable land including the need for buffer areas, and the expansion of the constrained area to a quarry in Sunbury. In the latter case, the quarry operator intends to confine their operations to an area to along Emu Creek which will potentially allow a substantial reduction in buffer areas, the details of which will be resolved at the Precinct Structure Planning stage. A similar circumstance is also known in Clyde North.

- > Adjustment to the boundaries of buffers along escarpments, areas of landscape values, floodways and native vegetation to better align with new information, contours and existing controls.
- > Retention of three areas of volcanic plains grasslands inside the expanded Urban Growth Boundary as protected habitats of the Golden Sun Moth. These sites are of sufficient size and quality to meet the thresholds for protection proposed in the Strategic Impact Assessment. These thresholds were developed in conjunction with the Commonwealth to meet *Environment Protection and Biodiversity Conservation Act 1999* requirements. In the medium to long term, there may be potential to change the status of these conservation areas, once the full extent of Golden Sun Moth populations in Victoria is understood and 80% of Victoria's highest priority habitats for this species are protected.

Urban Growth Boundary, refinements include (refer Map 4-7):

- > In the vicinity of Craigieburn Road, and in response to agreement by the Commonwealth to allow the development (subject to native vegetation offsets and biodiversity surveys) of land inside the existing Urban Growth Boundary in the Precinct Structure Plan area known as 'R2', it is proposed to move the boundary west to align with Mickleham Road. This change will provide for additional housing within the core catchment of the proposed Craigieburn Town Centre subject to final decisions based on the results of biodiversity surveys.
- > It is not proposed to include the low density area north of Mt Ridley Road, where the remaining undeveloped area is remote from potential future centres.
- > In Casey an expansion is proposed in response to more detailed advice on drainage, information on ownerships, recognition that the area is part of a much larger agricultural area with opportunities for affected farmers to relocate and, most importantly, the benefits from maximising the potential catchment for any potential extension of the rail network from Cranbourne East to Clyde.
- > Two changes resulting from the final alignment of the Outer Metropolitan Ring/ E6 Transport Corridor as follows:
 - i. A change which keeps the alignment of the Urban Growth Boundary along the centre line of the Outer Metropolitan Ring / E6 Transport Corridor at Mount Cottrell, which results in a reduction of developable land.
 - ii. As a result of an eastward shift of the proposed E6 Transport Corridor near Donnybrook Road in Woodstock the Urban Growth Boundary will be aligned with Merriang Road.
 - iii. As a result of an eastward shift of the proposed E6 Transport Corridor between Summerhill Road and Lehmanns Road the Urban Growth Boundary has generally been aligned to the centre line of the E6 Transport Corridor from Masons Road south to Bindts Road where it then follows Bindts Road south to Lehmanns Road.
- > Aligning the Urban Growth Boundary with Mount Cottrell Road, in Melton South, to retain the integrity of the low density residential development in that area, and to support the long term role of Mount Cottrell Road as an arterial linking Werribee and Melton.
- > Support for the proposal to allow further development at 'Quarry Hills', in South Morang / Mernda. The proposal focuses on the delivery of wider community benefits, specifically a regional park. In some cases further work is required to better resolve the delineation between constrained and developable land. As the total area is small it is considered appropriate that all this land be classified as constrained until such time that the Growth Areas Authority and Department of Sustainability and Environment together with the Council have resolved these detailed development issues and can advise the Government as to where developable zones should be applied.
- > In a number of locations very slight changes have been made to better align the Urban Growth Boundary to linear features, dependent on the circumstances (e.g. centre line of a road).

Map 1: Proposed and Recommended Regional Rail Link Alignment

Map showing the proposed and recommended Regional Rail Link alignment.

Map 2: Outer Metropolitan Ring / E6 Transport Corridor Alignment Alternatives Considered During Targeted Consultation Aug-Sept 2009

Map showing the Outer Metropolitan Ring / E6 Transport Corridor alignment alternatives considered during targeted consultation conducted from August to September 2009.

Map 3: Changes made to Grassland Reserves Since 2009 Consultation

Map showing the changes made to the grassland reserves since the 2009 consultation.

Map 4: Urban Growth Boundary Change Made Since 2009 Consultation – West

Map showing the changes made to the Urban Growth Boundary for Melbourne's west since the 2009 consultation.

Map 5: Urban Growth Boundary Change Made Since 2009 Consultation – North

Map showing the changes made to the Urban Growth Boundary for Melbourne's north since the 2009 consultation.

Map 6: Urban Growth Boundary Change Made Since 2009 Consultation – Sunbury

Map showing the changes made to the Urban Growth Boundary for Sunbury since the 2009 consultation.

Map 7: Urban Growth Boundary Change Made Since 2009 Consultation – South East

Map showing the changes made to the Urban Growth Boundary for Melbourne's south east since the 2009 consultation.

Issues and response

This section outlines the major issues raised throughout the submission period and the government response to those submissions.

Key Issue	Response
<p>Consistency with Government policy A number of submissions raised concerns that the proposal to change the Urban Growth Boundary is inconsistent with the directions of Melbourne 2030, and that no changes should be made to the Urban Growth Boundary. Some submissions also indicated that urban consolidation should only occur within existing established residential areas</p>	<p>A change to the Urban Growth Boundary is necessary to accommodate the higher than anticipated population growth which <i>Melbourne @ 5 million</i> seeks to manage. <i>Melbourne 2030 and Planning for all of Melbourne</i> both stated clearly that the Urban Growth Boundary can and will change in response to development need in the growth areas. Revising the Urban Growth Boundary is one part of the Government's response to the projected population increase. <i>Melbourne @ 5 million</i> indicates that 316,000 additional dwellings are anticipated to be in Melbourne's established areas and outlines a range of initiatives which seek to facilitate this change.</p> <p><i>Melbourne @ 5 million</i> is a policy refinement of the settlement patterns of Melbourne 2030 and provides a strategic planning response to the growth projections outlined in Victoria in Future 2008.</p> <p>The Government has made a commitment to amend the Urban Growth Boundary. This commitment is outlined in Melbourne @ 5 million.</p> <p>A change to the Urban Growth Boundary is required to, among other things, provide choice and assist in maintaining housing affordability. If the Urban Growth Boundary is not amended and land supply is subsequently diminished, there will be a number of negative impacts including a rise in land and house prices, loss of population growth and economic investment to other States.</p>

<p>Green wedge areas A number of submissions raised concerns about the protection of green wedge areas, particularly the areas that contain important tourism, agricultural and biodiversity values.</p>	<p>Consideration has been given to the agricultural, environmental and economic values associated with land in the green wedges in determining the location of the Urban Growth Boundary. These have been balanced against the need to accommodate 284,000 dwellings in the growth areas.</p> <p>A major outcome of the current process is the establishment of 15,000 ha of protected grassland reserves.</p> <p><i>Melbourne 2030</i> always contemplated the need for areas adjacent to growth areas to be considered for future urban use. In this circumstance, the preparation of Growth Area Framework Plans was seen as the appropriate mechanism to resolve any interface tensions.</p> <p>The Strategic Assessment process under the <i>Environment Protection Biodiversity and Conservation Act 1999</i> has ensured consideration of matters of national environmental significance. The two transport projects have also been assessed under the <i>Environment Effects Act 1978</i>.</p>
<p>Transport infrastructure in new growth areas Some submissions raised issues about the lack of public transport infrastructure to support new communities in the Investigation Areas, and the importance of implementing public transport priorities to ensure the liveability of the growth areas.</p>	<p>One of the key directions of <i>Melbourne 2030</i> is to concentrate urban expansion into growth areas that are, or can be, served by high-capacity public transport. This is reaffirmed in <i>Melbourne @ 5 million</i>.</p> <p>There are a number of initiatives outlined in The Victorian Transport Plan to deliver high-capacity public transport services in the growth areas including:</p> <p>Short term commitments</p> <ul style="list-style-type: none"> > Regional Rail Link > Metro rail extensions to Sunbury and South Morang > New train stations > New and upgraded bus services <p>Medium term initiatives</p> <ul style="list-style-type: none"> > Melton rail line upgrade > Cranbourne East rail extension <p>Long term considerations</p> <ul style="list-style-type: none"> > Protection of a range of long-term options to extend rail services within the Investigation Areas <p>Growth Area Framework Plans will comprehensively address future transport needs.</p>

<p>Land outside the Investigation Areas</p> <p>A number of submissions were received from submitters outside the Investigation Areas, requesting that their land be included in the revised Urban Growth Boundary. Some of these submitters based this request on the premise that the exclusion of their land in the Investigation Area (or the existing Urban Growth Boundary) was an 'anomaly' that should be corrected through the Urban Growth Boundary review process.</p>	<p>The land included in the Investigation Areas was based on a consideration of the population projections and a preliminary assessment of areas that might prove most suitable for creating sustainable new communities.</p> <ul style="list-style-type: none"> > The Investigation Areas are extensions of existing growth areas and take advantage of existing or proposed arterial road networks and existing and potential public transport networks. > More land was included in the Investigation Areas than is ultimately required for urban development, to allow for identification of constrained areas that are not developable. > The land referred to in a number of submissions is not within close proximity (i.e. within three kilometres) of an existing or potential high capacity public transport corridor. This is one of the important guiding principles for determining land to be included in the approved Urban Growth Boundary. > The process to review the Urban Growth Boundary does not include an assessment of the 'anomalies' raised by submitters. It is noted that upon introduction of the Urban Growth Boundary in 2002, the Government ran a process to address 'anomalies'.
<p>Growth Areas Infrastructure Contribution</p> <p>Many submissions indicated a lack of confidence that land values will increase to the extent required to pay the contribution, particularly for those land parcels expected to be furthest from the initial development fronts. A related concern raised was that rates may increase based on an increase in land values, forcing an early sale at a significantly lower price than would be achieved if the owner could afford to wait to sell.</p>	<p>This issue is generally considered to be out-of-scope, though the following comments are made.</p> <p>The public consultation period sought to inform the determination of the Urban Growth Boundary. The Victorian Government's policy decision to introduce the Growth Area Infrastructure Contribution was not part of this process, however the issues raised have been considered in finalising the Growth Areas Infrastructure Contribution Bill.</p> <p>The Growth Areas Infrastructure Contribution is to apply to all land that was brought into the Urban Growth Boundary in 2005, and additional land designated for urban development as part of the recent review.</p>

<p>Land Acquisition Submissions related to timing of the valuation process and mechanisms available for compensation.</p>	<p><i>The Land Acquisition and Compensation Act 1986</i> outlines the process by which Government will acquire land and compensate landowners affected by the reservation. In some circumstances, for example where there is a loss on sale or a relevant permit refusal, Part 5 of the Planning and Environment Act 1987 also entitles landowners affected by the reservation to compensation prior to any acquisition taking place.</p> <p>The State of Victoria has in place a “Policy and Instructions for the Purchase, Compulsory Acquisition and Sale of Land”. This document sets out the manner in which Ministers, departments and agencies are to conduct themselves during negotiations and requires Government to obtain proper valuation advice in the course of such transactions. The office of the Government Land Monitor has been established to oversee this process and ensure probity.</p>
<p>Detailed Planning and Suggestions for Proposed Land Uses Many submissions related to detailed land use planning.</p> <p>Councils also expressed strong interest in being involved in the Growth Area Framework Plan process.</p> <p>Numerous submissions were made about how individual parcels of land should be used and/or developed and some developer submissions included detailed planning work for particular areas, including master plans.</p> <p>Developers in some cases were requesting changes to the proposals based on this work.</p>	<p>The Review has not sought to finalise the specific land uses that may occur on land that is brought within the expanded Urban Growth Boundary. While a general settlement pattern has been considered, the resolution of a land use structure and broad land use categories will be determined through the preparation of Growth Area Framework Plans and at the more detailed level through the Precinct Structure Plan process.</p> <p>It would be premature to make decisions on work that had not been through these more detailed planning processes.</p> <p>Growth Area Framework Plans will be produced in consultation with Councils and will include an opportunity for community comment.</p>

<p>Airport Overlays Submissions were received requesting two countervailing positions. One to allow commercial activities to occur within the Melbourne Airport Environs Overlay, the other to expand the Melbourne Airport Environs Overlay based on 15 Australian Noise Exposure Forecast contour and prevent the encroachment of urban development in the area.</p>	<p>With respect to the position to allow activity within the Melbourne Airport Environs Overlay, the proposed areas are outside the designated Investigation Areas thus the requests are considered out-of-scope.</p> <p>As to an expanded Melbourne Airport Environs Overlay, this issue was considered by Parliament as recently as 2003 when it was resolved to utilise the 20 Australian Noise Exposure Forecast contour, as distinct from the '15', as the basis of the Overlay.</p> <p>The current Australian Noise Exposure Forecast system was agreed between the Commonwealth and State Planning Ministers in September 1991. The agreement supported the use of the Australian Noise Exposure Forecast system and, in particular, the 20 Australian Noise Exposure Forecast contour as the appropriate long-term land use planning tool for development of areas in the vicinity of airports.</p> <p>The Australian Government proposes to finalise its National Aviation Strategy late in 2009, which is considering national approaches to manage aircraft noise impacts in the vicinity of airports. It would be premature to make any decisions regarding the Airport Environs Overlay until the outcome of the National Aviation Strategy is known.</p>
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<p>Extractive industry A number of quarry owners and operators and industry bodies made submissions regarding extractive industry operations. The submissions relate to the protection of mineral resources within the extractive industry interest areas, and ensuring that existing and proposed quarries are not jeopardised by their inclusion within the Urban Growth Boundary (i.e. protection of buffers between existing quarries and other more sensitive land uses).</p> <p>Some submitters specifically requested that their quarry (existing or proposed) be excluded from the Urban Growth Boundary.</p> <p>Other submitters requested that their site be included in the Urban Growth Boundary on the basis that they intend to operate from the site in the short term only, and that their site (or part thereof) could potentially be used for urban purposes following rehabilitation.</p>	<p>The location of all existing and proposed quarries has been considered in determining the location of the approved Urban Growth Boundary, with the protection of quarry operations being a fundamental objective for the Review process.</p> <p>A number of quarries have been included in the approved Urban Growth Boundary. Both the quarries and their buffers have been identified as areas not suitable for development. In addition, it is intended that more detailed planning will occur through the preparation of Growth Area Framework Plans and Precinct Structure Plans to determine what activities can occur within the buffers. Appropriate zones will be put into place (if they are not already) to reflect the quarry operations and buffers.</p> <p>As discussed later it was not considered appropriate to create 'holes' within the Urban Growth Boundary.</p>
<p>Un-used Quarries Several submissions were received with regards the issue of un-used quarries and that they are suitable for development.</p>	<p>Due to the uncertainty of the future use of quarries and their rehabilitation it would be premature in most cases to identify the land as being appropriate for development in the absence of detailed site by site investigations, and it is proposed this occur during the preparation of a Precinct Structure Plan for the area.</p>
<p>Buffers and Non Urban Land A number of submissions were received regarding the extent of buffers, which were outlined as significantly constrained land i.e. not developable at this stage.</p>	<p>A precautionary approach has been taken in defining buffers and areas not for urban development. This approach was taken to ensure that the current and future use of the particular site had an appropriate buffer to protect the continued use (including the protection biodiversity and landscape values) and / or minimise the impact on adjacent areas.</p> <p>The Environment Protection Authority recommends buffer distances for sensitive uses and a precautionary approach was taken based on possible future uses of the sites.</p> <p>While land has been identified as not for urban development at this stage, it may be found to be appropriate for development at some future more detailed planning stage.</p>

<p>Landscape values A number of submissions raised the importance of protecting existing landscape values and major topographic features including remnant volcanic cones, hills, creeks, ridge lines and swamp areas.</p>	<p>There are a number of identified landscape values and topographic features that are considered worthy of protection within the growth areas and they have been identified as non-developable. The background paper on landscape values (released as part of the package of documents in June 2009 for public comment) provides further detail on the principles behind this approach.</p> <p>In most circumstances, more detailed planning is required to determine the final boundaries for these areas. This will occur during the Growth Area Framework Plan and Precinct Structure Plan processes.</p> <p>The requirements of a Growth Area Framework Plan include reference to the need to respond to landscape values, as do the Precinct Structure Planning Guidelines.</p>
<p>Intermodal freight terminal A number of submissions referred to the proposed intermodal freight hub in Beveridge, the associated traffic and amenity impacts associated with the facility, and whether it should be included in the proposed Urban Growth Boundary.</p>	<p>The <i>Victorian Transport Plan and Freight Futures</i> provide the policy basis for this facility, including its broad location. A location is now proposed in Beveridge, east of the existing Melbourne-Sydney rail line.</p> <p>More detailed planning on the specific objectives and functions of the facility, including its land use and transport requirements and its operational characteristics are still to be undertaken. Once these elements are more fully resolved appropriate planning controls will be put in place to facilitate its delivery.</p> <p>Access, traffic and amenity issues raised will be considered as part of this process.</p>
<p>'Holes' in the Urban Growth Boundary Some submissions requested that areas within the Urban Growth Boundary be excluded for various reasons.</p>	<p>When the Urban Growth Boundary was originally established, particular attention given to avoid creating holes or 'donuts' within the boundary for non-urban uses.</p> <p>The objective was to create a single contiguous boundary which defined the urban edge to Melbourne, recognising that a range of non urban activities and values would be included inside the boundary and that their management could be by a range of other planning controls.</p> <p>This approach to the delineation of an expanded boundary and non urban land has been maintained for this Review.</p>
<p>Utility Infrastructure Some submissions raised concerns about existing land uses, such as waste water treatment plants.</p>	<p>In the northern investigation area a new waste water treatment plant is required. The Government will investigate the most suitable location in Kalkallo / Donnybrook for this facility.</p>

<p>Biodiversity A number of submissions raised issues regarding the protection of important biodiversity values including remnant vegetation and grasslands, and natural systems including creeks, rivers and catchments.</p>	<p>The protection of identified biodiversity values and natural systems has been an important influence on the location of the proposed Urban Growth Boundary. Large areas of high conservation value were excluded from the proposed new Urban Growth Boundary. These will result in a 15,000 ha grassland reserve west of Melbourne and a 1200 ha grassy woodland reserve to Melbourne's north.</p> <p>Within the new Urban Growth Boundary large areas of native vegetation have been designated as unsuitable for development and protected with new planning controls. Biodiversity Conservation Strategies will be prepared for each growth area (including Sunbury). These will document the biodiversity values in more detail, establish further mechanisms for permanently protecting areas of native vegetation and identify key linkages and landscape connections for mobile fauna. These strategies will be submitted to the Commonwealth for approval and will inform the preparation of the Growth Area Framework Plans. Waterways will be protected with buffers and in some cases more targeted management and monitoring regimes. Merri Creek in the north will form an important spine to a network of retained areas of grassy woodlands, grasslands and threatened species habitats.</p> <p>Prescriptions have been developed for species likely to be significantly impacted. These prescriptions are binding on urban development, transport infrastructure and extractive industries and will guide decision makers on whether to retain the species on site or secure an offset for the species elsewhere. The prescription for Golden Sun Moth, for example, has already resulted in 300ha of grassland being set aside for protection within the urban area.</p> <p>Sub-regional strategies will be prepared for mobile species such as Growling Grass Frog and Southern Brown Bandicoot to identify and secure the necessary habitat and landscape connectivity that enables long-term sustainability of populations. These strategies will be used to prepare Biodiversity Conservation Strategies and will guide Precinct Structure Planning. Detailed surveys for many other species that may potentially occur will be undertaken prior to precinct design or transport planning, and if detected a prescription will be developed to manage the species to the satisfaction of the Commonwealth.</p> <p>Long-term protection targets and outcomes have been established for species and ecological communities. These will be used as part of government commitments to a well resourced adaptive management approach, increased data gathering and a comprehensive monitoring and reporting framework.</p>
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<p>Smaller areas with Significant Biodiversity Some submissions related to smaller less strategic areas as having biodiversity values and that these areas should be marked as constrained.</p>	<p>Some smaller areas with known high biodiversity values will be protected within the expanded Urban Growth Boundary. However in general the Strategic Impact Assessment focussed on larger more strategic areas, with processes established for identifying biodiversity issues at a finer scale during implementation.</p> <p>More detailed analysis and planning will take place firstly at the Growth Area Framework Plan stage and then in even greater detail at the Precinct Structure Plan stage. These processes will be guided by the Strategic Impact Assessment prescriptions, the Precinct Structure Planning Guidelines and the Biodiversity Conservation Strategies to be prepared for each growth area.</p>
<p>Agriculture Submissions were received in relation to the protection of agricultural land, particularly in the south-east Investigation Area. Equally submissions were received supporting the proposed change in status of the agricultural land to urban development.</p>	<p>The Governments considerations in this area have needed to balance a range of issues, including:</p> <ul style="list-style-type: none"> > A need to provide additional residential land supply in the south east which best delivers on the growth management objectives as outlined in Section 3; > A recognition that if not provided in this area an alternate location would need to be assessed against the benefits of retaining the agricultural land; > The proximity of the Clyde area to exiting regional urban infrastructure include major activity centres, TAFE and a range of recreational facilities; > The significant size of the wider agricultural precinct, that among other things provides the potential for relocation options which allows the opportunity to upgrade farming practices (recognising this has been a common practice for this type of intensive agricultural activity); > Land ownerships.
<p>Waterways Some submissions related to the extent of land constrained along waterways.</p>	<p>Drainage advice provided the base information for the planning of waterways in the Investigation Areas. This information was complimented by the biodiversity assessments which examined remnant riparian habitats.</p> <p>In the context of the biodiversity information all major waterways are proposed to be constrained from development and a 100 metre buffer has been assumed along them to protect their biodiversity values.</p> <p>Further work will occur during framework planning and precinct structure planning to review the extent of land that is constrained.</p>

<p>No Existing Planning Controls Submissions were received to show areas as constrained for values not yet recognised in Planning Schemes. An example of this was to show areas as constrained due to heritage values, where no heritage overlays existed.</p>	<p>Where issues are raised that require new planning controls to be applied it is appropriate to address this on a case by case basis or at the Growth Area Framework Planning and Precinct Structure Planning stages.</p>
<p>Melbourne's Hinterland Some submissions related to issues in Melbourne's hinterland, particularly to the north in the vicinity of Wallan.</p>	<p><i>Melbourne @ 5 million</i> acknowledges the growth pressures being experienced in the area within about 100 kilometres of Melbourne (Melbourne's hinterland). This continues a trend that has been evident over the past two decades, where housing and population growth in the hinterland, both in towns and rural landscapes, has been considerable and sustained.</p> <p>The Green Wedge Zones which are utilised in metropolitan fringe councils provide a high degree of protection for this part of the hinterland. It safeguards agricultural uses and preserves rural and scenic landscapes, non-renewable resources and natural areas including water catchments. Green Wedge Management Plans are being progressively prepared for all twelve Green Wedge areas, and will further provide guidance on the protection and preservation of values in the green wedge areas.</p> <p>Outside the metropolitan fringe councils, the remaining areas of the hinterland are essentially part of regional Victoria and policy issues for this area will be considered as part of the Government's blueprint for provincial Victoria. The blueprint will set a broad framework for the future development of prosperous, liveable and sustainable regional communities. A set of criteria to guide settlement planning within 100 kilometres of Melbourne, as proposed in <i>Melbourne @ 5 million</i>, will form part of this blueprint.</p> <p>For the proposed expansion of the Urban Growth Boundary the issue of managing hinterlands is particularly relevant for the Shire of Mitchell, particularly for the township of Wallan.</p> <p>In the Shire of Mitchell green wedge planning controls do not apply, and outside the proposed urban areas it will be the strategic application of a range of planning controls which will ensure the varied values of the area are protected.</p> <p>For Wallan an important issue will be its role vis-à-vis the future growth area of Beveridge. It is therefore proposed that the Department of Planning and Community Development lead work with the Council aimed at preparing both an updated plan for Wallan and appropriate controls to manage the land at the interface with the Urban Growth Boundary.</p>

Alignment for the Outer Metropolitan Ring / E6 Transport Corridor

Proposed Major Corridor Changes

Reasons for not changing the proposed Outer Metropolitan Ring / E6 Transport Corridor alignment (Strategic Issues - Refer to Map 8)

Map Ref	Location	Change Proposed	Explanation why proposed change is not accepted
8ER1/ER2, 8-NS/WM, 8-KK	Rockbank, Diggers Rest, Mickleham	A number of submitters sought corridors that were discussed and rejected in the Outer Metropolitan Ring /E6 Transport Corridor Planning Assessment Report.	The reasons for recommending the displayed corridor were set out in the Planning Assessment report. No new evidence was presented in submissions that justified a change of corridor.
8-SB	Diggers Rest	Some submitters proposed an option to the south of Diggers Rest that would require passing to the south of Bulla.	<p>A corridor option further to the south would either impact on Organ Pipes National Park or pass to the north of Organ Pipes National Park and require multiple crossings of Jacksons Creek.</p> <p>This proposed corridor option would not provide as a direct a connection for the Outer Metropolitan Ring/E6 Transport Corridor, it would result in a longer route and due to the bridges required, would have considerably higher construction costs and/or would have unacceptable impacts on the Organ Pipes National Park.</p>
8-EW	Epping / Woodstock / Wollert	<p>A number of submissions sought that the E6 should only be constructed as an arterial road and only as far north as Bridge Inn Road.</p> <p>A number of submissions indicated that the existing arterial road network should be upgraded in preference to constructing the E6 as a freeway.</p>	<p>It is accepted and agreed that preference should be given to upgrading the existing arterial road network before constructing a new freeway in a new alignment corridor. It is likely that the E6 would be constructed as an arterial in the first stage.</p> <p>High level strategic transport modelling clearly indicates that, ultimately, north-south travel demand in the corridor will be of such a level as to require the construction of a six lane freeway in the E6 corridor, even with widening of the Hume Freeway to four lanes in each direction.</p>

			Hence, it is considered prudent planning to enable a future government to have the ability to determine whether to construct a freeway within the E6 reservation. Previous experience has shown that it is very costly and disruptive to seek to upgrade an arterial to a freeway at a later date if this requirement has not been allowed for and incompatible development has occurred adjacent to a road corridor.
8-EW	Epping / Woodstock / Wollert	Several submissions sought an alignment for the E6 further to the east to create what the submitters consider would be a more complete ring road of outer Melbourne. Such a corridor would need to connect the Outer Metropolitan Ring / E6 Transport Corridor to the Eastern Freeway / EastLink through Warrandyte and Eltham, or Lilydale.	<p>The environmental and social impacts of this option would be expected to be major, and would be larger than the environmental and social impacts of the recommended option, as there is not a reserved corridor for such a proposal through any areas of low environmental values. Such a corridor, as suggested, would serve a less populated area, with consequent lesser usage and would therefore have fewer transport user benefits than the recommended option.</p> <p>For longer distance travel, the recommended option would make use of existing corridors such as the Metropolitan Ring Road and the Eastern Freeway/EastLink, thereby maximising the use of investment in existing corridors.</p>

Localised proposals

Reasons for not changing the proposed Outer Metropolitan Ring / E6 Transport Corridor alignment (Local Issues - refer to Map 7)

Map Ref	Location	Change Proposed	Explanation why proposed change is not accepted
9-2/ 9-3	Wyndham Vale (Black Forest Road to Ballan Road)	A number of submitters suggested a westward shift of the OMR/E6 alignment.	Such a shift would be expected to result in the Outer Metropolitan Ring / E6 Transport Corridor impacting on the proposed grassland reserve.
9-5	Rockbank (Middle Road to Western Highway)	Submitters sought that the OMR/E6 alignment be shifted either west of Troups Road, or at least further west on their properties, just to the east of Troups Road.	<p>An alignment west of Troups Road is not acceptable as it would impact on the proposed grassland reserve.</p> <p>It was not considered feasible to shift the OMR/E6 alignment further west as it would also be located further west on the northern side of the Western Highway. This would impact adversely on proposed urban development to the west. An alternative alignment would also result in three extra homes/buildings needing to be acquired from other properties.</p>
9-6	Rockbank – Greigs Road to Tarletons Road (part)	Locate the OMR/E6 up to 870m further to the east (Option B) of the originally displayed alignment (Option A)	<p>Option B is considered to have a poorer land use outcome than the originally displayed Option A. It would reduce the area available for urban development east of the OMR/E6. It would leave less area for high quality development adjacent to Kororoit Creek. The area to the west of the OMR/E6 with the original Option A would still be a large viable development area.</p> <p>The impact of the original Option A on the Deanside Wetland is not considered to be so significant as to require relocation of the OMR/E6.</p> <p>Option B would impact an additional 8 houses/buildings (30 compared with 22) and would be 300m longer (6.6 km compared with 6.3 km). Option B would also impact on other wetlands and leave some properties trapped between a new subdivision and the Creek.</p>
9-7	Rockbank - near Tarleton Road	A submission suggested a westward shift of the OMR to avoid a flood prone area and to reduce the impact on houses.	The proposed transport corridor does not need to be moved to avoid the flood prone area because the transport corridor can cross this area using a bridge, pipes or culverts.

9-8	Plumpton (Melton Highway to Calder Freeway)	Submitters in the vicinity of Holden Road/Plumpton Road sought an alignment shift further to the east to avoid homes and to place the alignment further into the Airport Environs Overlay area.	<p>The alignment of the OMR/E6 transport corridor south of the Melton Highway has been selected to minimise impacts on future development. The alignment of the OMR/E6 Transport Corridor in the vicinity of the Calder Freeway has been selected to minimise impacts on Calder Park and Diggers Rest.</p> <p>It is important for the OMR/E6 Transport Corridor to cross the Melton Highway at a right angle to facilitate development south of the Melton Highway.</p>
9-9	Diggers Rest – Bulla-Diggers Rest Road Interchange	Submitters sought to maintain the interchange of Bulla-Diggers Rest Road with the Calder Freeway.	<p>The current Calder Freeway/Bulla-Diggers Rest Road interchange is located too close to the proposed Outer Metropolitan Ring / Calder freeway interchange to enable safe operation of both without costly ramp braiding or other treatment works.</p> <p>Alternative access to the area to the north is available via the existing Calder Freeway/Vineyard Road interchange. Additionally, there is planning underway for a new interchange on the Calder Freeway at Calder Park Drive. This interchange will incorporate access to Duncans Lane to the south via Thompsons Road, thus providing access to the area to the east of the Calder Freeway at Diggers Rest.</p> <p>Consultation is required to determine the need for any further complementary work to upgrade the local road network to be undertaken to maintain a similar standard of road access to the area to that which currently exists (eg bridge strengthening to maintain access for heavy vehicles).</p>
9-10/9 DL	Diggers Rest	Submitters sought relatively minor shifts of the OMR/E6 to reduce the impact on their properties.	<p>The location of the OMR/E6 Transport Corridor is limited by the need to achieve satisfactory crossing locations of Jacksons Creek and Deep Creek and by the need for a satisfactory interchange location with the Calder Freeway. Hence, it is not feasible to realign the OMR/E6 Transport Corridor through this area.</p> <p>However, further investigation of the OMR/E6 Transport Corridor revealed that it is possible to amend the proposed right of way slightly to minimise property acquisition and access impacts in the vicinity of Duncans Lane. Key changes</p>

			include realigning of Duncans Lane and reducing the OMR/E6 land requirement in the vicinity of the Calder Freeway/OMR/E6 interchange.
9-11	Mickleham / Konagaderra Springs	Submitters in the vicinity of Mickleham sought an alignment shift to the east to avoid properties in the Bardwell Drive/Parkland Crescent area.	Option 1e considered in the Planning Assessment Report was located east of Mickleham Road in this area. This option was ruled out because of its impacts on areas of biodiversity significance and cultural heritage in the Mickleham / Mount Ridley area, including the 'Avenue of Honour' located on Mickleham Road.
9-12	Mickleham - Donnybrook Road to Hume Freeway and east of Merri Creek	<p>Locate the OMR/E6 Transport Corridor further to the north/west (Option B) of the originally displayed alignment (Option A).</p> <p>Enable the provision of an additional interchange to serve adjoining land on the Hume Freeway north of Donnybrook Road.</p>	<p>Option B would reduce the catchment area for the activity centre north of the OMR/E6 relatively close to where that centre would be located while not substantially increasing the primary catchment area for the Merrifield activity centre, as access to that centre and development would be constrained by the flood retention basin.</p> <p>Option B would have greater potential for adverse landscape implications on the hills on the western side of the valley. It would also impact more significantly on properties on the east side of Mickleham Road severing houses from dams and other agricultural infrastructure.</p> <p>An additional interchange to serve the adjoining land could be located within the OMR/E6 Hume Freeway interchange area, if required. This will need to be considered further in the Growth Area Framework Planning process.</p>
9-14	Mickleham - Donnybrook Road to Hume Freeway)	A submitter sought that the OMR/E6 alignment be moved south to lessen the impact on the Alma Vale property.	A southward shift of the alignment would potentially increase the adverse impact on the Melbourne Water retarding basin. While it would increase the developable land on the north, this would be offset by a decrease in the area of developable land on the south side, with little net effect.
9-16	Wollert – Bridge Inn Road	A submitter sought a significant alignment shift to avoid the proposed quarry near the south-east corner of Epping Road and Bridge Inn Road, Wollert.	It is not possible to design an alignment that would pass to the west of the proposed quarry property, and also avoid an area of land, to be developed for housing which is within the existing Urban Growth Boundary and has an approved structure plan. Alignments which avoid proposed quarry land on the southeast corner of Epping Road and Bridge Inn Road would pass through quarry land north of Bridge Inn Road.

			In order to avoid property on the west side of Epping Road, the impact on quarry land of the revised Option B would instead be greater.
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Map 8: Suggested Alternative Corridor Options to Displayed Outer Metropolitan Ring / E6 Transport Corridor Alignment

Map showing the suggested alternative corridor options to the displayed Outer Metropolitan Ring / E6 Transport Corridor alignment.

Map 9: Suggested Changes to Displayed Outer Metropolitan Ring / E6 Transport Corridor Alignment

Map showing the suggested changes to the displayed Outer Metropolitan Ring / E6 Transport Corridor alignment.

[Attachment C]**Strategic Assessment Endorsement Criteria - Revised**

When deciding whether to endorse a policy, plan, or program the Minister must be satisfied that the assessment report adequately addresses the impacts to which the agreement relates and that any recommendations to modify the policy, plan or program have been responded to appropriately.

In determining whether or not to endorse the Program the Minister will have regard to the extent to which the Program meets the objectives of the Act. In particular that it:

- protects the environment, especially matters of national environmental significance
- promotes ecologically sustainable development
- promotes the conservation of biodiversity
- provides for the protection and conservation of heritage.

Accordingly, the Program and Final Report should:

- incorporate mechanisms which avoid the taking of actions in any location that will have an impact on matters of national environmental significance or are of high biodiversity or heritage value; or
- provide that where impacts can not be avoided, then the impacts should be reduced to an acceptable level
- provide for effective management, mitigation or offset of the likely impacts
- contain an effective system of adaptive management that is independently audited and publicly reported.

The Minister will also consider the extent to which the Program and its associated Final Report adequately incorporates:

- the precautionary principle
- the other principles of ecologically sustainable development
- intergenerational equity
- matters the Minister considers to have a high likelihood of being potentially eligible for listing as matters of national environmental significance.

4. The Program should clearly describe the commitment of the Victorian Government to involve the Australian Government and/or the department in the review or approval of specified key documents, strategies and plans, for example the biodiversity strategy and species prescriptions, that will inform and influence actions taken in the Program area. This will provide a foundation for robust adaptive management processes and clarify roles, responsibilities and expectations for future decision-making processes.
5. Describe the method(s) used to determine the size or percentage thresholds for retention of specific species or populations, as contained in the proposed prescriptions within the impact assessment report. It is important that the basis of these settings be transparent, particularly where social and economic considerations are relevant factors, noting that there is a high degree of public interest in this issue.

On a separate matter, to improve the clarity of the endorsement decision, I would like to refine the endorsement criteria within Attachment C to the strategic assessment agreement of 16 June 2009. Under the terms of that agreement, this may be done through an exchange of letters.

Where the endorsement criteria specifies “...*incorporates mechanisms which prevent actions being taken in any location that have an impact on matters of national environmental significance*”, I suggest modifying the language to reflect the avoidance of actions, rather than prevention. Where the criteria state “...*impacts should be less than significant*”, I suggest the use of “...*impacts should be reduced to an acceptable level*” as the term “significant” has a particular meaning under the EPBC Act that is not directly relevant in this instance.

These changes are marked in the enclosed draft revised endorsement criteria. If you are amenable to these changes, please include a statement to that effect in your response to this letter. I have also written on similar terms to the Hon Justin Madden MLC, Victorian Minister for Planning.

I look forward to receiving the modified program and would like to take this opportunity to thank the Victorian officials for all the assistance they have provided to the department during this assessment.

Yours sincerely

s. 22(1)(a)(ii)

A/g Assistant Secretary
Strategic Approvals and Legislation Policy Branch
2 October 2009

cc s. 22(1)(a)(ii) Department of Sustainability and Environment



Australian Government

Department of the Environment, Water, Heritage and the Arts

The Hon Gavin Jennings MLC
 Minister for Environment and Climate Change
 Level 22
 50 Lonsdale St
 MELBOURNE VIC 3000

Dear Minister

Thank you for the submission of the Program and impact assessment reports relating to *Delivering Melbourne's Newest Sustainable Communities* on 14 August 2009. I note that these reports are submitted pursuant to the strategic assessment agreement of 16 June 2009 for assessing the expansion of Melbourne's urban growth boundary (UGB) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Officers of this department have been reviewing the information presented in those documents and working closely with Victorian Government officials to ensure a high degree of certainty for Minister Garrett when deciding whether to endorse the Program and, subsequently, approve actions taken in accordance with it.

There remain, however, a number of key elements of the Program that would benefit from further explanation or clarification, prior to endorsement. In accordance with the terms of the strategic assessment agreement I, as delegate of the Minister for the Environment, Heritage and the Arts, would like to recommend that the following five modifications be made to the reports submitted on 14 August 2009. This information will ensure that the department is able to provide a detailed and comprehensive Program endorsement briefing to Minister Garrett.

1. The inclusion of a map indicating the general location of the proposed smaller reserves inside the UGB. This will illustrate Victoria's commitment to retaining areas of high biodiversity across the urban landscape and protecting matters of national environmental significance (NES).
2. Clarification be provided of the actions to which the Program is intended to relate. Additionally, if any of these actions will impact on matters of NES in a manner not addressed in the impact assessment report, including through indirect consequential impacts, please provide further details.
3. The Program commit to submitting a "Grassy Eucalypt Woodland of the Victorian Volcanic Plain Strategy" to the Minister for approval, following endorsement. This strategy would be expected to provide a commensurate level of integrated and contiguous protection to that established within the Program for the Natural Temperate Grassland of the Victorian Volcanic Plain, which is also listed as critically endangered under the EPBC Act. It is expected that the approval of this strategy would be necessary before actions impacting on the woodlands could be approved.





The Hon Peter Garrett AM MP

Minister for the Environment, Heritage and the Arts

The Hon Gavin Jennings MLC
Minister for Environment and Climate Change
Level 22
50 Lonsdale St
MELBOURNE VIC 3000

Dear Minister

Gavin

Further to my letter of 3 December 2009 and following discussions between officers of our departments, I write to recommend the following modifications to the program titled *Delivering Melbourne's Newest Sustainable Communities* under the strategic assessment to expand Melbourne's Urban Growth boundary.

As the program cannot be varied or amended once endorsed, I am recommending that the modifications outlined below be made to allow greater transparency and adaptability and more robust decision-making over the intended 20 to 30 year operating period of the program.

1. To clarify the process for identifying, reporting and rectifying non-compliance with the program, I recommend the following requirements be included:

- i. The public reporting of activities and outcomes of the program to improve transparency and accountability. In particular, the reporting should clearly account for offsets obtained in relation to matters of national environmental significance (NES) impacted through implementation of the program.
- ii. The inclusion of a commitment to a 5-yearly independent review of the program, with a scope to be determined by agreement between the parties within 18 months of endorsement, to report on all aspects of the program's operation, with any further actions arising from this review to be agreed between the Commonwealth and the Victorian Government.
- iii. A dispute resolution mechanism in the program to minimise potential conflict in relation to the operation of the program. This mechanism should define the process for handling a disagreement in the application of the program.
- iv. A clear articulation of the continuing compliance relationship between approval holders and the Australian Government, including the ability to pursue compliance action for a failure to comply with requirements of approval or for taking actions that are not covered by a valid approval.

- v. Further clarification that a failure to deliver a conservation outcome or to comply with a procedural requirement specified in the program may result in any approval under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) no longer being valid for any related and subsequent actions. The process to be followed if such a non-conformance is detected should also be documented in the program, including a statement that I will be required to approve any remedial actions and these actions must be undertaken to my satisfaction.

2. To provide more certainty regarding to the proposed Woodland Reserve:

I understand that the proposed reserve for the Grassy Eucalypt Woodland of the Victorian Volcanic Plain (woodland) ecological community has not undergone the same public consultation process as the western grassland reserve. However, I note that at present the program does not provide the same level of certainty for the establishment of a conservation reserve for the protection of the woodland ecological community relative to the proposals for the western grassland reserves.

I am recommending that the program include further information on the process that will be used to establish the proposed woodland reserve and greater clarity regarding the Victorian Government commitments in that regard, including but not limited to:

- i. The identification of the funding, acquisition and other legal protection mechanisms that will be used to secure the protection of the woodland reserve.
- ii. The development of an adaptive management, monitoring and reporting plan.
- iii. Progress reports on the establishment of the woodland reserve and the interim management activities undertaken therein, at a similar frequency to that of the progress reports for the grassland reserves in the program.
- iv. The preparation and implementation of arrangements for the long term protection and management of the proposed reserve after the term of the interim management plan has concluded, for example the preparation of a National Park or Reserve Management Plan.

3. To provide assurance regarding offsetting requirements

- i. The provision of further details regarding the timing, security and delivery mechanisms that all offsets proposed under the program must comply with, to ensure that minimum standards and consistent requirements are maintained.

4. To improve the program's ability to respond to new information and activities in relation to matters of national environmental significance:

- i. A statement clarifying the triggers for revising prescriptions, which could include:
 - Any new recovery plan or policy statement relevant to any matter of national environmental significance (NES) subject to a prescription,
 - Any new substantial scientific information relating to a relevant matter of NES brought up by either party and as agreed;
 - Any indication that relevant conservation outcomes described in the program, conservation strategies or sub-regional species strategies may become unachievable.



The Hon Peter Garrett AM MP

Minister for the Environment, Heritage and the Arts

The Hon Justin Madden MLC
Minister for Planning
Level 17
8 Nicholson Street
EAST MELBOURNE VIC 3000

Dear Minister

A handwritten signature in blue ink, appearing to read 'Justin'.

Further to my letter of 3 December 2009 and following discussions between officers of our departments, I write to recommend the following modifications to the program titled *Delivering Melbourne's Newest Sustainable Communities* under the strategic assessment to expand Melbourne's Urban Growth boundary.

As the program cannot be varied or amended once endorsed, I am recommending that the modifications outlined below be made to allow greater transparency and adaptability and more robust decision-making over the intended 20 to 30 year operating period of the program.

1. To clarify the process for identifying, reporting and rectifying non-compliance with the program, I recommend the following requirements be included:

- i. The public reporting of activities and outcomes of the program to improve transparency and accountability. In particular, the reporting should clearly account for offsets obtained in relation to matters of national environmental significance (NES) impacted through implementation of the program.
- ii. The inclusion of a commitment to a 5-yearly independent review of the program, with a scope to be determined by agreement between the parties within 18 months of endorsement, to report on all aspects of the program's operation, with any further actions arising from this review to be agreed between the Commonwealth and the Victorian Government.
- iii. A dispute resolution mechanism in the program to minimise potential conflict in relation to the operation of the program. This mechanism should define the process for handling a disagreement in the application of the program.
- iv. A clear articulation of the continuing compliance relationship between approval holders and the Australian Government, including the ability to pursue compliance action for a failure to comply with requirements of approval or for taking actions that are not covered by a valid approval.

- v. Further clarification that a failure to deliver a conservation outcome or to comply with a procedural requirement specified in the program may result in any approval under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) no longer being valid for any related and subsequent actions. The process to be followed if such a non-conformance is detected should also be documented in the program, including a statement that I will be required to approve any remedial actions and these actions must be undertaken to my satisfaction.

2. To provide more certainty regarding to the proposed Woodland Reserve:

I understand that the proposed reserve for the Grassy Eucalypt Woodland of the Victorian Volcanic Plain (woodland) ecological community has not undergone the same public consultation process as the western grassland reserve. However, I note that at present the program does not provide the same level of certainty for the establishment of a conservation reserve for the protection of the woodland ecological community relative to the proposals for the western grassland reserves.

I am recommending that the program include further information on the process that will be used to establish the proposed woodland reserve and greater clarity regarding the Victorian Government commitments in that regard, including but not limited to:

- i. The identification of the funding, acquisition and other legal protection mechanisms that will be used to secure the protection of the woodland reserve.
- ii. The development of an adaptive management, monitoring and reporting plan.
- iii. Progress reports on the establishment of the woodland reserve and the interim management activities undertaken therein, at a similar frequency to that of the progress reports for the grassland reserves in the program.
- iv. The preparation and implementation of arrangements for the long term protection and management of the proposed reserve after the term of the interim management plan has concluded, for example the preparation of a National Park or Reserve Management Plan.

3. To provide assurance regarding offsetting requirements

- i. The provision of further details regarding the timing, security and delivery mechanisms that all offsets proposed under the program must comply with, to ensure that minimum standards and consistent requirements are maintained.

4. To improve the program's ability to respond to new information and activities in relation to matters of national environmental significance:

- i. A statement clarifying the triggers for revising prescriptions, which could include:
 - Any new recovery plan or policy statement relevant to any matter of national environmental significance (NES) subject to a prescription,
 - Any new substantial scientific information relating to a relevant matter of NES brought up by either party and as agreed;
 - Any indication that relevant conservation outcomes described in the program, conservation strategies or sub-regional species strategies may become unachievable.

- ii. A process describing how the revision of prescriptions would be conducted, including a statement that Australian Government approval of revised prescriptions is required within a specified period following the revision being agreed to, or the prescription will lapse and no further authorisation of impacts on the relevant matter of NES would be permitted under the program until an approved prescription is in place.

I have instructed my department to continue working closely with Victorian officials to implement these modifications as soon as practicable. The long-term and complex nature of the program requires our best efforts to ensure the achievements will be obtained and any issues are resolved quickly. I believe that the time invested now in improving and clarifying the program as described above will greatly assist future implementation.

I have written in similar terms to Minister Jennings.

Yours sincerely

A handwritten signature in blue ink, appearing to be 'Peter Garrett', written over the typed name. The signature is stylized and cursive.

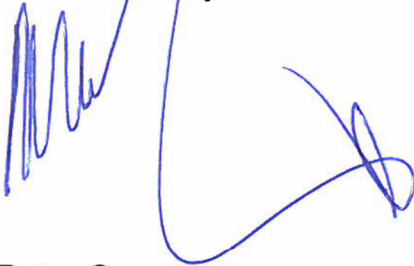
Peter Garrett

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I have written in similar terms to Minister Madden.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Peter Garrett', with a large, stylized flourish extending to the right.

Peter Garrett

Attachment I**Strategic Assessment Endorsement Criteria**

When deciding whether to endorse a policy, plan, or program the Minister must be satisfied that the assessment report adequately addresses the impacts to which the agreement relates and that any recommendations to modify the policy, plan or program have been responded to appropriately.

In determining whether or not to endorse the Program the Minister will have regard to the extent to which the Program meets the objectives of the Act. In particular that it:

- *protects the environment, especially matters of national environmental significance*
- *promotes ecologically sustainable development*
- *promotes the conservation of biodiversity*
- *provides for the protection and conservation of heritage.*

Accordingly, the Program and Final Report should:

- *incorporate mechanisms which avoid the taking of actions in any location that will have an impact to matters of national environmental significance or are of high biodiversity or heritage value; or*
- *provide that where impacts can not be avoided, then the impacts should be reduced to an acceptable level*
- *provide for effective management, mitigation or offset of the likely impacts*
- *contain an effective system of adaptive management that is independently audited and publicly reported.*

The Minister will also consider the extent to which the Program and its associated Final Report adequately incorporates:

- *the precautionary principle*
- *the other principles of ecologically sustainable development*
- *intergenerational equity*
- *matters the Minister considers to have a high likelihood of being potentially eligible for listing as matters of national environmental significance.*



**Notification of
DECISION TO ENDORSE THE PROGRAM TO REVISE MELBOURNE'S
URBAN GROWTH BOUNDARY**

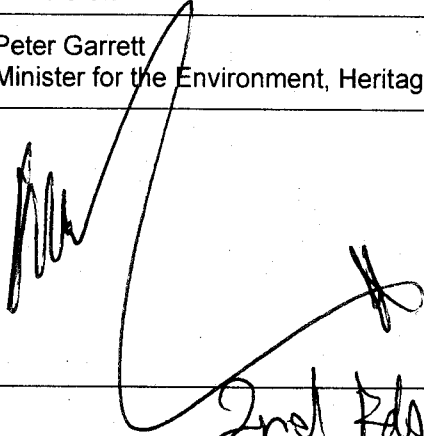
Delivering Melbourne's Newest Sustainable Communities: Program Report
(December 2009)

This decision is made under Section 146 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Endorsement decision

Policy, plan or program that is endorsed	Delivering Melbourne's Newest Sustainable Communities: Program Report (December 2009)
Content of the policy, plan or program	The program contains the framework for implementing urban development and associated transport infrastructure within Melbourne's existing and revised urban growth boundary, measures to avoid, mitigate and offset impacts and conservation outcomes to be met for matters of national environmental significance.

Person authorised to make decision

Name and position	Peter Garrett Minister for the Environment, Heritage and the Arts
Signature	
Date of decision	2nd February 2010



The Hon Peter Garrett AM MP

Minister for the Environment, Heritage and the Arts

The Hon Gavin Jennings MLC
Minister for Environment and Climate Change
Level 22
50 Lonsdale St
MELBOURNE VIC 3000

Dear Minister *Gavin*

-2 FEB 2010

Thank you for your letter regarding the Melbourne strategic assessment. I welcome your resubmission of the program document titled *Delivering Melbourne's Newest Sustainable Communities* that is currently under strategic assessment under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

As you are aware my Department has been working with Victorian Government officers to progress the strategic assessment of the program to revise Melbourne's urban growth boundary and associated transport infrastructure. The program has been developed to facilitate Melbourne's urban expansion while meeting the requirements of the EPBC Act.

After a comprehensive assessment phase I am pleased to advise you that I have endorsed the Program titled *Delivering Melbourne's Newest Sustainable Communities: Program Report (December 2009)*.

This endorsement paves the way for the future approval of actions or classes of actions to be taken in accordance with the endorsed program. It must be noted that this endorsement alone does not give EPBC Act approval for any action or class of actions to be taken in accordance with the program.

I look forward to working with you on the approvals phase of this strategic assessment, and in particular to working cooperatively to utilise the downstream planning processes to ensure protection of high biodiversity assets within the urban growth boundary, consistent with the overall objectives of the strategic assessment.

I thank you and your department for their hard work and cooperation to progress the strategic assessment to this stage.

Yours sincerely

Peter Garrett
Peter Garrett



The Hon Peter Garrett AM MP

Minister for the Environment, Heritage and the Arts

The Hon Justin Madden MLC
Minister for Planning
Level 17
8 Nicholson Street
EAST MELBOURNE VIC 3000

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-2 FEB 2010

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I look forward to working with you on the approvals phase of this strategic assessment, and in particular to working cooperatively to utilise the downstream planning processes to ensure protection of high biodiversity assets within the urban growth boundary, consistent with the overall objectives of the strategic assessment.

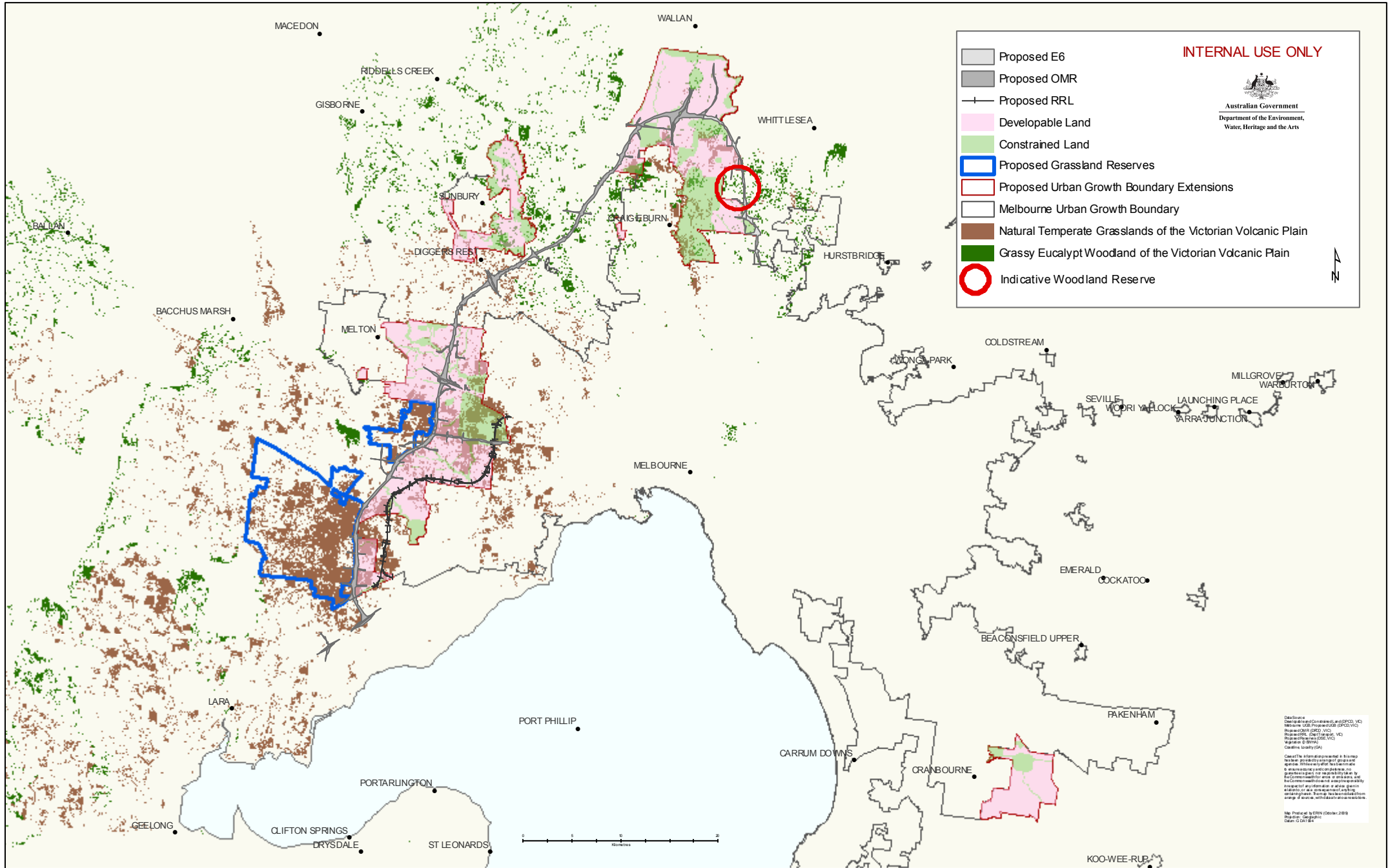
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Yours sincerely

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Peter Garrett

Melbourne Strategic Assessment





***ENVIRONMENT PROTECTION AND BIODIVERSITY
CONSERVATION ACT 1999
Part 10 Strategic Assessments
Section 146 (1) Agreement***

Relating to the assessment of impacts of the Program to revise Melbourne's
Urban Growth Boundary

between

THE COMMONWEALTH OF AUSTRALIA

and

THE STATE OF VICTORIA

1 PARTIES

1.1 The Parties to this Agreement are:

The Commonwealth of Australia, represented by the Minister for the Environment, Heritage and the Arts

and

The State of Victoria, represented by both the Minister for Environment and the Minister for Planning.

2 REVOCATION OF PREVIOUS AGREEMENT

2.1 By entering this agreement the Parties hereby revoke the previous agreement made under section 146(1) of the Act in relation to the assessment of impacts of the Program to revise Melbourne's Urban Growth Boundary signed on 4 March 2009.

3 DEFINITIONS

3.1 Unless stated otherwise in this Agreement, the definitions, meanings and terms in the *Environment Protection and Biodiversity Conservation Act 1999* apply to this Agreement and its attachments.

3.2 In this Agreement:

Melbourne @ 5 Million means the report *Melbourne 2030: a planning update - Melbourne @ 5 million* as published by the State of Victoria in December 2008.

Minister means the Minister for the Environment, Heritage and the Arts or delegate.

The Program means the Urban Growth Boundary (UGB) Review for Melbourne being undertaken by the State of Victoria and announced on 2 December 2008, for the development of land, including transport infrastructure, within:

- (i) the investigation areas shown in the *Melbourne @ 5 Million* Report (published by the State of Victoria in December 2008) including the subsequent extension to these areas as shown on the map at Attachment A; and
- (ii) areas inside the existing UGB for which a planning scheme amendment to introduce a Precinct Structure Plan has not commenced to be exhibited or does not remain on exhibition under sections 17-19 of the *Planning and Environment Act 1987* (Vic) as at 26 May 2009, as indicated on the map at Attachment A, and as definitively shown on the Growth Areas Authority map no. 3356/6, dated 26 May 2009.
- (iii) areas in the Outer Metropolitan Ring Transport Corridor, the E6 Transport Corridor and the Regional Rail Link Corridor between West Werribee and Deer Park discussed in the *Victorian Transport Plan* (published by the

State of Victoria on 8 December 2008) as shown on the Map at Attachment A.

The proposed detailed components of the Program will be set out in the *Delivering Melbourne's Newest Sustainable Communities* Report to be published in 2009 and other relevant documents, as they relate to the above areas. The final detailed components of the Program will be set out in a document which the State of Victoria will provide to the Minister for his consideration.

The Act means the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth).

Working days means a business day as measured in Canberra, ACT.

3.3 In this Agreement references to the singular include the plural.

4 PREAMBLE

- 4.1 The Parties agree that the areas and land associated with the Program have significant environmental values and significant environmental, social and economic values may be derived from implementing the Program.
- 4.2 Recognising those significant environmental values, the Parties commit to undertake an assessment of impacts of actions under the Program on all matters protected by Part 3 of the Act.

5 BACKGROUND

- 5.1 Section 146(1) of the Act allows the Minister to agree in writing with a person responsible for the adoption or implementation of a policy, plan or program that an assessment be made of the impacts of actions under the policy, plan or program on a matter protected by a provision of Part 3 of the Act. This Agreement is made pursuant to Section 146(1) of the Act.
- 5.2 The *Melbourne @ 5 Million* plan has identified environmental constraints to outward growth outside the current UGB (Attachment A).
- 5.3 The development of land for urban use within the areas covered by the Program will be subject to the State of Victoria Precinct Structure Planning process. Individual projects such as the Outer Melbourne Ring Road and Regional Rail Link identified in the *Victorian Transport Plan* will be subject to environment assessment and planning approval processes under Victorian law. In addition to requirements under the Act, the removal of native vegetation and associated habitats for urban expansion and major transport infrastructure will be subject to requirements for impact avoidance, minimisation and offsetting under the State of Victoria's Native Vegetation Management Framework.

6 OPTION TO UNDERTAKE ASSESSMENT, ENDORSEMENT AND APPROVAL PHASES OF THE STRATEGIC ASSESSMENT IN STAGES

- 6.1 The Parties may consult and agree to undertake the assessment of the impacts of the Program by assessing individual stages which, taken together, collectively make up the Program. Where the Parties agree on this approach, each stage will be assessed in accordance with section 146(2) of the Act and this Agreement.
- 6.2 If a staged assessment is required the Minister may issue a staged endorsement in accordance with clause 6.1.
- 6.3 The strategic assessment of any stage will form a discrete component of the Program, however any endorsement decisions will take into account the cumulative impacts of the entire Program.
- 6.4 Where a stage of the Program is assessed, this Agreement and Terms of Reference (Attachment B) shall be used.
- 6.5 Where a staged assessment is determined as necessary by the Parties, the public shall be notified by means of a public notice made available:
- (a) on the websites of the Growth Area Authority and the Department of Sustainability and Environment
 - (b) published in newspapers circulating nationally and in Victoria.

7 TERMS OF REFERENCE

- 7.1 This agreement provides for Terms of Reference (Attachment B) for a report on the impacts of the Program and consideration of the report by the Minister.

8 PREPARATION OF THE REPORT

- 8.1 The State of Victoria will cause a Draft Report to be prepared in accordance with this Agreement and the Terms of Reference (Attachment B).
- 8.2 The State of Victoria shall provide the Draft Report for public comment by notice:
- (a) posted on the websites of the State of Victoria, the Growth Area Authority and the Department of Sustainability and Environment
 - (b) published in newspapers circulating nationally and in Victoria.

The notice must advise that the Draft Report is available and how copies may be obtained, provide contact details for obtaining further information, invite public comments on the Draft Report and set a period of at least 28 days within which comments must be received. The Draft Report will be advertised for comment concurrent with the *Delivering Melbourne's Newest Sustainable Communities* Report. This notice should occur by the agreed date specified in Attachment D.

8.3 The Parties may each notify interested parties of the notice in paragraph 8.2 and of the availability of the Draft Report.

8.4 The State of Victoria will prepare a Revised Draft Report, or a Supplementary Report to the Draft Report, taking account of the comments received.

9 CONSIDERATION OF THE REPORT

9.1 Following the closure of public consultation period for the Draft Report, the State of Victoria will submit to the Minister:

- (a) the Final Report, comprised of
 - (i) the amended Draft Report or
 - (ii) the Draft Report and a Supplementary Report (clause 8.4)
- (b) any amended version of the *Delivering Melbourne's Newest Sustainable Communities* Report, or any report supplementary to it
- (c) public responses relating to the Draft Report
- (d) comments on how the public responses have been taken into account in the Final Report.

Submission of items in clause 9.1 should occur by the agreed date specified in Attachment D.

9.2 The Minister will consider the Final Report and:

- (a) The Minister may make recommendations to the State of Victoria, as he considers appropriate, regarding the Final Report and implementation of the Program
- (b) The State of Victoria may provide the Minister with advice, or seek clarification from the Minister on recommendations in subclause (a)
- (c) The State of Victoria will provide to the Minister a summary of the recommendations, advice or clarification in subclauses (a) and (b), and how they are incorporated into the Final Report and how modifications to the implementation of the Program will take effect
- (d) The Minister will consider the reports and other materials referred to in this clause and may accept the Final Report or request further information or clarification if not satisfied that it addresses adequately the impacts of the actions to which this Agreement relates.

10 ENDORSEMENT OF THE PROGRAM

10.1 The Minister will endorse the Program if satisfied the Report adequately addresses the impacts to which this Agreement applies and:

- (a) that any recommended modifications to the Program, or modifications having the same effect have been made
- (b) the endorsement criteria set out in Attachment C are met.

11 APPROVAL OF ACTIONS

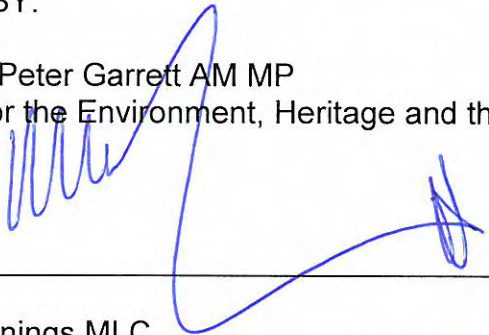
11.1 The Minister may approve, or approve with conditions, the taking of an action or class of actions in accordance with the endorsed Program, this Agreement and section 146B of the Act.

12 VARIATION

12.1 The Parties may vary this Agreement by an exchange of letters or electronic communications to the extent only that such variation is consistent with the provisions of the Act.

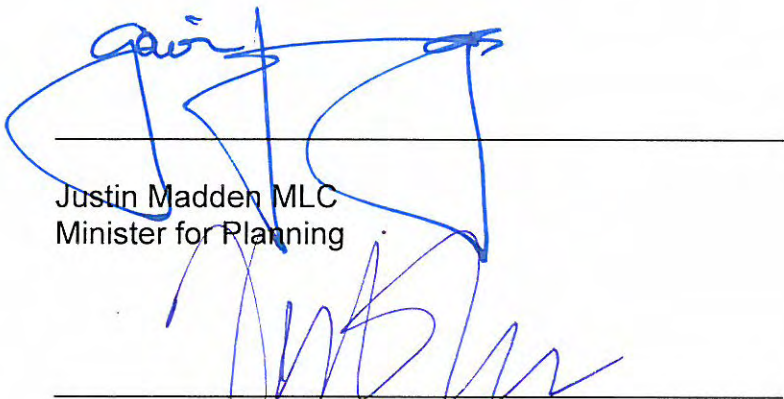
SIGNED BY:

The Hon. Peter Garrett AM MP
Minister for the Environment, Heritage and the Arts



Gavin Jennings MLC
Minister for Environment and Climate Change

Justin Madden MLC
Minister for Planning



Dated this 16th day of June 2009













Attachment A: Areas included within the Program

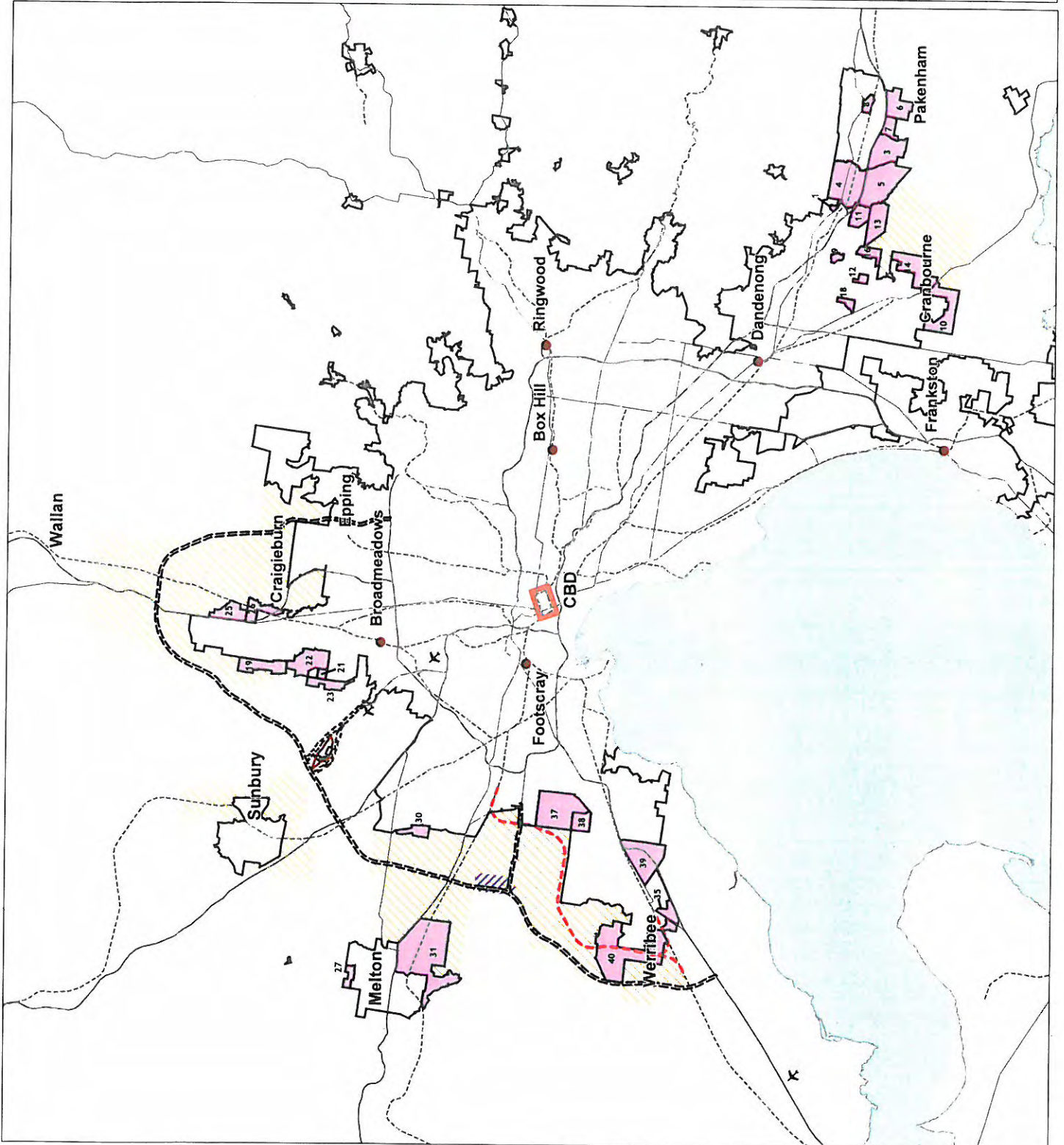
Attachment B: Terms of Reference for Strategic Assessment of the Program to revise Melbourne's Urban Growth Boundary

Attachment C: Strategic Assessment Endorsement Criteria

Attachment D: Agreed Dates for Melbourne Strategic Assessment Program Delivery

Investigation Areas

-  Existing urban area
-  Investigation Area for inclusion in Urban Growth Boundary
-  Extension of Investigation Area
-  Precinct Structure Plan (PSP)
-  Roads
-  Rail line
-  Urban Growth Boundary
-  Central Business District (CBD)
-  Airport
-  Central Activities Districts
-  Regional Rail Link Corridor Reservation west of Werribee to Deer Park (investigations are currently underway)
-  Proposed Outer Metropolitan Ring Road/E6 Transport Corridor



Terms of Reference for Strategic Assessment of the Program to revise Melbourne's Urban Growth Boundary

1. PROJECT PURPOSE AND DESCRIPTION

The Report, as referred to in clause 8 of the Agreement, must describe the Program (or stage of), including:

- (a) how the Program has been developed and its legal standing
- (b) the basis of land/asset tenure for all land within the scope of the Program
- (c) the regional context (natural and human) in which the urban area will exist
- (d) the actions or classes of actions that are subject of the Program, including the short, medium and long term aspects of the actions or classes of actions at or associated with the Program. These could include relevant construction and operational aspects associated with proposed urban development and associated infrastructure
- (e) the management and approval arrangements of the State of Victoria and the person(s) or authority responsible for the adoption or implementation of the Program.

2. PROMOTING ECOLOGICALLY SUSTAINABLE DEVELOPMENT

2.1 Planning for and promoting ecologically sustainable development

The Report must describe the planning and design process that has led to the Program, with particular reference to the treatment of environmental and cultural heritage through assessment and selection of options that maximise environmental, social and economic outcomes.

The Report must state how the Program promotes the following principles of ecologically sustainable development:

- a) decision making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations
- b) if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation
- c) the principle of inter-generational equity – that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations
- d) the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making
- e) improved valuation, pricing and incentive mechanisms should be promoted.

2.2 Environment affected by the Program

The Report must provide a detailed description of the environment likely to be affected by the implementation of the Program. This includes the environment beyond the identified growth and planning areas that could be affected by the proposed development

for example, through the construction of any major infrastructure associated with the development, the offsite impacts from stormwater management measures (e.g. inundation and flow effects from water quality control dams/ponds/wetlands), or 'edge effects' such as weed introduction, pollution and feral animals.

This description must identify the listed environmental and heritage assets and characteristics, including biophysical processes associated with the area set to be affected by the Program and the surrounding terrestrial, riparian and aquatic environments likely to be directly or indirectly impacted, including:

- (a) components of biodiversity and maintenance of important ecological processes
- (b) listed threatened and migratory species under the Act and their associated habitats
- (c) a description of ecological communities including but not limited to their connectivity, extent, and condition with specific reference to threatened ecological communities as listed under the Act and other significant ecological communities for example, the natural temperate woodlands of the Victoria Volcanic Plain and grassy wetland communities
- (d) any physical environmental processes (e.g. fire, flooding/inundation) influencing the environmental characteristics of the site or surrounds, or influencing the potential impacts on the site or surrounds, including the impacts on any Ramsar sites
- (e) places listed on the Commonwealth and National Heritage Lists.

3. PREVENTING IMPACTS ON MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE AND PROMOTING THE PROTECTION AND CONSERVATION OF BIODIVERSITY AND HERITAGE VALUES

3.1 Nature and significance of impacts

The Report must include sound analysis of the potential and likely impacts on the environment of the Program (Item 2.2) with specific reference to matters of national environmental significance, areas of high biodiversity and heritage values listed under the Act.

The analysis must include:

- (a) areas or matters likely to be eligible for listing as matters of national environmental significance
- (b) a description and analysis of likely and potential impacts, including any indirect impacts on matters of national environmental significance – with reference to relevant Policy Statements, for example the *EPBC Act Policy Statement 1.1 Significant Impact Guidelines*
- (c) an analysis of applicable key threatening processes as defined in the Act
- (d) an assessment of whether identified impacts will be short, long term or irreversible, local or regional, discrete or cumulative, or exacerbated by the likely impacts of climate change
- (e) an assessment of the scientific confidence associated with the likelihood and consequence(s) of potential impacts, including reference to technical data and other information relied upon in identifying and assessing those impacts.

3.2 Management, mitigation or offset of likely impacts

The Report must identify and describe the *management measures* of the State of Victoria (e.g. works, on-ground actions, regulatory interventions, area-specific management plans, market based instruments, compliance and enforcement requirements) that will be implemented prior, during or post Program implementation to prevent, minimise, rehabilitate or offset the potential environmental impacts caused by implementing the actions or classes of actions (Item 1(d)) with specific reference to matters of national environmental significance under the Act.

For these management measures the Report must set out:

- (a) the approach taken to addressing the impacts of the actions or classes of actions
- (b) the predicted effectiveness of the proposed measures and actions. Claims regarding effectiveness of measures and actions must be justified, including a description of the methodology used to formulate these predictions/confidence limits
- (c) maintenance or operational requirements associated with proposed management measures
- (d) compliance and enforcement requirements associated with proposed condition requirements
- (e) the Victorian agency or agencies responsible for each management measure including the budgetary, regulatory and anticipated or proposed programmatic arrangements to implement measures and actions, compliance and enforcement and maintenance or operational requirements
- (f) timelines and accountabilities for implementing proposed measures and actions, and associated compliance and maintenance requirements
- (g) proposed offsets in the context of evolving or approved policy, for example the Commonwealth Draft Policy Statement: Use of environmental offsets under the *Environment Protection and Biodiversity Conservation Act 1999*, August 2007.

3.3 Addressing uncertainty and managing risk

The Report must identify key uncertainties associated with the implementation of management measures, for example where there is a high level of uncertainty related to the timing and nature of management measures, or their maintenance or operation.

For key uncertainties the Report must set out:

- (a) responses by the State of Victoria to ensure an acceptable level of certainty and therefore actively manage risks associated with implementing the actions or classes of actions (Item 1(d))
- (b) how and when measures and actions will be reviewed in light of anticipated new information.

3.4 Reasonable assurance

The Report must include a “*reasonable assurance statement*” that gives a high degree of confidence that the management measures will be implemented and that the actions or classes of actions (Item 1(d)) will not have a significant impact on matters of national environmental significance.

4. AUDITING AND REPORTING

The Report must set out:

- (a) monitoring and public reporting processes, effective during the development period that describe the implementation and associated management measures and condition requirements
- (b) commitments for independent auditing of Program implementation.

5. ADAPTIVE MANAGEMENT, REVIEW AND MODIFICATION

The Report must identify and analyse the likely circumstances and procedures that may result in the review or modification of the report itself or the Program to which it relates, such that changing community standards or new information relating to the impacts of the Program may be introduced, reassessed and accounted for in implementing the Program. The Report must also show how uncertainty is being targeted and addressed during Program implementation.

6. ENDORSEMENT CRITERIA

The Report must describe how the Program together with any associated management arrangements, meets the criteria set out in Attachment C (Endorsement Criteria).

7. INFORMATION SOURCES

For information used in the assessment, the Report must state:

- (a) the source of the information
- (b) how recent the information is
- (c) how the reliability of the information was tested
- (d) uncertainties in the information.

Attachment C**Strategic Assessment Endorsement Criteria**

When deciding whether to endorse a policy, plan, or program the Minister must be satisfied that the assessment report adequately addresses the impacts to which the agreement relates and that any recommendations to modify the policy, plan or program have been responded to appropriately.

In determining whether or not to endorse the Program the Minister will have regard to the extent to which the Program meets the objectives of the Act. In particular that it:

- protects the environment, especially matters of national environmental significance
- promotes ecologically sustainable development
- promotes the conservation of biodiversity
- provides for the protection and conservation of heritage.

Accordingly, the Program and Final Report should:

- incorporate mechanisms which prevent actions from being taken in any location that have an impact on matters of national environmental significance or are of high biodiversity or heritage value; or
- provide that where impacts can not be avoided, then the impacts should be less than significant
- provide for effective management, mitigation or offset of the likely impacts
- contain an effective system of adaptive management that is independently audited and publicly reported.

The Minister will also consider the extent to which the Program and its associated Final Report adequately incorporates:

- the precautionary principle
- the other principles of ecologically sustainable development
- intergenerational equity
- matters the Minister considers to have a high likelihood of being potentially eligible for listing as matters of national environmental significance.

Attachment D**Agreed Dates for Melbourne Strategic Assessment Program Delivery**

Draft Report provided for public comment as per clause 8.2 of the Agreement – 18 June, 2009.

Revised Final Report sent to the Minister as per clause 9.1 of the Agreement – COB 14 August, 2009.

Both Parties reserve the right to request a renegotiation of the agreed timeframe and dates for the assessment. The agreed dates may be altered by either Party to the extent only that such variation is consistent with the provisions of the Act.

PSP NOTES

Biodiversity Management

The *PSP Notes* are a series of documents providing advice to key stakeholders and organisations responsible for preparing precinct structure plans. These are expected to be updated from time to time. This document represents current thinking about planning for biodiversity in growth areas.

In all precinct structure plans, the assessment, protection and management of biodiversity values should be considered in the context of the surrounding and long term urban development. Where biodiversity values need to be retained within the precinct, the aim should be to incorporate these into open space networks (both public accessible spaces and nature reserves) where appropriate. These areas should be managed to assist with long term viability.

Policy and legislative context

The primary goal for conserving native vegetation in Victoria is 'to achieve a reversal, across the entire landscape, of the long-term decline in the extent and quality of native vegetation, leading to a **'Net Gain'**'. Protecting the environment for future generations is also one of the government's top ten goals listed in Growing Victoria Together.

Melbourne 2030 aims to 'protect native habitat and areas of important biodiversity through appropriate land-use planning'.

Clause 15.09 of the *Victoria Planning Provisions* notes that:

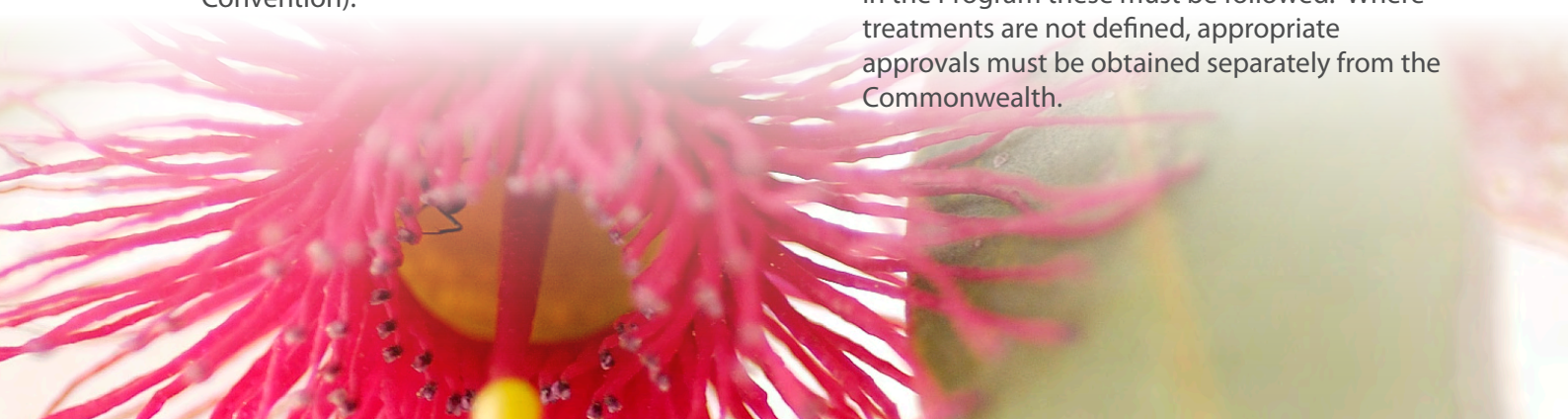
- Planning authorities should have regard to *The National Strategy for the Conservation of Australia's Biological Diversity*;
- Planning and responsible authorities must have regard to *Victoria's Native Vegetation Management – A Framework for Action*; and
- Planning and responsible authorities must ensure that any changes in land use or development would not adversely affect matters of national environmental significance including wetland wildlife habitats designated under the *Convention on Wetlands of International Importance* (the Ramsar Convention).

Biodiversity conservation is implemented by the Commonwealth through the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and administered by the Australian Government Department of Environment, Water, Heritage and the Arts (DEWHA). Matters of national environmental significance to be protected in the Urban Growth Zone include:

- Threatened ecological communities and threatened species
- Migratory birds
- Wetlands of international importance (Ramsar listed wetlands)

To maximize positive environmental and planning outcomes the requirements of the EPBC Act should be taken into account during the entire precinct structure planning process. The Strategic Assessment of 2009 provides a context for conditional approval under the EPBC Act for protection of matters of national environmental significance through rigorous assessment under the precinct structure plan development requirements.

The Program to be endorsed in the Strategic Assessment (2009) for the Urban Growth Boundary may specify prescriptions for treatment of matters of national environmental significance. Where prescriptions are specified in the Program these must be followed. Where treatments are not defined, appropriate approvals must be obtained separately from the Commonwealth.



Native vegetation framework

The Native Vegetation Framework requires a three step approach to applying Net Gain:

1. To **avoid** adverse impacts, particularly through vegetation clearance.
2. If impacts cannot be avoided, to **minimise** impacts through appropriate consideration in planning processes and expert input to project design or management.
3. Identify appropriate **offset** options.

In the context of precinct structure planning this three-step approach is dealt with by a native vegetation precinct plan (NVPP) (See Clause 52.16 of *Victoria Planning Provisions*). The NVPP will form part of the implementation provisions of the precinct structure plan, and it will set out the native vegetation to be retained and the vegetation to be removed as a result of the precinct structure plan, including mechanisms for offsetting any losses. In some cases this will reflect decisions made in the location of the urban growth boundary.

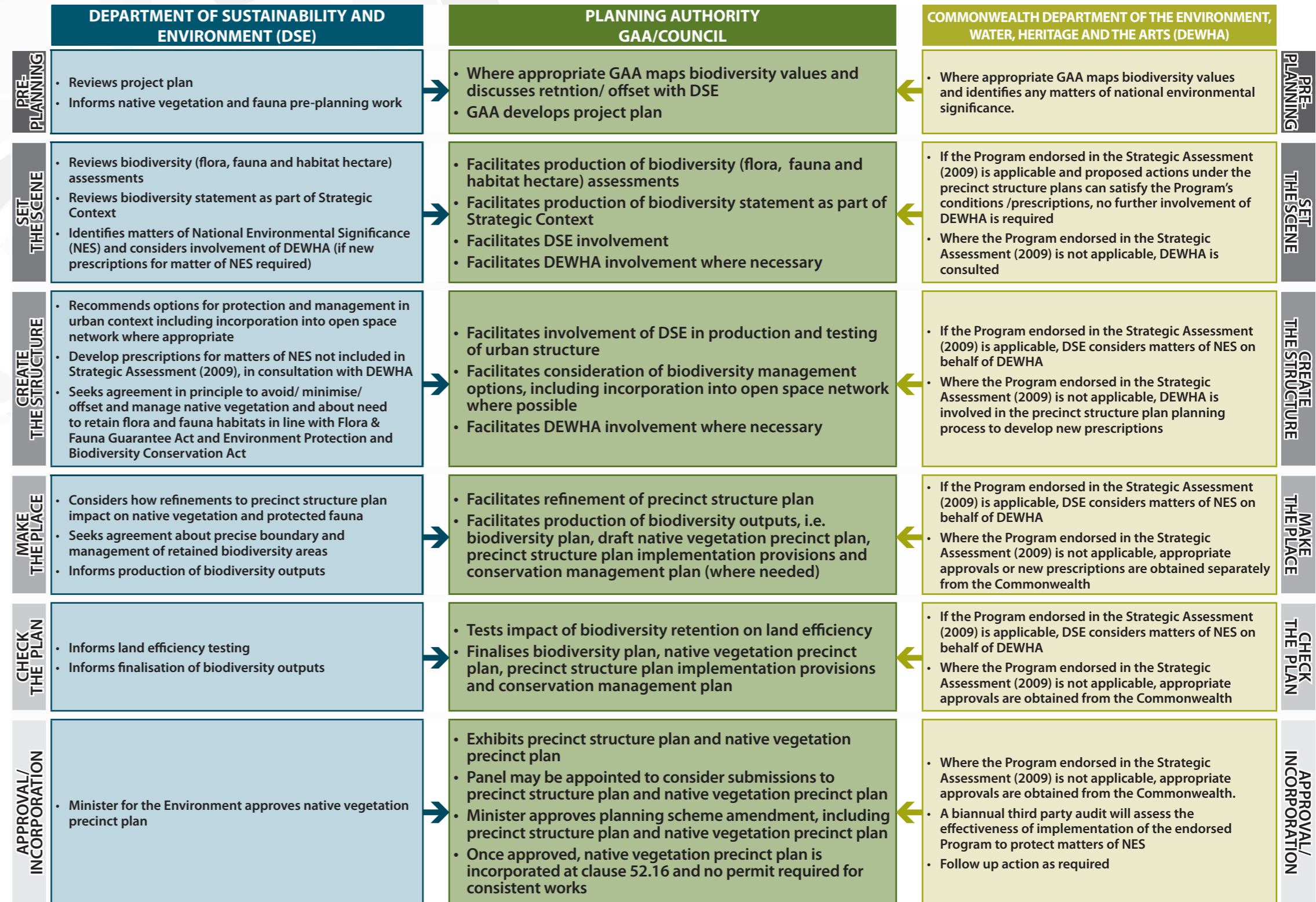
These biodiversity and native vegetation frameworks operate within the objectives of Melbourne 2030, so the task for managing biodiversity in precinct structure plans is to protect and manage biodiversity values whilst enabling urban development.

Approach to integrating biodiversity requirements

A standard approach to integrating biodiversity requirements into the precinct structure planning process is set out in the following table.

The Biodiversity Precinct Planning Kit assists Councils, developers and consultants in the preparation of biodiversity background reports and biodiversity components for precinct structure planning. It identifies the information required by DSE and ensures assessment of biodiversity values is sufficiently detailed and of a standard that enables resultant documents (including Strategic Context (Biodiversity), Biodiversity Plan, Native Vegetation Precinct Plan and associated planning tools) to be prepared as part of the Precinct Structure Plan. The Kit has been developed by DSE and endorsed by DPCD and GAA.

Approach to integrating biodiversity requirements

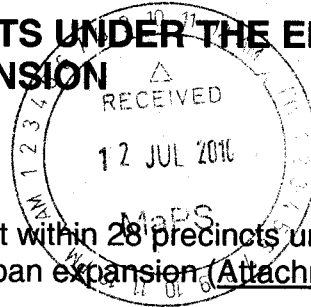


Note: All references to *the Program* mean the endorsed Program, and the actions or classes of actions approved in accordance with it under the strategic assessment process in Part 10 of the Environment Protection and Biodiversity Conservation Act 1999.



DEPARTMENT OF THE ENVIRONMENT, WATER, HERITAGE AND THE ARTS**Minister for Environment Protection, Heritage and the Arts** (Decision)

Brief No:	B10/1571
Division/Agency:	AWD
Public Affairs Consulted:	Yes

FINAL APPROVAL FOR 28 EXISTING PRECINCTS UNDER THE ENDORSED PROGRAM FOR MELBOURNE'S URBAN EXPANSION**Timing:** 19 July 2010 - to facilitate orderly land releases.**Purpose:** To consider final approval for urban development within 28 precincts undertaken in accordance with the endorsed Program for Melbourne's urban expansion (Attachment A).**Background**

- On 2 February 2010, you endorsed the Victorian Government's Program for Melbourne's urban expansion as described in the Program document *Delivering Melbourne's Newest Sustainable Communities Program Report* (Dec 2009, Victorian Government). Section 146B(1) of the EPBC Act allows you to approve the taking of an action, or class of actions, in accordance with the endorsed Program.
- On 11 June 2010, you approved the Regional Rail Link Project (West of Werribee to Deer Park), the first approval to be granted under the strategic assessment provisions of the EPBC Act.
- On 18 June 2010, you advised relevant Ministers of your intention to approve activities associated with urban development undertaken in accordance with the Program within the 28 precincts of Melbourne's current urban growth boundary, subject to conditions, pursuant to section 146C of the EPBC Act. This brief and the draft approval notice are at Attachment B.

Issues/ Sensitivities:

- Information relevant to your approval decision is in the above brief and its attachments. These attachments have been updated for the final approval decision, as necessary, and are at Attachment C to this current brief. Attachment C1 provides a summary of the proposal for urban development within the 28 precincts in Melbourne's current urban growth boundary and the overall Program, plus figures. Detailed legal considerations, that you are required to take into account in decision-making, are at Attachment C2. Further additional information to assist in your final decision is below.

Ministerial comments and changes to approval conditions

- You are required to take into account any comments received from Ministers in making a final approval decision. You sought comments from the Minister for Infrastructure, Transport, Regional Development and Local Government, Minister for Families, Housing, Community Services and Indigenous Affairs and Minister for Climate Change, Energy Efficiency and Water. You also invited comments from responsible Victorian Government Ministers.
- No substantive comments were received, however, changes have been made to the approval conditions to reflect advice from AGS that it is not possible to enforce conditions requiring a 'third party' to do something. This is relevant to the suggested condition in the draft approval which required the Victorian Department of Sustainability and the Environment to provide reporting on completion of Precinct Structure Plans. A new annexure has been added to the approval to provide explanation as to the meaning and intent of the approval, and also to reflect the agreement by DSE to provide this reporting. Further explanation of these changes is at Attachment B.

NGO comments

- The department met with key NGO representatives on 13 May 2010 to provide an update on the Program, as well as any informal feedback on your consideration of approvals for the existing 28 precincts within Melbourne's current growth boundary and the Regional Rail Link.
- No specific concerns were raised about the 28 precincts. However, concerns were raised about the perceived inability to protect small areas of high biodiversity within the four new growth areas. The department considers that the Program, and application of the prescriptions for matters of national environmental significance (MNES), will identify most such areas. However, in addition, requirements under the Program to prepare and implement Biodiversity Conservation Strategies for the new growth areas will be used to identify high biodiversity areas that might otherwise be missed by the prescriptions.
- DSE has advised NGOs that it will shortly constitute a reference group, including NGOs, to identify potential additional conservation reserves. Provided there is adequate scientific justification for such reserves, these requirements will be reflected in the Biodiversity Conservation Strategies submitted to yourself for approval. The department has also committed to provide the draft strategies to relevant NGO groups for comment, to ensure that justifiable nominations have been adequately considered.
- The department does not consider that changes are needed to the approval conditions for activities associated with urban development within the 28 precincts to reflect issues raised by NGOs to date.

Developers and consultants

- The Urban Development Institute of Australia and Planning Institute of Australia (Victorian branches) wrote to you on 9 April 2010 to express concerns about the draft prescription for the Golden Sun Moth which required offsetting for clearing of non-native grasslands where the species may occur. The final prescription, which you approved on 16 April 2010, included modifications to address this concern and to ensure a fairer offset arrangement. The department, on your behalf, wrote to the institutes on 28 April 2010 to advise of these changes.
- DSE convened a workshop of developers and consultant ecologists on 3 May 2010 to provide an update on the Program and the application of the prescriptions for protection of matters of national environmental significance (MNES) approved by yourself. Developers are broadly accepting of the Program and MNES prescriptions, in view of the upfront certainty it provides in addressing EPBC Act requirements. The workshop considered examples for application of the final Golden Sun Moth prescription to illustrate its implementation during the precinct structure planning process.
- The department does not consider that changes are needed to the approval conditions for activities associated with urban development within the 28 precincts to reflect issues raised by developer groups to date.

Growth Boundary Extension

- At the time of writing, the enabling legislation to provide for the expansion of Melbourne's urban growth boundary is still being debated in the upper house of the Victorian Parliament. The President of the upper house, Robert Smith, has sought legal advice on whether the Victorian government's enabling legislation is acceptable. This legal advice may take up to a month to be received, before debate can resume on the amended enabling legislation.
- This does not have any implications for implementation of the Program for the 28 precincts within Melbourne's *current* growth boundary. The Victorian Government retains the legal authority to gazette the planning instruments to create the acquisition and environmental significance overlays providing for the creation of the Western Grassland Reserves without the need for new legislation. We understand that this mechanism will be used in the event of further delays to the legislation for the new growth areas. As previously advised, the department does not consider it appropriate to consider approval of actions associated with the 4 new growth areas until the legislation and planning instruments are in place.

Conclusion

- The department considers that impacts associated with actions undertaken in accordance with the Program within the existing 28 precincts are acceptable. These impacts are discussed in the brief at Attachment B and considered in detail at Attachment C2.
- In summary, developments within the existing 28 precincts will result in loss of 768ha of listed grasslands out of a total loss of 4,665ha for the overall Program (eg 17% of total loss). For listed grassy woodlands, the Program will result in loss of up to 709ha of which 135ha will occur within the existing 28 precincts (19% of total loss).
- These losses will be offset at an average ratio of 2:1 with 'like for like' habitat sourced from the new grassland and woodland reserves. This will secure meaningful protection at the bioregional, landscape and ecosystem scale for the ecological communities and associated listed species. The department believes that this outcome is highly desirable.
- Impacts will also occur for non-grassland and woodland dependent species such as the listed Southern Brown Bandicoot and Growling Grass Frog. The prescriptions require important habitat and linkage/dispersal corridors to be retained for protection, and managed in accordance with conservation plans approved by DSE. To date, precinct structure plans have avoided and retained all important habitat (examples at Attachment C1, C2) and no offsets have been required. This is consistent with the expected outcome for all of the existing precincts where these species are present.
- The existing 28 precincts are integral to the implementation of the important social and economic aspects of the Program for Melbourne's urban expansion even though they are located within the current urban growth boundary. These precincts total 15,581ha and are anticipated to cater for up to 75,000 new homes. These precincts were included so that their precinct planning process could be carried out in accordance with the Program and be consistent with its social and environmental objectives.
- The Victorian Government continues to meet all of its commitments under the Program even though the enabling legislation for the expansion of Melbourne's urban growth boundary continues to be debated in the upper house of the Victorian Parliament. This approval decision will provide certainty to planning and decision making for development within the existing 28 precincts, and will ensure the Program's desirable environmental outcomes can begin to be achieved.

Recommendations:

1. Adopt the final decision and conditions at Attachment A.
2. If you accept Recommendation 1, sign the approval decision notice and notification letters at Attachment A.

1. Accepted/ Not accepted

2. Signed/ Not signed

A large handwritten signature in black ink, consisting of several vertical strokes followed by a loop and a horizontal stroke. To the right of the signature, there are two circled numbers, '1' and '2', corresponding to the numbered list items above.

s. 22(1)(a)(ii)

Acting Assistant Secretary
Strategic Approvals & Legislation Branch

Secondary Contact:

s. 22(1)(a)(ii)

s. 22(1)(a)(ii) @environment.gov.au

A handwritten signature in black ink, appearing as a stylized 'S' or 'G' followed by a horizontal stroke. To the right of the signature, the word 'MINISTER' is written in capital letters, followed by a slash and the year '2010'.

s. 22(1)(a)(ii)

s. 22(1)(a)(ii)@environment.gov.au

1/7/2010

Attachments:

A	<ul style="list-style-type: none"> • Final approval decision notice • Letters to relevant Ministers 	B	<ul style="list-style-type: none"> ▪ Draft approval decision brief signed 18 June 2010 (B10/1115) ▪ Draft approval decision notice and conditions ▪ Changes in final notice/conditions
C	<ul style="list-style-type: none"> • C1: Summary, MNES tables • C2: Legal considerations • Figures 	D	<ul style="list-style-type: none"> ▪ Endorsed Program (December, 2009) ▪ Department's assessment report on the endorsed Program ▪ <i>Delivering Melbourne's Newest Sustainable Communities Strategic Impact Assessment Report</i> (Victorian Government 2009a).



APPROVAL DECISION FOR THE TAKING OF ACTIONS IN ACCORDANCE WITH AN ENDORSED PROGRAM UNDER THE ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999

This decision is made under section 146B of the *Environment Protection and Biodiversity Conservation Act 1999*.

General	Further explanatory information related to this approval decision is at Annexure 1.
Approved action/class of actions	All actions associated with urban development, undertaken in accordance with the endorsed program report <i>Delivering Melbourne's Newest Sustainable Communities</i> , Victorian Government, December 2009 (the Program), within the 28 precincts identified on page 17 (Map 7).
Relevant controlling provisions	The approval has effect for: <ul style="list-style-type: none">• Wetlands of international importance (sections 16 & 17B)• Listed threatened species and communities (sections 18 & 18A)• Listed migratory species (sections 20 & 20A)
Conditions of approval	This approval is subject to the conditions specified at Annexure 2.
Period for which approval has effect	The approval has effect until 31 December 2060.
Person authorised to make decision	
Name and Position	The Hon Peter Garrett AM MP Minister for Environment Protection, Heritage and the Arts
Signature	
Date of decision	5th July 2010

Explanatory information

This approval decision is made under section 146B of the EPBC Act which provides for the Minister for the Environment (the Minister) to approve actions, or classes of actions, undertaken in accordance with an endorsed policy, plan or program. An approval under section 146B of the EPBC Act has the same effect as an approval given under Part 9 of the Act, therefore actions approved under this decision will not require separate referral, assessment or approval under the EPBC Act in order to be taken.

On 2 February 2010, the Minister endorsed the Program of the Victorian Government for Melbourne's urban growth as described in *Delivering Melbourne's Newest Sustainable Communities* (Victorian Government, December 2009). Among other things, the endorsed program includes actions associated with urban development proposed to occur in 28 precincts located within Melbourne's urban growth boundary as identified on page 17 of this document.

This approval only applies to the specified class of actions that are undertaken in accordance with the requirements of the Program and the conditions at Annexure 2 of this approval decision.

Program evaluation, monitoring and reporting requirements for approved classes of actions under the Program are described at Section 11 of the Program report. These requirements are the responsibility of the Victorian Government. In particular, the Victorian Government must submit a Reporting and Monitoring Framework to the Minister for approval within 12 months of the date of this approval.

As an interim measure, the Victorian Government Department of Sustainability and Environment has agreed, consistent with the requirements of the Program, to provide reports to the Department of the Environment, Water, Heritage and the Arts (the department) on implementation of the prescriptions for protection of matters of national environmental significance (MNES) for each of the 28 precincts covered by this approval. The reports will be provided within 28 calendar days following adoption of each Precinct Structure Plan. The reports will demonstrate how the relevant prescriptions have been applied and the measurable outcomes achieved for protection of MNES. Each report will include the following minimum information:

- a) applicable prescriptions for the precinct
- b) outcomes of flora and fauna surveys (if required)
- c) outcomes required for each applicable prescription
- d) *In situ* reserve requirements (if needed) and adopted measures for *in situ* protection of each MNES (if needed)
- e) offset requirements and how these will be attained, including calculation of any habitat hectare requirements under the Victorian *Native Vegetation Management Framework*, and
- f) a figure or map showing *in situ* offsets (if needed) and other protection areas.

Conditions

Actions must be undertaken in accordance with the following conditions to ensure protection of listed threatened species and ecological communities, listed migratory species and the ecological character of the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula, the Edithvale Seaford and Western Port Ramsar sites.

1. Persons taking actions must undertake the actions in accordance with the following prescriptions approved by the Minister for protection of matters of national environmental significance (MNES):
 - *Final Prescription for Natural Temperate Grassland of the Victorian Volcanic Plain* (approved 16 April 2010)
 - *Final Prescription for Spiny Rice-flower* (approved 16 April 2010)
 - *Final Prescription for Golden Sun Moth* (approved 16 April 2010)
 - *Final Prescription for Matted Flax-lily* (approved 16 April 2010)
 - *Final Prescription for Striped Legless Lizard* (approved 16 April 2010)
 - *Final Prescription for Grassy Eucalypt Woodland of the Victorian Volcanic Plain* (approved 27 May 2010)
 - *Final Prescription for Growling Grass Frog* (approved 27 May 2010)
 - *Final Prescription for Southern Brown Bandicoot* (approved 27 May 2010)
 - *Final Prescription for Migratory Species* (approved 27 May 2010).
2. Persons taking actions must maintain accurate records substantiating all activities associated with or relevant to these conditions of approval, including application of the MNES prescriptions to developments within the 28 precincts covered by this approval, and make them available upon request to the Minister within 28 days from the date of a request.



The Hon Peter Garrett AM MP

Minister for Environment Protection, Heritage and the Arts

B10/1571

The Hon Anthony Albanese MP
Minister for Infrastructure, Transport,
Regional Development and Local Government
Parliament House
CANBERRA ACT 2600

Dear Minister

I am writing in regard to the Victorian Government's Program for Melbourne's urban expansion entitled *Delivering Melbourne's Newest Sustainable Communities* (the Program).

The Program, providing for 284,000 new dwellings in four new growth areas as well as development in 28 existing precincts within Melbourne's current growth boundary, has been assessed under the strategic assessment provisions of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). I endorsed the outcomes of the strategic assessment on 2 February 2010 as meeting the requirements of the EPBC Act for protection of matters of national environmental significance.

I have since been considering the approval of specific developments as well as more generic classes of actions undertaken in accordance with the Program. On 11 June 2010 I approved the Regional Rail Link Project (West of Werribee to Deer Park), the first approval to be granted under the strategic assessment provisions of the EPBC Act.

I wrote to you on 18 June 2010 to advise of my intention to approve activities associated with urban developments within the 28 precincts of Melbourne's current urban growth boundary and to provide the opportunity for any comment on my proposed decision. The 28 precincts cover some 15,581 hectares and will provide for up to 75,000 new homes.

I am pleased to advise that I have now made my final decision to approve these developments, subject to the conditions in the attached notice. This decision will significantly cut red tape by avoiding the need for assessment and approval of individual housing development projects under the EPBC Act, while at the same time ensuring an appropriate level of environmental protection in accordance with the requirements of national environmental law and the expectations of the community.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Peter Garrett', with a large, sweeping flourish extending from the end of the signature.

Peter Garrett



The Hon Peter Garrett AM MP

Minister for Environment Protection, Heritage and the Arts

B10/1571

The Hon Gavin Jennings MLC
Minister for Environment and Climate Change
Parliament House
EAST MELBOURNE VIC 3002

Dear Minister

I am writing in regard to the Victorian Government's Program for Melbourne's urban expansion entitled *Delivering Melbourne's Newest Sustainable Communities* (the Program).

As you are aware, I endorsed the Program on 2 February 2010 under the strategic assessment provisions of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

I have since been considering the approval of specific developments as well as more generic classes of actions undertaken in accordance with the Program. On 11 June 2010 I approved the Regional Rail Link Project (West of Werribee to Deer Park), the first approval to be granted under the strategic assessment provisions of the EPBC Act.

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Thank you for your continued assistance and cooperation on this matter.

Yours sincerely

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Peter Garrett



The Hon Peter Garrett AM MP

Minister for Environment Protection, Heritage and the Arts

B10/1571

The Hon Jenny Macklin MP
Minister for Families, Housing, Community Services
and Indigenous Affairs
Parliament House
CANBERRA ACT 2600

Dear Minister

I am writing in regard to the Victorian Government's Program for Melbourne's urban expansion entitled *Delivering Melbourne's Newest Sustainable Communities* (the Program).

The Program, providing for 284,000 new dwellings in four new growth areas as well as development in 28 existing precincts within Melbourne's current growth boundary, has been assessed under the strategic assessment provisions of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). I endorsed the outcomes of the strategic assessment on 2 February 2010 as meeting the requirements of the EPBC Act for protection of matters of national environmental significance.

I have since been considering the approval of specific developments as well as more generic classes of actions undertaken in accordance with the Program. On 11 June 2010 I approved the Regional Rail Link Project (West of Werribee to Deer Park), the first approval to be granted under the strategic assessment provisions of the EPBC Act.

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Yours sincerely

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Peter Garrett



The Hon Peter Garrett AM MP

Minister for Environment Protection, Heritage and the Arts

B10/1571

The Hon Justin Madden MLC
Minister for Planning
Parliament House
EAST MELBOURNE VIC 3002

Dear Minister

I am writing in regard to the Victorian Government's Program for Melbourne's urban expansion entitled *Delivering Melbourne's Newest Sustainable Communities* (the Program).

As you are aware, I endorsed the Program on 2 February 2010 under the strategic assessment provisions of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

I have since been considering the approval of specific developments as well as more generic classes of actions undertaken in accordance with the Program. On 11 June 2010 I approved the Regional Rail Link Project (West of Werribee to Deer Park), the first approval to be granted under the strategic assessment provisions of the EPBC Act.

I wrote to you on 18 June 2010 to advise of my intention to approve activities associated with urban developments within the 28 precincts of Melbourne's current urban growth boundary, and to provide the opportunity for any comment on my proposed decision.

I am pleased to advise that I have now made my final decision to approve these developments, subject to the conditions in the attached notice. This decision will significantly cut red tape by avoiding the need for assessment and approval of individual housing development projects under the EPBC Act, while at the same time ensuring an appropriate level of environmental protection in accordance with the requirements of national environmental law and the expectations of the community.

Thank you for your continued assistance and cooperation on this matter.

Yours sincerely

A handwritten signature in blue ink, consisting of a series of vertical loops followed by a horizontal stroke and a final flourish.

Peter Garrett



The Hon Peter Garrett AM MP

Minister for Environment Protection, Heritage and the Arts

B10/1571

Senator the Hon Penny Wong
Minister for Climate Change, Energy Efficiency and Water
Parliament House
CANBERRA ACT 2600

Dear Minister

I am writing in regard to the Victorian Government's Program for Melbourne's urban expansion entitled *Delivering Melbourne's Newest Sustainable Communities* (the Program).

The Program, providing for 284,000 new dwellings in four new growth areas as well as development in 28 existing precincts within Melbourne's current growth boundary, has been assessed under the strategic assessment provisions of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). I endorsed the outcomes of the strategic assessment on 2 February 2010 as meeting the requirements of the EPBC Act for protection of matters of national environmental significance.

I have since been considering the approval of specific developments as well as more generic classes of actions undertaken in accordance with the Program. On 11 June 2010 I approved the Regional Rail Link Project (West of Werribee to Deer Park), the first approval to be granted under the strategic assessment provisions of the EPBC Act.

I wrote to you on 18 June 2010 to advise of my intention to approve activities associated with urban developments within the 28 precincts of Melbourne's current urban growth boundary and to provide the opportunity for any comment on my proposed decision. The 28 precincts cover some 15,581 hectares and will provide for up to 75,000 new homes.

I am pleased to advise that I have now made my final decision to approve these developments, subject to the conditions in the attached notice. This decision will significantly cut red tape by avoiding the need for assessment and approval of individual housing development projects under the EPBC Act, while at the same time ensuring an appropriate level of environmental protection in accordance with the requirements of national environmental law and the expectations of the community.

Yours sincerely

A handwritten signature in blue ink, consisting of a series of loops and a long horizontal stroke, positioned below the text 'Yours sincerely'.

Peter Garrett

DEPARTMENT OF THE ENVIRONMENT, WATER, HERITAGE AND THE ARTS**Minister for Environment Protection, Heritage and the Arts** (Decision)

Brief No:	B10/1115
Division/Agency:	AWD
Public Affairs Consulted:	Yes

DRAFT APPROVAL FOR 28 EXISTING PRECINCTS UNDER THE ENDORSED PROGRAM FOR MELBOURNE'S URBAN EXPANSION**Timing:** 21 June 2010 - to facilitate orderly land releases.**Purpose:** To consider approval for urban development within 28 precincts undertaken in accordance with the endorsed Program for Melbourne's urban expansion and to inform relevant Commonwealth Ministers of your proposed decision (Attachment A).**Background**

- On 2 February 2010, you endorsed the Victorian Government's Program for Melbourne's urban expansion as described in the Program document *Delivering Melbourne's Newest Sustainable Communities Program Report* (Dec 2009, Victorian Government). Section 146B(1) of the EPBC Act allows you to approve the taking of an action, or class of actions, in accordance with the endorsed Program. A summary of the Program is at Attachment B.
- The endorsed Program includes the following key components (Figures 1 and 2 at Attachment B):
 - Regional Rail Link;
 - urban development in 28 existing precincts within the current Melbourne growth boundary;
 - four new growth areas in expanded growth boundaries (Melton/Wyndham, Sunbury, Whittlesea/Hume and Casey); and
 - Outer Metropolitan Ring Road (OMR/E6).
- On 23 April 2010, you advised relevant Commonwealth Ministers of your intention to approve the Regional Rail Link component of the Program. Separate briefing has been provided to enable you to make a final decision (B10/1191).
- The Victorian Department of Sustainability and Environment (DSE) wrote to the department on 5 May 2010 seeking approval of the urban components of the Program as well as further prescriptions for protection of matters of national environmental significance (MNES) including Grassy Eucalypt Woodlands of the Victorian Volcanic Plains, Growling Grass Frog, Southern Brown Bandicoot and Migratory Birds. You approved these prescriptions on 27 May 2010. You approved other key prescriptions related to Natural Temperate Grasslands of the Victorian Volcanic Plains and associated listed species on 16 April 2010.
- The Program includes urban development within 28 existing precincts where planning for land releases is well advanced. These precincts total 15,581ha and are anticipated to cater for up to 75,000 new homes. Ten precincts are proposed for release in 2010 with the remaining to be released in subsequent years. By comparison, the four new growth areas contain 43,645ha of land, catering for about 284,000 new homes, and are proposed for progressive release in 2016 and beyond. The overall Program accounts for over 50% of Melbourne's anticipated population growth over the next 20 years (remaining growth will be through infill).
- There is some urgency to finalise approvals for the existing 28 precincts to provide certainty to planning and decision-making, and to facilitate the orderly release of land. These precincts were included in the Program because they are adjacent to the four new growth areas and planning was at a stage where Program requirements could be incorporated. The department considers that the Program is sufficiently advanced, in terms of application of the prescriptions and delivery of required outcomes for MNES, to now consider approval for these precincts.

- We believe that further certainty is needed before considering approval for the bulk of the Program (developments within the 43,645ha of the 4 new growth areas). This certainty will be delivered by passage in the Victorian Parliament of legislation to expand Melbourne's growth boundary for the new growth areas as well as implementation of the planning instruments necessary to ensure interim protection and progressive acquisition of the new 15,000ha Western Grassland Reserves. In addition, Biodiversity Conservation Strategies must be prepared for each of the new growth areas and approved by yourself.
- At the time of writing, passage of the necessary legislation and planning instruments is expected to meet the Program schedule (by 30 June 2010). The Victorian Government announced \$20 million in their 2010/2011 budget to commence acquisition for the Western Grassland Reserves. While the Victorian Government is meeting all its commitments under the Program to date, we believe that approval consideration for the new growth areas can be held off until we are satisfied that protection and interim management of the reserves is assured, and good progress is being made in land acquisitions and preparation of the Biodiversity Conservation Strategies.
- Against the broader Program context, developments within the existing 28 precincts will result in loss of 768ha of listed grasslands out of a total loss of 4,665ha for the overall Program (eg 17% of total loss). For listed grassy woodlands, the Program will result in loss of up to 709ha of which 135ha will occur within the existing 28 precincts (19% of total loss).

Issues/ Sensitivities:

- This briefing package contains the necessary information to allow you to make a draft approval decision for the 28 existing precincts covered by the endorsed Program (Figure 1 at Attachment B). If you agree, the proposed draft decision is at Attachment A together with letters seeking comment from relevant Commonwealth Ministers as required under the EPBC Act. As a courtesy, letters to the relevant state ministers are also included. The proposed conditions have been discussed with the respective state agencies.
- The EPBC Act (s146) sets out legal considerations and requirements that you must take into consideration in deciding whether to approve an action, or class of actions, under an endorsed Program. A summary of the Program and these considerations is at Attachment B. Detailed advice addressing the legal considerations is at Attachment C.

Impacts on Natural Temperate Grasslands of the Victorian Volcanic Plains

- Up to 768ha of listed grasslands will be cleared within the 28 precincts comprising 536ha of medium quality grasslands and 232ha of low quality grasslands. This is equivalent to 290 'habitat hectares' ('habitat hectare' represents one hectare of highest quality grasslands and is used for calculating offset requirements under the Victorian *Native Vegetation Management Framework* endorsed through the Program). The low 'habitat hectare' score (eg less than half of the area to be cleared) reflects the relatively poor condition class of the grasslands.
- The offset required under the Program is 530 'habitat hectares' (offset ratio of approx. 2:1). This offset will be discharged through acquisition and protection of listed grasslands in the 15,000ha Western Grassland Reserves. As an example, acquisition of 1,060ha of poor to medium quality grasslands (eg of similar quality to that cleared) in the reserves would meet the offset requirements for the existing 28 precincts. The new reserves, to be owned and managed by the state as a national park, will increase protection of the ecological community from 2% to 20% across the 2.3 million hectare Victorian Volcanic Plains Bioregion.

Impacts on Grassy Eucalypt Woodlands of the Victorian Volcanic Plains

- Up to 135ha of listed woodlands will be cleared comprising 51ha of medium quality woodlands and 84ha of low quality woodlands. This is equivalent to 37 'habitat hectares' (eg high quality or pristine woodlands). The offset required is 57 'habitat hectares'. This offset will be met through acquisition and protection of equivalent habitat within the new 1,200ha Northern Grassy Woodland Reserve to be established south-west of Whittlesea. This new reserve will almost double the area of listed woodlands currently protected.

Impacts on grassland listed species

- The prescriptions require biodiversity surveys to be undertaken prior to clearing and 'like for like' offsets if development affects these MNES. The prescriptions set measurable performance targets under the Program for the Golden Sun Moth, Spiny Rice-flower and Matted Flax-lily requiring protection of 80% of high quality habitat within the Victorian Volcanic Plains Bioregion. Examples of the offsets required to date as planning proceeds for the existing precincts are described at Attachment B.

Southern Brown Bandicoot and Growling Grass Frog

- The Program requires the protection and management of all populations and their supporting habitat (eg all habitat areas must be retained within precincts). The approved prescriptions for these species require implementation of conservation management plans to the satisfaction of DSE. A sub-regional species strategy is also required to ensure management and long term connectivity of disjunct populations across the Program area. Monitoring is required for a minimum of 30 years for bandicoot populations. These actions are well progressed for the 10 precincts proposed for development in 2010. Outcomes required to date for eight of these precincts are described at Attachment B.
- In addition, the Program requires the creation of a new reserve area for the Southern Brown Bandicoot within an area of 200ha of potential habitat in the south-west corner of the new Casey growth area.

Listed Ramsar sites and migratory birds

- Development within the existing 28 precincts will not have direct or measurable indirect impacts on Ramsar sites. Further information is at Attachment C.
- Specialist flora and fauna reports identified the potential occurrence of 31 migratory bird species in the Program area. Important habitat is not known to occur within the existing precincts and significant impacts are not expected.

Economic and Social Considerations

- Section 146F requires that you consider economic and social matters and take into account the principles of Ecological Sustainable Development in deciding whether to approve actions under the Program. Detailed information on these considerations is at Attachment C.
- The existing 28 precincts are integral to the implementation of the social and economic aspects of the Program for Melbourne's urban development. Planning is being carried out in accordance with the Program and consistent with its social and environmental objectives.

Conclusion

- Development within the 28 existing precincts will impact on listed grasslands, listed grassy woodlands and associated grassland species through clearing of up to 768ha of grasslands and 135ha of grassy woodlands. These losses will be offset at an average ratio of 2:1 with 'like for like' habitat sourced from the new grassland and woodland reserves. This will secure meaningful and consolidated protection at the bioregional, landscape and ecosystem scale for the ecological communities and associated listed species. The department believes that this outcome is highly desirable.
- Developments will also impact on the listed Southern Brown Bandicoot and Growling Grass Frog. The approved prescriptions require important habitat and linkage/dispersal corridors to be retained for protection, and managed in accordance with conservation plans approved by DSE. To date, precinct structure plans have avoided and retained all important habitat (examples at Attachment B) and no offsets have been required. This is consistent with the expected outcome for the existing precincts where these species are present.

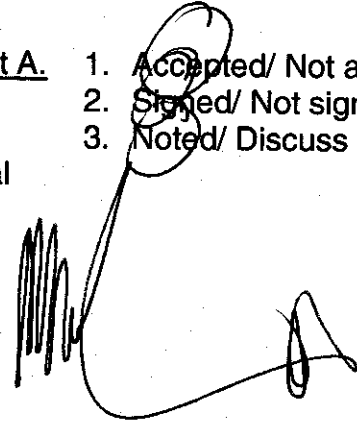
Suggested approval conditions

- Suggested approval conditions are in the draft notice of decision at Attachment A and are discussed in detail at Attachment C.

- The department considers that the commitments and undertakings in the Program are appropriate in ensuring adequate protection of MNES. However, additional approval conditions are suggested to address the following matters:
 - Reinforcement of the Program requirement to ensure implementation of MNES prescriptions and to ensure an appropriate role for the Australian Government and DSE.
 - Reporting on outcomes from the application of the MNES prescriptions as Precinct Structure Plans are finalised for the 28 precincts, to assist in monitoring the effectiveness of prescriptions.

Recommendations:

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Adopt the draft decision and recommendations at <u>Attachment A</u>. 2. Sign the letters at <u>Attachment A</u> to relevant Ministers. 3. Note that the department will provide further briefing to allow final approval consideration following the two week Ministerial consultation period. | <ol style="list-style-type: none"> 1. Accepted/ Not accepted 2. Signed/ Not signed 3. Noted/ Discuss |
|---|---|



SIGNED

s. 22(1)(a)(ii)

Acting Assistant Secretary
Strategic Approvals & Legislation Branch

Secondary Contact:
s. 22(1)(a)(ii) @environment.gov.au

MINISTER
1/5/2010

s. 22(1)(a)(ii)
s. 22(1)(a)(ii) @environment.gov.au
14/5/2010

Attachments:

A	<ul style="list-style-type: none"> • Draft approval decision notice • Letters to relevant Ministers 	B	<p>Summary</p> <ul style="list-style-type: none"> • Description and impacts of proposed development within the existing 28 precincts • Summary of the overall Program • MNES summary tables for the overall Program • MNES outcomes for 8 of the existing precincts • Figures
C	Legal considerations	D	Endorsed Program (December, 2009)
E	Department's assessment report on the endorsed Program	F	<i>Delivering Melbourne's Newest Sustainable Communities Strategic Impact Assessment Report</i> (Victorian Government 2009a).



PROPOSED APPROVAL DECISION FOR THE TAKING OF ACTIONS IN ACCORDANCE WITH AN ENDORSED PROGRAM UNDER THE ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999 (EPBC ACT)

URBAN DEVELOPMENT OF 28 PRECINCTS UNDER MELBOURNE'S URBAN GROWTH PROGRAM ENDORSED ON 2 FEBRUARY 2010

This proposed decision is made under section 146B of the EPBC Act which provides for the Minister to approve actions, or classes of actions, undertaken in accordance with an endorsed policy, plan or program. An approval under section 146B of the EPBC Act has the same effect as an approval given under Part 9 of the Act, therefore actions approved under this decision will not require separate referral, assessment or approval under the EPBC Act in order to be taken.

On 2 February 2010, the Minister for Environment Protection, Heritage and the Arts, the Hon Peter Garrett AM MP (the Minister), endorsed the program of the Victorian Government for Melbourne's urban growth as described in *Delivering Melbourne's Newest Sustainable Communities* (Victorian Government, December 2009). Among other things, the endorsed program includes actions associated with urban development proposed to occur in 28 precincts located within Melbourne's current urban growth boundary as identified on page 17 of this document. This proposed approval decision is for actions falling within the specified class of actions below within these precincts only.

Approved action/class of actions	All actions associated with urban development, undertaken in accordance with the endorsed program report <i>Delivering Melbourne's Newest Sustainable Communities</i> , Victorian Government, December 2009 (the Program), within the 28 precincts identified on page 17 (Map 7).
Relevant controlling provisions	The approval has effect for: <ul style="list-style-type: none">• Wetlands of international importance (sections 16 & 17B)• Listed threatened species and communities (sections 18 & 18A)• Listed migratory species (sections 20 & 20A)
Conditions of approval	This approval is subject to the conditions specified at Annexure 1
Period for which approval has effect	The approval has effect until 31 December 2060
Person authorised to make decision	
Name and Position	The Hon Peter Garrett AM MP Minister for Environment Protection, Heritage and the Arts
Signature	
Date of decision	

ANNEXURE 1

Actions must be undertaken in accordance with the following conditions to ensure protection of listed threatened species and ecological communities, listed migratory species and the ecological character of the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula, the Edithvale Seaford and Western Port Ramsar sites.

1. Persons taking actions must undertake the actions in accordance with the prescriptions approved by the Minister pursuant to the Program for protection of matters of national environmental significance (MNES).
2. The Victorian Government Department of Sustainability and Environment will cause a report to be provided to the Department of the Environment, Water, Heritage and the Arts on implementation of the prescriptions for protection of MNES for each of the 28 precincts covered by this approval. The report will be provided within 28 calendar days following adoption of each Precinct Structure Plan. The object of the report is to demonstrate how the relevant prescriptions have been applied and the measurable outcomes achieved for protection of MNES. At a minimum, each report must include the following information:
 - a) applicable prescriptions for the precinct
 - b) outcomes of flora and fauna surveys (if required)
 - c) outcomes required for each applicable prescription
 - d) *In situ* reserve requirements (if needed) and adopted measures for *in situ* protection of each MNES (if needed)
 - e) offset requirements and how these will be attained, including calculation of any habitat hectare requirements under the Victorian *Native Vegetation Framework*, and
 - f) a figure or map showing *in situ* offsets (if needed) and other protection areas.
3. Persons taking actions must maintain accurate records substantiating all activities associated with or relevant to these conditions of approval, including application of the MNES prescriptions to developments within the 28 precincts covered by this approval, and make them available upon request to the Minister within 28 days from the date of a request.

Attachment B**Summary of comments and changes to final approval decision and conditions**

On 18 June 2010, you advised the following Ministers of your intention to approve actions associated with urban development undertaken in accordance with the program for the existing 28 precincts with conditions attached, as required under section 146C of the EPBC Act:

- Minister for Infrastructure, Transport, Regional Development and Local Government (Hon Anthony Albanese MP);
- Minister for Families, Housing, Community Services and Indigenous Affairs (Hon Jenny Macklin MP); and
- Minister for Climate Change, Energy Efficiency and Water (Hon Penny Wong MP).

As a courtesy, you also invited comment from the relevant Victorian Ministers (Minister for Planning and Minister for Environment and Climate Change).

On 22 June 2010 the Department of Infrastructure, Transport, Regional Development and Local Government advised that their Minister had no comment to make on the proposed decision.

On 28 June 2010 the Department of Families, Housing, Community Services and Indigenous Affairs advised that that their Minister had no comment to make on the proposed decision.

The Department of Climate Change, Energy Efficiency and Water has also advised that their Minister has no comment to make on the proposed decision.

On 29 June 2010 comments were received from Victorian Government agencies. These comments focussed on minor changes to the wording of the conditions.

The recommended conditions, taking into account any comments received including further internal advice from AGS, are in the final approval decision notice at [Attachment A](#). Further discussion on the changes is below.

Comments on draft approval notice (cover page)

No changes were suggested in comments. The department has added a new heading titled 'General' to reflect a new Annexure 1 (discussed below).

Annexure 1

A new Annexure 1 has been added to provide general explanation as to the meaning and intent of the approval, and to make the document more 'stand alone' from an action persons (eg developers) perspective. The explanatory text (first two paragraphs) is similar to that included in the draft decision notice.

The explanatory text also notes that the Victorian Government is responsible for Program evaluation, monitoring and reporting. These requirements are specified at Section 11 of the Program Report. Amongst other things, the Victorian Government must submit a Monitoring and Reporting Framework for your approval within 12 months of the date of this approval.

AGS advise that it is not possible to enforce approval conditions requiring actions to be completed by, or to the satisfaction of, a 'third party'. In this instance, the approved 'class of actions' relates to activities undertaken by developers and are not the responsibility of state agencies ('third parties'). The draft approval included a condition requiring the Victorian Department of Sustainability and Environment (DSE) to provide reporting to the department

on implementation of the MNES prescriptions as Precinct Structure Plans were finalised for each of the 28 precincts. This was intended as an interim measure pending finalisation of the overall Monitoring and Reporting Framework, and was agreed with DSE.

Consistent with the AGS advice, this agreed reporting arrangement has been included in the new Annexure 1 by way of further explanation of the approval. This means that it is no longer an explicit condition (which would be unenforceable), but is still captured and reflected in the 'stand alone' approval notice. We are satisfied that DSE will provide the reports agreed and believe that the risk of non-compliance is negligible.

Annexure 2

As noted above, the previous condition related to DSE reporting has been removed from the required conditions and placed at the new Annexure 1.

The conditions are otherwise unchanged, apart from specific references to each of the MNES prescriptions approved by yourself and potentially applicable to developments within the 28 precincts. This is desirable to clarify the intent and interpretation of the condition.

The Department is of the view that failing to follow the prescriptions would mean that a proponent is not taking the action consistently with *Delivering Melbourne's Newest Sustainable Communities* and would therefore not get the benefit of an approval. AGS has indicated that there is a risk that a Court would find that *Delivering Melbourne's Newest Sustainable Communities* imposes requirements on Victoria rather than on individual developers.

To mitigate that risk, the MNES prescriptions have been referenced to make it clear to developers that actions must be undertaken in accordance with the prescriptions.

AGS has identified a risk that, even with the prescriptions attached as conditions, the detail of the MNES prescriptions may be difficult to enforce under the EPBC Act. The MNES prescriptions have been drafted to apply at a general level to a range of people undertaking varying actions. As a result a number of the requirements of the prescriptions are written in the passive voice and in general rather than specific terms. It may be hard to prove that a particular developer has not strictly complied with specific requirements in the prescriptions.

From a compliance perspective, the prescriptions will be largely enforced through existing Victorian legislation and requirements (see exception below). This means that developers are expected to comply with the prescriptions despite the risk that some detail is not enforceable, either under the Program, or by way of condition, by the Commonwealth.

Victoria does not regulate clearing of 'non native' vegetation (in this instance, degraded agricultural lands that do not meet the listing definition under the EPBC Act for Natural Temperate Grasslands of the Victorian Volcanic Plains) and developers could challenge the ability of DSE to apply the requirements of prescription for such 'non native' habitat. This only has implications for the Golden Sun Moth prescription (this species may occur on 'non native' grasslands) where an offset payment at approx. \$40,000 per hectare to contribute to acquisition of high quality habitat is required.

We believe that the risk of such a challenge is very low as it is difficult to see any benefit to a developer in pursuing such an approach, particularly given the money and time delays in pursuing a court challenge. In terms of MNES, 'non native' habitats are of low value for the Golden Sun Moth and a 'worst case' outcome (eg inability to apply offsets for 'non native' vegetation) would have minimal implications for the Program outcomes for this species.

Natural Temperate Grassland of the Victorian Volcanic Plain (NTG)

Current Status	Impacts	Conservation outcome	Activities to Achieve Outcome
<ul style="list-style-type: none"> ▪ <5% remains or 65 000ha (of original estimated extent of 870 000ha on the 2.3 million ha VVP Bioregion) ▪ Most (93%) on private lands and quality on these unsecured sites is deteriorating due to weed invasion and development pressures. ▪ Only 2% secure in conservation estate: <ul style="list-style-type: none"> ○ Craigieburn Grasslands Reserve (340ha), ○ Derrimut Grassland Reserve (154ha), ○ Boral Deer Park Grassland (90ha) ○ Laverton Grasslands (52ha) ▪ Most remnants west of Melbourne and subject to urban growth pressures ▪ Vic legislation does not protect NTG on private farming lands under threat from agricultural development 	<ul style="list-style-type: none"> ▪ Clearing 4 665ha grasslands <ul style="list-style-type: none"> ○ 525ha OMR/E6 (241 habitat ha) ○ 95ha RRL (37 habitat ha) ○ 3278 new precincts (1354 habitat ha) ○ 796 existing precincts (290 habitat ha) ▪ Total comprises <ul style="list-style-type: none"> ○ 72ha high quality, ○ 3696ha medium quality and ○ 897ha low quality ▪ Habitat hectare offset required under <i>Vic Native Vegetation Framework</i> is 3599ha. 	<ul style="list-style-type: none"> ▪ 2 conservation reserves totalling 15 000ha of which 10 000ha is NTG, to be owned and managed by the Crown ▪ Total comprises <ul style="list-style-type: none"> ○ 2609ha high quality ○ 7375ha medium quality ○ 108ha low quality ▪ Habitat hectare worth/gain is 4154ha ▪ 20% remaining NTG in VVP bioregion secured in reserves ▪ Additional retention of NTG in UGB of 2674ha in reserves and 'open spaces': <ul style="list-style-type: none"> ○ 158ha high quality ○ 2211ha medium quality ○ 306ha low quality ▪ Additional reserves in precincts subject to commonwealth approved Prescription and Biodiversity Strategy ▪ Reserves within UGB to be acquired as Crown lands and managed by Parks Victoria, ensuring consistent and sympathetic management ▪ Environmental Significance Overlays to be added to planning schemes for Melton and Wyndham LGA (where most NTG remain) providing legislative protection for NTG on private farm lands (permit needed for clearing) 	<p><i>Primary</i></p> <ul style="list-style-type: none"> ▪ Public Acquisition Overlay in planning scheme by June 2010 ▪ Environmental Significance Overlay in relevant local planning schemes by June 2010 ▪ Relevant prescriptions provided to DEWHA and approved by Minister-NTG, GSM, SLL, SRF, MFL <p><i>Secondary Activities</i></p> <ul style="list-style-type: none"> ▪ Acquisition schedule provided to DEWHA by December 2010 ▪ Interim Management Plan provided to DEWHA by December 2010 ▪ Monitoring reports to DEWHA on progress of implementing the interim management plan. Due to be submitted every six months in 2010-2011, and then annually until land is acquired. ▪ Approval of relevant sub-regional species strategies and bio-diversity conservation strategies by 2011. ▪ Performance standards for management monitoring and methodology provided to DEWHA by June 2011. ▪ New mapping program undertaken on private land to inform ESO's to protect other grasslands remnants on Werribee plains, provided by June 2013. ▪ Reports to DEWHA of Breaches of planning permits, clearing not in accordance with NVPP, CMP or relevant transport infrastructure document.

Grassy Eucalypt Woodland of the Victorian Volcanic Plain (GEW)

Current Status	Impacts	Conservation Outcome	Activities to Achieve Outcome
<ul style="list-style-type: none"> ▪ <5% remains (18 000ha-60 500ha remains in VVP Bioregion of original extent of 734 00ha) ▪ Most (92%) on private lands and quality on these unsecured sites is deteriorating due to agricultural pressures. ▪ Only 3% or 1800ha in secure in conservation estate: <ul style="list-style-type: none"> ○ Woodlands Historic Park Reserve (200ha) ○ Mount Ridley Reserve (100ha), ○ Amaroo Reserve (20ha) ○ Various smaller urban reserves 	<ul style="list-style-type: none"> ▪ UGB boundary revised to exclude high quality woodland (700ha supporting 314ha of GEW) ▪ Clearing 709ha <ul style="list-style-type: none"> ○ 125ha for OMR/E6 (33 habitat ha) ○ None for RRL ○ 449 new precincts (118 habitat ha) ○ 135 existing precincts (36 habitat ha) ▪ Total comprises <ul style="list-style-type: none"> ○ 242ha medium quality ○ 466ha low quality ▪ Habitat hectare offset required under <i>Victorian Native Vegetation Framework</i> is 300ha 	<ul style="list-style-type: none"> ▪ Creation 1 200ha reserve (not defined) ▪ Almost doubling the area of Grassy Woodland in reserves by creation of a reserve six times the current largest. ▪ Quality not yet assessed, but habitat hectare worth/gain is assessed as 300ha. ▪ Additional retention of NTG in UGB of 773ha in reserves and 'open spaces': <ul style="list-style-type: none"> ○ 581ha zoned for conservation ○ 192ha zoned 'farming' ▪ 80% within UGB to be retained in secure reserves ▪ Network of smaller reserves within UGC to consolidate and connect key areas (stony knolls, plains grasslands, floodplains and riparian vegetation) ▪ All reserves to be acquired as Crown lands and managed by Parks Victoria, or protected under perpetual agreements ▪ Environmental Significance Overlays to be added to planning schemes for Whittlesea LGA (where most NTG remain) providing additional legislative protection (permit needed for clearing on rural lands) 	<p><i>Primary Activities</i></p> <ul style="list-style-type: none"> ▪ Conservation zoning and Environmental Significance Overlay and any other appropriate planning controls applied to the Hume and Whittlesea Planning Schemes by June 2010. ▪ Remaining relevant prescription provided to DEWHA and approved by Minister: GEW, MFL, GSM <p><i>Secondary Activities</i></p> <ul style="list-style-type: none"> ▪ Biodiversity Conservation Strategy for the Northern Growth Areas submitted for approval and prepared by March 2011. The biodiversity conservation strategy will define the mechanism by which retained GEW will be permanently protected and managed to improve quality within the Growth Area. ▪ Hume and Whittlesea Growth Area Framework Plans (GAFF) revised to reflect the aims of the biodiversity conservation strategies provided to DEWHA by June 2011 for consultation. GAFF's will identify conservation corridors and principles for managing protection of GEW. ▪ Eighty per cent of GEW in Hume and Whittlesea Growth areas are protected and managed in secure conservation reserves by 2025. ▪ Reports to DEWHA of breaches of planning permits, clearing not in accordance with native vegetation precinct plans and conservation management plans or relevant transport infrastructure document.

Golden Sun Moth (GSM)

Current status	Impacts	Conservation Outcomes	Activities to Achieve Outcomes
<ul style="list-style-type: none"> ▪ Typically associated with NTG, wide distribution beyond VVP ▪ Unlikely to recolonise once extinct from a site ▪ Populations may be fragmented by barriers (eg absence suitable habitat) >200m ▪ 50 recorded sites in Melbourne region, half of which are <10ha and less than 10 are protected ▪ Poorly protected mainly in small urban grassland reserves ▪ An estimated 15% of habitat in the VVP modelled as 'high contribution to species persistence' is protected ▪ Main Melbourne region reserves are: <ul style="list-style-type: none"> ○ Craigieburn Grassland Reserve (320ha) ○ Cooper Street Grassland Reserve (40ha) ○ Derrimut Grassland Reserve (152ha) ○ Woodlands Heritage Park (40ha) ○ Altona Reserve (4ha) ○ Amberfield Reserve (2ha) ○ Highlands Craigieburn (40ha) ○ Amaroo Reserve (20ha) 	<ul style="list-style-type: none"> ▪ Clearing 5 374ha potential habitat (NTG and GEW) ▪ Habitat matrix approach to be used to achieve protection of highest priority populations and habitat <ul style="list-style-type: none"> ○ Maps have been prepared identifying habitat modelled as likely to have a significant contribution to the persistence and protection of the species ○ The mapping is based on known records of GSM and NTG habitat, and uses modelling to predict areas of low, medium and high value for the species ○ Surveys must be undertaken in accordance with the <i>Biodiversity Precinct Structure Planning Kit</i> to confirm (or otherwise) the presence of the species ○ Like for like offsets must be provided for clearing of GSM habitat. ○ Clearing of habitat cannot occur until 80% of high contribution habitat is protected in the VVP bioregion (15% is currently protected) 	<ul style="list-style-type: none"> ▪ Protection 16 200ha of potential habitat ▪ Protection of an additional 300ha within the UGB known to hold populations ▪ Two year surveys across growth areas and VVP to be undertaken to confirm/identify 'high contribution' habitat ▪ 80% 'high contribution' habitat to be conserved within the VVP ▪ Surveys undertaken prior to clearing – clearing of confirmed GSM habitat not permitted until 80% rule met (apart from exceptions in prescription) ▪ Clearing known habitat requires offset of equivalent quality habitat (with confirmed GSM) before proceeding ▪ GSM sites retained within the UGB (eg not offset) must be under permanent protection tenure (can be donated to Crown) with a 10 year fully funded management plan 	<p><i>Primary Activities</i></p> <ul style="list-style-type: none"> ▪ Prescription for GSM submitted to DEWHA and approved by the Minister. ▪ Targeted surveys for GSM undertaken across range for two seasons with date provided to DEWHA. ▪ Sub-regional species strategy for GSM submitted to DEWHA for approval by June 2011. ▪ Prescriptions implemented in existing precincts and then precincts within revised urban growth boundary. ▪ Proposed grassland and woodland reserves established, providing large areas of permanently protected suitable habitat for the species. <p><i>Secondary Activities</i></p> <ul style="list-style-type: none"> ▪ Guidance note for implementation of prescriptions published by 2010 for stakeholders. ▪ Reporting on progress towards 80% retention published every two years. ▪ Conservation areas for the species within the program area secured through native vegetation precinct plans and conservation management plans prepared in accordance with biodiversity precinct planning kit. ▪ Reports to DEWHA of breaches of planning permits, clearing not in accordance with native vegetation precinct plans and conservation management plans or relevant transport infrastructure document.

Spiny Rice Flower (SRF)

Current status	Impacts	Conservation Outcomes	Activities to Achieve Outcomes
<ul style="list-style-type: none"> ▪ Typically associated with NTG, wide distribution in VVP ▪ 184 known populations in Victoria with 9 protected ▪ Threats include habitat degradation through weed invasion and inappropriate grazing and fire regimes ▪ May not persist in smaller urban reserves - populations under threat from fragmentation due to requirement for male and female plants for reproduction and poor seed germination (requires fire and rain) ▪ Regional status (inside and outside the UGB) is <ul style="list-style-type: none"> ○ 46 known populations ○ 33 support <30 plants ○ 3 support 30-100 plants ○ 7 support >100 plants ▪ The 7 largest populations are: <ul style="list-style-type: none"> ○ Truganina Cemetery (375 plants) – unprotected ○ Ravenhall Grasslands (500 plants) - unprotected ○ Griegs Rd, Rockbank (400 plants) - unprotected ○ Kirks Bridge Road (400 plants) - unprotected ○ Melbourne Water site - protected ○ Rockbank site - protected) ○ Burnside – not protected 	<p>Clearing 5 374ha potential habitat (NTG and GEW)</p> <ul style="list-style-type: none"> ▪ Habitat matrix approach to be used to achieve protection of highest priority populations and habitat <ul style="list-style-type: none"> ○ Maps have been prepared identifying habitat modelled as likely to have a significant contribution to the persistence and protection of the species ○ The mapping is based on known records of SRF and NTG habitat, and uses modelling to predict areas of low, medium and high value for the species ○ Surveys must be undertaken in accordance with the <i>Biodiversity Precinct Structure Planning Kit</i> to confirm (or otherwise) the presence of the species ○ Like for like offsets must be provided for clearing of SRF habitat. ○ Clearing of habitat cannot occur until 80% of high contribution habitat is protected in the VVP bioregion (<ul style="list-style-type: none"> ▪ Protection 16 200ha potential habitat, including known populations within the proposed grassland reserve ▪ Three of the 7 known large populations will be secured and protected by the Program <ul style="list-style-type: none"> ○ Truganina Cemetery ○ Ravenhall Grasslands ○ Kirks Bridge Road ▪ Application of the prescription will result in protection of the Griegs Rd site (>200 plants) ▪ 80% ‘high contribution’ habitat to be conserved within the VVP ▪ Surveys undertaken prior to clearing – clearing of confirmed SRF habitat not permitted until 80% rule met (apart from exceptions in prescription) ▪ Clearing known habitat requires offset of equivalent quality habitat before proceeding ▪ SRF sites retained within the UGB (eg not offset) must be under permanent protection tenure (can be donated to Crown) with a 10 year fully funded management plan ▪ Sites with >200 plants must be protected ▪ If species present, and clearing is allowed under the prescription, a fully costed translocation and/or propagation plan to satisfaction of DSE is required 	<p><i>Primary Activities</i></p> <ul style="list-style-type: none"> ▪ Prescription for SRF submitted to DEWHA and approved by the Minister. ▪ Prescriptions implemented in existing precincts and then precincts within revised urban growth boundary. ▪ Proposed grassland and woodland reserves established, providing large areas of permanently protected suitable habitat for the species. <p><i>Secondary Activities</i></p> <ul style="list-style-type: none"> ▪ Guidance note for implementation of prescriptions published by 2010 for stakeholders. ▪ Reporting on progress towards 80% retention published every two years. ▪ Conservation areas for the species within the program area secured through native vegetation precinct plans and conservation management plans prepared in accordance with biodiversity precinct planning kit. ▪ Reports to DEWHA of breaches of planning permits, clearing not in accordance with native vegetation precinct plans and conservation management plans or relevant transport infrastructure document.

Striped Legless Lizard (SLL)

Current status	Impacts	Conservation Outcomes	Activities to Achieve Outcomes
<ul style="list-style-type: none"> ▪ Typically associated with NTG, wide distribution beyond VVP ▪ Poorly conserved and mainly in smaller reserves ▪ Populations may not be able to persist in small reserves (DSE suggests >300 individuals in a larger reserve is minimum) ▪ In Victoria Striped Legless Lizards occur within four reserves: Derrimut Grassland Reserve, Iramoo Wildlife Reserve, Terrick-Terrick National Park (north of Bendigo) and Craigieburn Grasslands (north of Melbourne). These reserves cover more than 800 hectares. ▪ Total number of individuals of this species is unknown, but likely to be in excess of 1000 individuals. 	<ul style="list-style-type: none"> ▪ Clearing up to 5 374ha potential habitat 	<ul style="list-style-type: none"> ▪ Protection 16 200ha potential habitat ▪ Surveys undertaken prior to clearing ▪ If species present, and clearing is allowed under the prescription, a translocation plan to satisfaction of DSE required ▪ Additional network of retained habitat associated with Merri Creek corridor may support habitat ▪ Supports Recovery Plan objectives to secure 'West Melbourne' cluster population, consistent with objectives for protection of 'North Melbourne' cluster ▪ Offset 'premium' for clearing potential habitat to assist in specialist management for the species in proposed new grassland reserves (removal barriers to connectivity etc) 	<p><i>Primary Activities</i></p> <ul style="list-style-type: none"> ▪ Prescription for SLL submitted to DEWHA and approved by the Minister. ▪ Prescriptions implemented in existing precincts and then precincts within revised urban growth boundary. ▪ Proposed grassland reserves established, providing large areas of permanently protected suitable habitat for the species. <p><i>Secondary Activities</i></p> <ul style="list-style-type: none"> ▪ Surveys undertaken prior to precinct planning. ▪ Conservation management plans created to inform the precinct structure plans. ▪ Protocol on translocation provided to DEWHA by 2010 ▪ Management and monitoring of populations in western grassland reserves, including and populations translocated from within program area. Results provided to DEWHA as per grassland reserve management plan. ▪ Reports to DEWHA of breaches of planning permits, clearing not in accordance with native vegetation precinct plans and conservation management plans or relevant transport infrastructure document.

Matted Flax-lily (MFL)

Current status	Impacts	Conservation Outcomes	Activities to Achieve Outcomes
<ul style="list-style-type: none"> ▪ Typically associated with four bioregions: Victorian Volcanic Plains, South East Coastal Plain, South Eastern Highlands and Victorian Midlands. ▪ Occurs within lowland grasslands, grassy woodlands, valley grassy forest, creek-line herb-rich woodland ▪ 120 known populations mainly north and SE of Melbourne ▪ Threats include residential subdivision 	<ul style="list-style-type: none"> ▪ Likely to occur in northern UGB ▪ Known important populations (draft recovery plan) not in study area ▪ Not detected during surveys to date ▪ Habitat matrix approach to be used to protection 80% highest priority habitat <ul style="list-style-type: none"> ○ Maps have been prepared identifying habitat modelled as likely to have a significant contribution to the species' persistence and protection ○ The mapping is based on known records of GSM and NTG habitat, and uses modelling to predict areas of low, medium and high value for the species ○ Surveys in accordance with the <i>Biodiversity Precinct Planning Kit</i> ○ Like for like offsets must be provided for clearing of MFL habitat. ○ Clearing of habitat cannot occur until 80% of high contribution habitat is protected in the Victorian volcanic plain bioregion (<ul style="list-style-type: none"> ▪ 80% 'high contribution' habitat to be conserved within Victorian Volcanic Plain bioregion ▪ Surveys undertaken prior to clearing – clearing of confirmed MFL habitat not permitted until 80% rule met for 'bioregion' (apart from exceptions in prescription) ▪ If species present, and clearing is allowed under the prescription, a fully-costed translocation plan, including monitoring, to the satisfaction of DSE is required ▪ An additional 600ha network of grasslands, grassy woodlands and riparian corridors will be retained in the northern growth zone (where the species is most likely to occur), with further surveys and sympathetic management for the species. 	<p><i>Primary Activities</i></p> <ul style="list-style-type: none"> ▪ Prescription for MFL submitted to DEWHA and approved by the Minister. ▪ Prescriptions implemented in existing precincts and then precincts within revised urban growth boundary. ▪ Proposed grassland and woodland reserves established, providing large areas of permanently protected suitable habitat for the species. <p><i>Secondary Activities</i></p> <ul style="list-style-type: none"> ▪ Guidance note for implementation of prescriptions published by 2010 for stakeholders. ▪ Reporting on progress towards 80% retention published every two years. ▪ Conservation areas for the species within the program area secured through native vegetation precinct plans and conservation management plans prepared in accordance with biodiversity precinct planning kit. ▪ Reports to DEWHA of breaches of planning permits, clearing not in accordance with native vegetation precinct plans and conservation management plans or relevant transport infrastructure document.

Growling Grass Frog (GGF)

Current Status	Impacts	Conservation Outcome	Activities to Achieve Outcome
<ul style="list-style-type: none"> ▪ Historical distribution across large area of south-east Australia, including Tasmania at altitudes up to 1300m. ▪ Listed as vulnerable in 2000 due to a marked decline in range resulting in fragmented and disjunct populations. ▪ Species is highly mobile, moving up to 2km between water bodies, and requires a mosaic of adjacent aquatic and terrestrial habitats for feeding, reproduction and over-wintering. ▪ It is widely distributed within the greater Melbourne region, and Victoria is considered the stronghold of the species. It occurs in a wide range of habitat, from ephemeral wetlands and creeks in the west and north of Melbourne to the wetter areas in the south east of Melbourne. ▪ Important populations include: the Merri Creek and Donnybrook area and nearby Darebin Creek; western populations including Koroit Creek population in the western investigation area; a population to the south-west, around Little River and other waterways and wetlands in the proposed Western Grassland Reserves. 	<ul style="list-style-type: none"> ▪ Significant impacts on some important populations are expected in the short to medium term, as well as some local scale impacts. ▪ The degree and scale of impacts will depend on how well habitat connectivity is put in place before major new developments start. 	<ul style="list-style-type: none"> ▪ Functioning sustainable populations of growling grass frog within, and adjacent to the new UGB with connectivity between populations. ▪ Protection and enhancement of important populations of growling grass frog including the populations at Merri Creek, Pakenham and south-east growth area, Kororoit Creek and Darebin Creek in the north. 	<p><i>Primary Activities</i></p> <ul style="list-style-type: none"> ▪ Prescription for GGF submitted to Minister for approval. ▪ Sub-Regional Species Strategy submitted to Minister for approval by February 2011. The sub-regional species strategy consistent with the prescription will be developed to inform biodiversity conservation strategies and growth area framework plans. <p><i>Secondary Activities</i></p> <ul style="list-style-type: none"> ▪ Reports to DEWHA of breaches of planning permits, clearing not in accordance with native vegetation precinct plans and conservation management plans or relevant transport infrastructure document. ▪ The draft prescription for the growling grass frog specifies a number of objectives for the management of the species: <ul style="list-style-type: none"> ○ Conservation management plans for the growling grass frog must demonstrate how habitat and connectivity is retained, created and managed for an important or potentially important population, and how it will processes adaptively manage habitat and threatening. ○ Retention, upgrading and connection or buffering of existing habitat within proposed precincts ○ Creation of new habitat within proposed precincts, and ○ Careful management of hydrology and aquatic vegetation to avoid introduction of predatory fish.

Southern Brown Bandicoot (SBB)

Current Status	Impacts	Conservation Outcome	Activities to Achieve Outcome
<ul style="list-style-type: none"> ▪ Listed as endangered in 2001 	<ul style="list-style-type: none"> ▪ Significant impacts on SBB will 	<ul style="list-style-type: none"> ▪ Functioning sustainable 	<p><i>Primary Activities</i></p>

<p>due to a marked decline in distribution and abundance.</p> <ul style="list-style-type: none"> ▪ The species has a high fecundity, suggested the potential to recover if the right conditions exist. ▪ Species is well known in south-east of Melbourne and has been recorded in the south-east investigation area and adjacent precincts. ▪ Bandicoots in this area form part of a population that ranges from the south-east Melbourne to Wilson's Promontory, which is one of five isolated populations in Victoria. ▪ The largest population within the Melbourne area occurs at the Royal Botanic Gardens Cranbourne. 	<p>occur in the south east investigation area. The impacts will occur as a result of habitat removal or alteration during urban development and quarrying activities.</p> <ul style="list-style-type: none"> ▪ The degree and scale of impacts will depend on how well habitat connectivity is maintained, and the degree to which nearby human occupation is managed and contained. 	<p>populations of SBB within, and adjacent to the new UGB with connectivity between populations.</p> <ul style="list-style-type: none"> ▪ Protection and enhancement of important populations of SBB including the population at the Royal Botanic Gardens Cranbourne. 	<ul style="list-style-type: none"> ▪ Prescription for SBB submitted to Minister for approval. ▪ Sub-Regional Species Strategy submitted to Minister for approval by February 2011. The sub-regional species strategy consistent with the prescription will be developed to inform precinct biodiversity conservation strategies and growth area framework plans. <p><i>Secondary Activities</i></p> <ul style="list-style-type: none"> ▪ Reports to DEWHA of breaches of planning permits, clearing not in accordance with native vegetation precinct plans and conservation management plans or relevant transport infrastructure document. ▪ Conservation Management Plan must be prepared to satisfaction of DSE prior to exhibition of Precinct Plan or other development approval, and must be consistent with any relevant sub-regional strategy; ▪ Conservation management plans for the SBB must demonstrate how: <ul style="list-style-type: none"> ○ Retention, upgrading and connection or buffering of existing habitat so the population can function in the long term; ○ Monitoring employed for thirty years; ○ Actions related to development will be sequenced to ensure there is no net loss of habitat and local population (using best efforts);
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Migratory (MIG)

Current Status	Impacts	Conservation Outcome	Activities to Achieve Outcome
<ul style="list-style-type: none"> ▪ There are a large number of migratory bird species that inhabit 	<ul style="list-style-type: none"> ▪ Impacts on migratory species will occur either through direct 	<ul style="list-style-type: none"> ▪ A network of small and large conservation reserves including a 	<p><i>Primary Activities</i></p> <ul style="list-style-type: none"> ▪ Prescription for Migratory

<p>the Melbourne bioregion on a regular basis including marine, shorebird and wetland species.</p> <ul style="list-style-type: none"> ▪ No known nationally significant areas for shorebirds occur within the investigation areas. ▪ Nationally significant numbers for shorebirds occur within wetlands adjacent to the investigation areas, particularly those within the proposed Western Grassland reserves and those associated with Merri Creek in the north. ▪ 	<p>loss of wetland habitat or the disturbance and modification of habitat that may occur from increased urban development.</p> <ul style="list-style-type: none"> ▪ 670 hectares of wetland habitat is estimated to occur within the program area. A worst case scenario would see up to 600 hectares lost during development. ▪ The degree and scale of impacts will depend on the outcomes of the precinct planning process. 	<p>diversity of wetland areas managed for their migratory species and other wetland values, particularly in areas distant from urban development;</p> <ul style="list-style-type: none"> ▪ Improved management and design of retained and constructed wetlands to maximise habitat opportunities; ▪ Major new area of re-established wetlands managed for water quality mitigation and biodiversity conservation; ▪ Improved water quality entering Western Port Ramsar site, particularly through the establishment of a new wetland in the Koo-Wee-Rup area; ▪ Same or improved water quality entering Port Phillip Bay Ramsar site; ▪ Limited indirect disturbances (eg. dogs) to identified wetlands; 	<p>species submitted to Minister for approval.</p> <ul style="list-style-type: none"> ▪ <p><i>Secondary Activities</i></p> <ul style="list-style-type: none"> ▪ Outcome of wetland investigation (Koo-Wee-Rup) provided to DEWHA by March 2011. ▪ Management plan for proposed wetlands prepared and implemented, with monitoring results provided to DEWHA as agreed under monitoring and reporting framework. ▪ Biodiversity conservation strategies identify important wetland areas for retention and management. ▪ Surveys undertaken according to PSP and nationally significant bird sites protected with 200m buffer. ▪ Breaches of management obligations reported to DEHWA as agreed. ▪ Integrated Water Management plans prepared for each precinct ▪ Ramsar management plans updated. ▪ Dogs and pedestrians excluded from important shorebird sites
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(Source: DSE, 28 April 2010 Note: Table includes national and state listed ECs)

Precinct	PSP Status	MNES	Native Vegetation Retained	Native Vegetation Removed	Protection Measures	Impact on MNES	MNES Offset Required
Cardinia Road Employment (460ha)	At Panel Hearing – no contention on biodiversity outcomes	Growling Grass Frog (GGF)	0.914ha Swampy Woodland and Swamp Scrub (both endangered in Gippsland Plain bioregion), 1 scattered tree	1.59 hectares of Swampy Woodland and Swamp Scrub, 1 scattered tree (not EPBC listed).	Protection of 111.26ha of encumbered open space that will be revegetated with wetlands to provide habitat for GGF (within this is retention of 11 dams with previous records or potential habitat for GGF to be enhanced, and creation of 24 dedicated GGF ponds to enhance habitat).	Removal of 2 wetlands with previous records for Growling Grass Frog, removal of 21 dams in the precinct, 4 with potential habitat for Growling Grass Frogs at the time of survey.	<i>None – Avoidance and retention of GGF habitat on site as a result of prescription requirements.</i>
Clyde North (2011 commencement) (533ha)	Post Exhibition of Amendment prior to Panel Hearing	Growling Grass Frog (GGF) Southern Brown Bandicoot (SBB) Dwarf Galaxias Australian Grayling	1.54 hectares of Swamp Scrub, Plains Grassy Woodland, Swampy Riparian Woodland, 38 Scattered trees	4.09 hectares of Wetland formation, Plains Grassy Woodland, Swampy Riparian Woodland, 20 Scattered Trees (not EPBC listed).	20ha of encumbered land along precinct side of Cardinia Creek to be revegetated as habitat and ecological corridor for GGF and SBB. Min 100m buffer to Cardinia Creek for improved water quality for Australian Grayling (if present) and discharges to Western Port Ramsar site. Protection of 2 existing wetlands that are habitat for Dwarf Galaxias and GGF and the creation of an additional 8 wetlands with habitat for these species.	Removal of 8 existing farm dams with low - moderate likely habitat for GGF and no previous records.	<i>None – Avoidance and retention of GGF habitat on site as a result of prescription requirements..</i>
Taylors Hill West (210ha)	Waiting on Panel report	Growling Grass Frog (GGF) Stripped Legless Lizard (SLL)	1.4 hectares Plains Grassy Wetland	54.72 hectares of Degraded Treeless Vegetation	1.4ha of GGF habitat protected as part of Plains Grassy Wetland. SLL translocation plan required to be implemented for any development permit (potential habitat).	nil	<i>None - Avoidance and retention of GGF habitat on site as a result of prescription requirements. Precautionary translocation plan under SLL prescription.</i>
Melton North (140ha)	Waiting on Panel report	Stripped Legless Lizard (SLL)	Nil	Nil	SLL translocation plan required to be implemented for any development permit (potential habitat).	nil	<i>None – Precautionary translocation plan under SLL prescription.</i>
Toolern (2400ha)	Waiting on Panel report	Growling Grass Frog (GGF) Stripped Legless Lizard (SLL) Grassy Euc. Woodland of	89.52ha – including 9.925ha of GEVVVP.	15.46ha	33ha of potential GGF habitat retained along Toolern Creek within future regional open space. SLL translocation plan required to be implemented for potential habitat.	nil	<i>None - Avoidance and retention of GGF habitat on site as a result of prescription requirements. Precautionary translocation plan under SLL prescription.</i>

		the Victorian Volcanic Plain (GEVVVP)					
Craigieburn R1 (1340ha)	Post Exhibition of amendment prior to Panel Hearing	Stripped Legless Lizard (SLL) Golden Sun Moth (GSM) GEVVVP	1.7ha Stony Knoll Shrubland), 1.06ha GEVVVP	Potentially 1 scattered tree.	SLL translocation plan for potential habitat. GSM offset for non-native vegetation removal.	GSM habitat - 31.4 hectares of non-native vegetation to be removed.	<i>31.4ha of non-native GSM habitat to be offset at a ratio of 1:1 under prescription.</i>
Craigieburn R2 (455ha)	Panel completed 16/4/10; awaiting Panel report by mid July	Stripped Legless Lizard (SLL) Golden Sun Moth (GSM) Matted Flax Lily (MFF) GEVVVP	10.85ha GEVVVP and 31 scattered trees.	11.89ha	Single specimen of Matted Flax Lily located and to be retained. 10.85ha of GSM habitat protected. SLL translocation plan for potential habitat	Majority of the rest of the site non-native GSM habitat will be developed for other purposes and likely to remove GSM habitat totalling 444.15 Ha	<i>Golden Sun Moth habitat that is lost is to be offset at ratios of 2:1, 1.5:1 or 1:1 depending on the habitat quality of the site impacted under the prescription. Some sites have also been individually referred.</i>
Truganina Community (2010ha)	Panel started 9/12/09 , suspended due to Golden Sun Moth issues; further directions hearing 29/7/10	Striped Legless Lizard (SLL) Golden Sun Moth (GSM) Spiny Rice Flower (SRR) Natural Temperate Grasslands of the Victorian Volcanic Plain (NTGVVP)	37.64ha NTGVVP	44.90ha NTGVVP	37.64ha conservation of GSM habitat required under prescription. Negotiated with GAA retention of SLL offset and a translocation plan requirement. Spiny Rice Flower located, but protected within the conservation reserve	44.90ha GSM habitat to be removed (though much of this does not meet the threshold) Additional areas of non native GSM habitat to be removed 139.3ha	<i>GSM habitat that is lost is to be offset at ratios of 2:1, 1.5:1 or 1:1 depending on the habitat quality of the site impacted under the prescription. Offset for cleared NTGVVP under prescription. Some sites have also been individually referred.</i>

ATTACHMENT C1

EXISTING 28 PRECINCTS - SUMMARY

Information on the existing 28 precincts is in the Strategic Impact Assessment Report (SIAR) *Delivering Melbourne's Newest Sustainable Communities Strategic Impact Assessment Report* (Victorian Government 2009a) and the Program report *Delivering Melbourne's Newest Sustainable Communities Program Report* (Victorian Government, December 2009)([Attachment D](#)). The summary below draws on these documents and the detailed information at [Attachment C2](#). A summary of the overall Program is also attached.

Background

Figure 1 at [Attachment C1](#) shows the existing 28 precincts (equivalent to residential suburbs) that are the subject of this draft approval decision. These existing 28 precincts occur within Melbourne's current growth boundary (at the time of writing) and have been considered in the strategic assessment of the impacts of the Program.

The existing 28 precincts cover 15,581ha of land. Development will take the form of residential subdivisions and associated public infrastructure such as roads, sewerage and power. Developments will also include local service centres, employment zones and light industry. Under the Program, statutory Precinct Structure Plans must be prepared and adopted for each precinct before any development can commence. Development must occur in accordance with prescriptions for the protection of matters of national environmental significance (MNES). The Victorian Department of Sustainability and Environment (DSE) has a key oversight role to ensure that these requirements are met.

According to the Program, 10 precincts are proposed for development in 2010 with the remaining scheduled for release in subsequent years. A summary of MNES measures implemented to date for 8 of these precincts is attached. These precincts have well advanced Precinct Structure Plans.

Project justification and benefits

Detailed information on the justification for the overall Program is in the SIAR. Further information on economic and social considerations is also at [Attachment C2](#).

According to the SIAR, the Program to expand Melbourne's urban growth boundary is the Victorian Government's response to the anticipated growth in the city's population of another 1.8 million people in the next 30 years, to bring the total population for the city past five million. To accommodate this growth and provide affordable housing, the Victorian Government is planning that 600,000 new dwellings will be constructed in metropolitan Melbourne over the next 20 years, with 316,000 dwellings in the established areas and 284,000 dwellings in Melbourne's growth areas.

It is anticipated that there will be a similar increase in the number of jobs in Melbourne with a growth from 1.86 million to 3 million by 2036. Most of these jobs will be located in central and inner Melbourne, adding to the congestion of the city's inner and middle areas. The Program aims to employ a "polycentric" city structure that includes several large employment centres.

According to the Victorian Government, the Program seeks to design and integrate urban development around high capacity, efficient transport infrastructure (such as the Regional Rail Link), and increase the levels of housing and employment within major transport corridors. These employment corridors will:

- provide for substantial increase in employment, housing, education and other

- opportunities along each corridor, linked though improved connectivity
- link outer areas to a greater choice of jobs, services and goods in the corridors, and
 - provide transport networks that allow both circumferential and radial movements.

The Program also seeks to address the imbalance of Melbourne's growth that has focussed on eastward and south-eastward expansion at the expense of development to the west and north. The Victorian Government believes that creation of these new growth areas in the northern and western investigation areas will provide a greater balance to Melbourne's expansion with easier and more equitable access to affordable housing, employment and services for the growing population. The Program seeks to achieve a spatial arrangement of land use and transport that will both stimulate development and sustain efficient economic activity within a metropolitan context that is progressively restructured to reflect the aims of a "polycentric" city.

The existing 28 precincts are integral to the implementation of the social and economic aspects of the Program for Melbourne's urban expansion. These precincts were included so that their precinct planning process could be carried out in accordance with the Program and consistent with its social and environmental objectives.

In summary, the Program seeks to:

- deliver affordable housing in an orderly and planned manner to cater for Melbourne's growth
- provide high capacity, efficient transport infrastructure which does not contribute to inner city congestion
- integrate urban development with transport infrastructure to ensure easier and more equitable access to employment, education and services, and
- deliver net gains in protection of MNES.

The Program proposes broad conservation activities and outcomes supported by planning frameworks, strategies, policies, plans and mechanisms to ensure the long term protection of MNES for future generations. The Program provides for the creation of large grassland and woodland reserves to protect critically endangered ecological communities, and a series of smaller reserves protecting threatened species, riparian corridors and broader biodiversity.

Project impacts on MNES

Listed species and ecological communities

A full discussion of impacts is at [Attachment C2](#). Tables summarising impacts and outcomes on relevant MNES from the overall Program, towards which development of the existing precincts will contribute, are attached.

Listed species and ecological communities expected to be impacted by developments within the existing precincts are:

- Natural Temperate Grasslands of the Victorian Volcanic Plains (NTGVVP)
- Grassy Eucalypt Woodland of the Victorian Volcanic Plains (GEVVVP)
- species typically associated with these ecological communities (Golden Sun Moth, Spiny Rice-flower, Striped Legless Lizard, Matted Flax-lily)
- Southern Brown Bandicoot, and
- Growling Grass Frog.

You approved prescriptions for the NTGVVP, Golden Sun Moth, Spiny Rice-flower, Striped Legless Lizard, and Matted Flax-lily on 16 April 2010. You also approved the prescriptions for the GEVVVP, Southern Brown Bandicoot, Growling Grass Frog and migratory birds on 27 May 2010.

Against the broader Program context, development associated with the existing 28 precincts will result in loss of 768ha of NTGVVP out of a total projected loss of 4,665ha for the ecological community under the Program (17% of total loss). For GEVVVP, the Program will result in loss of up to 709ha of GEVVVP of which 135ha will occur within the existing 28 precincts (19% of total loss).

NTGVVP impacts and offsets

The 768ha of NTGVVP affected within the 28 existing precincts comprises 536ha of medium quality grasslands and 232ha of low quality grasslands. This is equivalent to 290 'habitat hectares' under the Victorian *Native Vegetation Management Framework* requirements endorsed through the Program. The lower relative score of 'habitat hectares' (eg less than half of the grassland areas to be actually cleared) reflects the relatively poor condition class of the grasslands affected.

The NTGVVP offset required for urban development within the existing 28 precincts is 530 'habitat hectares' (offset ratio of approximately 2:1). This offset will be discharged through acquisition and protection of listed grasslands in the 15,000ha Western Grassland Reserves (Figure 3). Acquisition of 1,060ha of poor to medium quality NTGVVP (eg of similar quality to that cleared) in the reserves would meet the offset requirements for the existing 28 precincts.

The Program will establish new 15,000ha grassland reserves (Western Grassland Reserves) increasing protection of the ecological community from 2% to 20% across the 2.3 million ha Victorian Volcanic Plains Bioregion, to be owned and managed by the state as a national park.

GEVVVP impacts and offsets

The 135ha of GEVVVP affected within the existing precincts comprises 51ha of medium quality woodlands and 84ha of low quality woodlands. This is equivalent to 37 'habitat hectares' under the Victorian *Native Vegetation Management Framework* requirements endorsed through the Program. The lower relative score of 'habitat hectares' (eg less than a third of the woodland areas to be actually cleared) reflects the relatively poor condition class of the woodlands affected.

The GEVVVP offset required is 57 'habitat hectares'. This offset will be met through acquisition and protection of equivalent habitat within the new 1,200ha GEVVVP reserve to be established south-west of Whittlesea (Figure 4). This new reserve, when established, will almost double the area of protected listed woodlands.

Golden Sun Moth, Spiny Rice-flower, Stripped Legless Lizard, Matted Flax-lily

These species may occur within native grasslands and woodlands affected by developments. Under the MNES prescriptions, surveys are required as part of the precinct planning process to determine any requirements for additional *in situ* conservation reserves and for offsets. Examples of the offsets required to date are at Attachment C1 for those precincts relatively advanced in the planning process.

The prescriptions will ensure conservation gains for these species through offsets within the new NTGVVP or GEVVVP reserves if the species are present and clearing is allowed. The prescriptions also set measurable performance targets to be achieved under the Program for the Golden Sun Moth, Spiny Rice-flower and Matted Flax-lily (protection of 80% of high quality habitat within the Victorian Volcanic Plains Bioregion). DSE is undertaking mapping over the next two years to identify high quality habitat that will require protection through offsets under the Program.

Southern Brown Bandicoot

An important population of the Southern Brown Bandicoot occurs at the Royal Botanic Gardens Cranbourne just outside the Casey growth area to the south-east of Melbourne. Developments within existing precincts in this area have the potential to impact habitat and movement corridors for this species.

The Program requires the protection and management of all populations and their supporting habitat within and adjacent to the new urban growth boundary. The prescription for the species specifies that precinct-level conservation management plans must be prepared to the satisfaction of DSE for the protection and management of populations. A sub-regional species plan is also required to ensure management and long term connectivity of disjunct populations across the Program area. Monitoring is required for a minimum of 30 years to ensure the objectives for protection and dispersal of populations are successful

In addition, the Program requires the creation of a new reserve area for the Southern Brown Bandicoot within an area of 200ha of potential habitat in the south-west corner of the new Casey growth area. This will be connected to the existing reservation for the bandicoot at the Royal Botanic Gardens Cranbourne via a linkage corridor to be established and maintained within the existing precincts.

Growling Grass Frog

Recorded populations of the Growling Grass Frog occur in the Casey development area (south-east of Melbourne) and the Hume-Whittlesea Growth Area (north of Melbourne). Precinct planning will ensure the protection of functioning sustainable populations of the species.

The prescription for the Growling Grass Frog specifies requirements for management including:

- retention, upgrading and connection or buffering of existing habitat so that the population can function over the long term (in practice, implementation of the prescription will result in 200m buffers around retained/ constructed water bodies where practicable, and up to 100m buffers along connected waterways)
- creation of new habitat within areas identified for urban development, and
- implementation of precinct-level conservation management plans to demonstrate how habitat and connectivity will be retained, created and managed to the satisfaction of DSE.

Implementation of the overall Program will achieve the following key outcomes:

- functioning sustainable populations of Growling Grass Frog within, and adjacent to the new growth centres, with connectivity between populations, articulated through a sub-regional species plan
- protection and enhancement of important populations of Growling Grass Frog including the populations at Merri Creek, Pakenham/south-east growth area, Kororoit Creek and Darebin Creek
- management of suitable habitat within the proposed Western Grassland Reserves for the Growling Grass Frog, and
- establishment of sustainable populations in the proposed 300ha south eastern wetlands of the Koo-Wee-Rup area south of Casey.

Conclusion on listed species and ecological communities

Construction associated with urban development within the existing 28 precincts will result in loss of 768ha of listed NTGVVP and 135ha of GEVVVP ecological communities. Impacts on these ecological communities are also likely to lead to losses for listed species associated with these ecological communities including the

Golden Sun Moth, Spiny Rice-flower, Striped Legless Lizard and Matted Flax-lily.

Impacts on the Growling Grass Frog and Southern Brown Bandicoot may also occur through developments in existing precincts adjacent to Casey in south-east Melbourne and Hume-Whittlesea (Growling Grass Frog only). Such impacts will be avoided through protection and management of habitat where the species are recorded. Conservation management plans will be implemented in each precinct where the species is present within the context of a sub-regional species strategy to ensure overall connectivity of populations between and within precincts.

The loss of NTGVVP, GEVVVP and associated habitat for listed species will be offset in accordance with Victoria's *Native Vegetation Management Framework* and the MNES prescriptions. This will result in a substantive net gain in the conservation and protection of the relevant MNES. Offsets are expected to be provided within the 15,000ha grassland reserve to the south-west of Melbourne and the 1,200ha grassy woodland reserve to the north of Melbourne. The creation of these large conservation reserves will secure long term protection for populations and suitable habitat for the ecological community and species impacted by the project. The department considers that impacts of urban development within the existing 28 precincts on listed threatened species and communities will be acceptable provided the project is implemented in accordance with the Program.

Wetlands of International Importance and listed migratory species

Urban development within the existing 28 precincts will not have direct or measurable indirect impacts on Ramsar sites (Western Port Phillip Bay and Bellarine Peninsula Ramsar site, Western Port Ramsar site and Edithvale-Seaford Ramsar site) because of their distance from these sites (5 – 20km) and the design requirements for 'best practice' management of storm water. Further information is at [Attachment C2](#).

Specialist flora and fauna reports identified the potential occurrence of 31 migratory bird species in the Program area although important habitat is not known to occur within the existing precincts. The prescriptions require surveys for listed species and protection of any sites that are used or are likely to be used including a 200m buffer as part of the precinct structure plan.

Application of prescriptions to date in existing precincts

Eight of the 28 existing precincts have nearly completed the state planning process and are scheduled for land release and development in 2010. A summary of the outcomes to date, and application of relevant MNES prescriptions, is attached. These precincts are located near Casey to the south-east of Melbourne and Hume/Whittlesea to the north of the city.

Four precincts contain suitable Growling Grass Frog habitat which will be retained and enhanced under the draft prescription for this species. The following outcomes are required:

- Cardinia Road Employment Precinct - 111.26ha of encumbered open space will be revegetated with wetlands to provide habitat for the species
- Clyde North Precinct - 20 ha of encumbered land along Cardinia Creek will be revegetated as habitat and a dispersal corridor for the Growling Grass Frog (as well as the Southern Brown Bandicoot)
- Toolern Precinct – 33ha of habitat will be retained along Toolern Creek, and
- Taylors Hill West Precinct – 1.4ha of habitat will be protected within a 124ha area retained for the Plains Grassy Wetland ecological community (protected at the state level, but not currently listed under the EPBC Act).

Conservation management plans are being prepared for the above precincts applying the prescription. Extracts from the draft Cardinia Road Employment Precinct Structure Plan are at [Figure 1, Attachment C2](#). This illustrates that all potential habitat for the Growling Grass Frog will be protected and managed for the species. Additional dispersal corridors will be provided and all habitat will be revegetated with native species (Table 13, Figure 1). New habitat, including an additional 24 Growling Grass Frog ponds, will be constructed in accordance with best practice standards (Table 13 and Plan 13, Figure 1).

The application of the Golden Sun Moth prescription has already provided an instance in the Truganina South Precinct where a patch of confirmed high contribution habitat has been found to meet the 100ha prescription retention threshold (when habitat outside the precinct is taken into account). As a consequence, the Truganina South Precinct Structure Plan has now been designed with a 37.64ha Golden Sun Moth conservation reserve in place (see [Figure 2, Attachment C2](#)). A population of Spiny Rice-flower also occurs in this reserve area and will be protected.

The Craigieburn R2 Precinct requires 10.85ha of Golden Sun Moth habitat to be protected. Surveys located an individual Matted Flax-lily plant in this precinct which is to be retained within Golden Sun Moth reserve.

The Craigieburn R1, Craigieburn R2 and Truganina Community Precincts contain 520ha of 'non native' grassland habitat which may be suitable for the Golden Sun Moth. This habitat does not meet the threshold for listed native grasslands and is of low value for conservation. There is no justification for protection of large areas of such habitat essentially comprising 'weedy paddocks'. Under the prescription, this habitat can be cleared subject to offset at ratios of 2:1, 1.5:1 or 1:1 depending upon the quality of the grassland. Offset will be used to acquire and/or rehabilitate listed grasslands containing Golden Sun Moth (expected to be within the Western Grassland Reserves).

Six precincts have been identified as having potential habitat for the Striped Legless Lizard, although the species has not been recorded. As a precaution, development approvals require that a Striped Legless Lizard translocation plan be implemented consistent with the prescription.

The department considers that the prescriptions are being effectively implemented in the precinct structure planning process to date. The outcomes being achieved are consistent with the Program predictions and requirements.

Recommended conditions

The department considers that the commitments and undertakings within the Program are appropriate in ensuring adequate protection of MNES. However, additional approval conditions are considered appropriate in addressing the following matters (further detail at [Attachment C2](#)):

- Reflection of the requirement for developers to implement the MNES prescriptions.
- Addition of an annexure to the approval to assist in the interpretation of the approval to developers and to note the interim reporting arrangements agreed with DSE, pursuant to Section 11 of the Program Report, prior to the formal evaluation, reporting and monitoring regime being agreed (required to occur within 12 months of the approval).

SUMMARY OF THE OVERALL PROGRAM

The Program

The endorsed Program describes the processes and requirements to deliver acceptable protection of MNES as a consequence of actions and activities of the Victorian Government's plan to cater for and accommodate Melbourne's expected population increase over the next 20 years. Figures 1 and 2 show the new urban expansion areas and the precincts within the existing growth boundaries covered by the Program. The proposed grassland and woodland reserve areas are shown at Figures 3 and 4.

The Program includes the following main elements:

- residential development within 24,615ha comprising four new growth areas to accommodate 284,000 new dwellings within a revised urban growth boundary totalling about 41,000ha
- development within specified existing residential precincts adjoining the new growth areas
- the Outer Metropolitan Ring Road/E6 (OMR/E6) corridor that includes up to four lanes each way
- a new four-track Regional Rail Link in the west and north of Melbourne passing through the new growth areas,
- two grassland reserves to the west of Melbourne totalling 15,000ha, and
- a woodland reserve to the north of Melbourne totalling 1,200ha.

The development actions require separate approval for 'classes of actions' pursuant to the EPBC Act.

Delivery of the Program

The Program will be delivered through existing Victorian planning legislation and additional endorsed policies and programs. Key elements are:

- the *Planning and Environment Act 1987* under which planning schemes regulate the use, development or conservation of land within Victoria, and
- the *Native Vegetation Management Framework 2002* under which native vegetation is protected and offsets must be provided for unavoidable clearing.

The Program requires relevant Victorian Local Government Planning Schemes to be progressively amended under the *Planning and Environment Act 1987*. These amendments must occur before developments can proceed and provide the statutory basis for implementing the Program. Key statutory plans which are relevant to the existing 28 precincts are Sub Regional Species Strategies, Precinct Structure Plans, Native Vegetation Precinct Plans and Precinct Conservation Management Plans. Another key element is the prescriptions for protection of MNES which set out planning rules to avoid, mitigate and offset MNES at the planning and development level.

Broad scale planning

The key broad scale statutory planning instruments are Growth Area Framework Plans which are being prepared for each of the four new and expanded existing growth areas. The plans must be consistent with biodiversity conservation strategies for each growth area. This process does not apply to the 28 precincts within existing growth boundary for which planning is well advanced.

Sub Regional Species Strategies will be developed for specific MNES, including the golden sun moth, growling grass frog and southern brown bandicoot. These MNES generally have requirements for management in the broader landscape, such as

buffers along riparian zones for the Growling Grass Frog. Each Sub Regional Species Strategy must be approved by the Australian Government prior to the finalisation of relevant Biodiversity Conservation Strategies.

Precinct level planning

Precinct Structure Plans (PSPs) define the future structure of a suburb or group of suburbs, detailing the location of housing, activity centres, employment centres, community facilities, local transport networks and open space. They also identify the location of biodiversity sites and listed heritage places and how the MNES prescriptions will be met.

The plans must be prepared in accordance with *Precinct Structure Planning Guidelines* that have been approved by the Victorian Government. The guidelines draw together all relevant planning legislation and policies that must be addressed in preparing statutory PSPs under the Program, including for management of MNES.

The PSP guidelines incorporate requirements for pre-planning surveys for biodiversity and MNES, prior to any development. The guidelines require that a Native Vegetation Management Plan and a Conservation Management Plan be developed alongside or as part of the PSP after surveys have been completed. PSPs must also be prepared in accordance with the MNES prescriptions.

A *Biodiversity Precinct Planning Kit* has also been prepared to assist councils, developers and consultants in the preparation of biodiversity background reports and biodiversity components for precinct structure planning. It identifies the information required and ensures assessment of biodiversity values is sufficiently detailed and of a standard that enables resultant documents (eg Native Vegetation Precinct Plans and Conservation Management Plans to be prepared as part of the PSP).

New reserves

The Victorian Government has committed in the Program to the establishment of landscape-scale reserves to offset the impacts from development. Two large grassland reserves (totalling 15,000ha will be established in western Melbourne ([Figure 3](#))). The statutory mechanism to be used to acquire these reserves is as follows:

- a Public Acquisition Overlay for the reserves is to be incorporated into the local planning schemes by June 2010. This essentially reserves the private lands for voluntary or compulsory acquisition by the Victorian Government.
- Environmental Significance Overlays for the reserve areas will be incorporated into local planning schemes by June 2010 essentially prohibiting developments on the native grasslands
- an acquisition schedule for the grasslands reserves will be finalised by December 2010
- lands will be progressively acquired by the state with the reserves to be in Crown ownership by 2020
- National Park or reserve management plans will be prepared and implemented by Parks Victoria. Performance standards for management and monitoring, based on an adaptive management approach, will be provided to the department by June 2011, and
- interim management plans will guide management and protection of the proposed grassland reserves before they are acquired, achieved by assisting landholders to manage threats and strengthening regulation to prevent degradation. These interim management plans will provided to the department by December 2010.

The Victorian Government has also committed to the protection of a 1,200ha grassy woodland reserve to the north of Melbourne. Protection will incorporate the planning mechanisms described above and permanent covenants with landholders.

The consolidation of offsets into large, contiguous reserves which are actively managed for conservation provides additional value compared to equivalent scattered offsets. The department considers that these reserves are a key step in the perpetual protection and conservation of MNES in the Victorian Volcanic Plains Bioregion.

Mechanism for offsets

Minimum requirements for offsets are specified within the Program and mandated in the MNES prescriptions. Offsets must be secured prior to commencement of clearing or under a credit system to be facilitated by DSE. The calculation of native vegetation losses and gains, and like for like criteria, must be in accordance with the habitat hectare system as prescribed by Victoria's *Native Vegetation Management Framework*. This framework requires a net gain to be achieved for protection of native vegetation under a three step approach:

1. to avoid adverse impacts, particularly through vegetation clearance
2. if impacts cannot be avoided, to minimise impacts through appropriate consideration in planning processes and expert input to project design or management, and
3. identification of appropriate offset options.

In the context of precinct structure planning this three-step approach is dealt with through the Native Vegetation Precinct Plan. The plan sets out the native vegetation to be retained and the vegetation to be removed as a result of the Precinct Structure Plan, including the specific mechanisms for offsetting any losses. In practice, DSE will calculate the required offset using currently available information and any additional survey data required from individual developers under the prescriptions.

The requirements for obtaining offsets are also specified within the MNES prescriptions. There are instances where the prescriptions will require offsets additional to the requirements of the *Native Vegetation Management Framework*. An example is additional offset funding for management of Striped Legless Lizard habitat.

The process of creating, advertising and selling native vegetations credits for offsets will be administered through the established BushBroker program. This will allow developers to secure and fund the creation and ongoing management of offsets. Most of the offsets will be accounted for within the proposed grassland and woodland conservation reserves. However, if areas of the required 'like for like' habitat cannot be found in these reserves the offset will have to be secured within constrained land of the northern investigation area or outside the urban growth boundary.

The Victorian Government's analysis indicates that proposed grassland reserves will provide sufficient offsets to meet requirements for MNES to be cleared. Further information is at Attachment C2.

Monitoring and Reporting

A monitoring and reporting framework will be developed by the Victorian Government, to ensure processes and outcomes are compliant with the Program, and must be approved by the Australian Government. The framework will describe the roles of the Australian and Victorian Governments and the proposed independent monitor.

The independent monitor will be appointed to undertake regular audits to ensure that the Victorian Government is compliant with the Program, and to investigate potential breaches. Terms of Reference will be agreed with the department.

The Victorian Government will be responsible for reporting under Victorian legislative processes in addition to ensuring that the construction of urban areas and transport infrastructure is compliant with the Program (as verified by the independent monitor).

Compliance

An overarching tenet of strategic approvals is that the actions must be taken in accordance with the endorsed Program, otherwise the approval for 'classes of actions' lapses and developers do not receive any advantages from the Program (eg individual referrals must be made).

At the more practical level, developers will be unable to obtain state approvals unless they meet Program requirements. In approving 'classes of actions' under the endorsed Program, you may also impose approval conditions. This means that the enforcement provisions of the EPBC Act will apply to any condition breaches. For example, if 'classes of actions' are approved subject to a condition that compliance with the prescriptions and other key elements of the Program is required, this would provide alternative mechanisms and options for compliance.

LEGAL CONSIDERATIONS RELATING TO DECISION-MAKING UNDER PART 10

General

On 2 February 2010, you endorsed the Victorian Government's Program for Melbourne's urban expansion as described in the document *Delivering Melbourne's Newest Sustainable Communities Program Report* (Victorian Government, December 2009) at Attachment D (the Program).

The Victorian Department of Sustainability and Environment (DSE) wrote to the department, on 5 May 2010, seeking approval of 'classes of actions' relevant to urban development under the Program.

This briefing attachment addresses the necessary considerations to inform your decision whether to approve the relevant classes of actions associated with urban development within the existing 28 precincts (Figure 1, Attachment C1) of Melbourne's current urban growth boundary under the Program and any conditions to be imposed. These existing 28 precincts occur within Melbourne's current growth boundary (at the time of writing) and were included within the Program on the basis that they are adjacent to the proposed four new growth areas and their specific precinct structure plans could be prepared in accordance with the Program.

This attachment draws on the following documents at Attachment D:

- the endorsed Program
- the following Strategic Impact Assessment Report (SIAR):
 - *Delivering Melbourne's Newest Sustainable Communities Strategic Impact Assessment Report* (Victorian Government 2009a), and
- the department's assessment report of the endorsed Program

On 16 April 2010 you approved five prescriptions for protection of matters of national environmental significance (MNES) including the Natural Temperate Grasslands of the Victorian Volcanic Plain ecological community, Golden Sun Moth, Spiny Rice-flower, Striped Legless Lizard and Matted Flax-lily. These prescriptions are relevant to the avoidance, mitigation and offset of impacts from developments on MNES within the 28 existing precincts.

Other prescriptions relevant to the 28 precincts are the Grassy Eucalypt Woodlands of the Victorian Volcanic Plain, Growling Grass Frog, Southern Brown Bandicoot and Migratory species. You approved these prescriptions on 27 May 2010. Application of these prescriptions is addressed in more detail below under the relevant MNES.

Legal considerations – approval process

Part 10 of the EPBC Act provides for you to undertake a strategic assessment of actions to be taken in accordance with a policy, plan or program. Subdivision A of Part 10 describes the general requirements in undertaking a strategic assessment leading up to endorsement of the policy, plan or program that is the subject of the strategic assessment. As noted above, you endorsed the Program, which includes urban development within the existing 28 precincts of the current urban growth boundary, on 2 February 2010 (B09/3524).

What the approval must specify

Subdivision B of Part 10 provides for your approval of the taking of 'classes of actions' in accordance with an endorsed policy, plan or program. Section 146B(2) states that an

approval must:

- a) *be in writing; and*
- b) *specify the action or classes of actions that may be taken in accordance with the endorsed policy, plan or program; and*
- c) *specify each provision of Part 3 for which the approval has effect; and*
- d) *specify the period for which the approval has effect; and*
- e) *set out the conditions attached to the approval.*

The above requirements are included in the final decision notice at Attachment A.

Consultation with Commonwealth Ministers

Section 146C of Subdivision B states that, prior to deciding whether or not to approve the taking of an action or a class of actions in accordance with an endorsed policy, plan or program, you must:

- a) *inform any other Minister whom the Environment Minister believes has administrative responsibilities relating to the action or class of actions of the decision the Environment Minister proposes to make; and*
- b) *invite each Minister informed to give the Environment Minister, within 10 business days, comments on the proposed decision.*

On 18 June 2010, you advised relevant Ministers of your intention to approve activities associated with urban development undertaken in accordance with the Program within the 28 precincts of Melbourne's current urban growth boundary, subject to conditions, pursuant to section 146C of the EPBC Act. Letters seeking comment on the proposed approval decision were sent to the following Ministers:

- Minister for Infrastructure, Transport, Regional Development and Local Government (Hon Anthony Albanese MP);
- Minister for Families, Housing, Community Services and Indigenous Affairs (Hon Jenny Macklin MP); and
- Minister for Climate Change, Energy Efficiency and Water (Hon Penny Wong MP).

As a courtesy, similar letters were sent to the Victorian Minister for Environment and Climate Change and the Minister for Planning who are both signatories to the strategic assessment agreement.

There is also no statutory requirement to invite comments on an intended approval from third party stakeholders. Nevertheless, the department met with key NGO representatives on 13 May 2010 to provide an update on the Program, as well as your consideration of separate approvals for the Regional Rail Link (see separate brief B10/1191) and the existing 28 precincts within Melbourne's current growth boundary. The groups represented were:

- Victorian National Parks Association
- Merri Creek Management Committee
- Environment Victoria
- Environment Defenders Office
- Trust for Nature
- Green Wedges Coalition
- Western Region Environment Centre, and
- Friends of Merri Creek

Consideration of comments by Commonwealth Ministers

Section 146(2) states that a Minister who is invited to comment may make comment that

relates to economic and social matters, and principles of ecologically sustainable development. This does not limit the comments that a Minister may give. No comments were received from Commonwealth Ministers.

During the department's meeting with key NGO's on 13 May 2010, representatives did not raise specific environmental issues in regard to the proposed approval decision for the existing 28 precincts. Concerns were raised about broader elements of the Program, particularly its perceived inability to identify and protect smaller areas of biodiversity or other local environmental values (eg that might not otherwise meet the requirements of the prescriptions for matters of national environmental significance). While the department considers that the Program and prescriptions has and will identify most such areas, it is also our intention use the requirements under the Program to prepare Biodiversity Conservation Strategies for each of the four new growth areas to achieve this role.

DSE intends to constitute a reference group to identify potential additional conservation reserves within the new growth areas based on advice provided by NGOs. Provided there is adequate scientific justification for nominated reserve areas, these requirements will be reflected in the Biodiversity Conservation Strategies submitted to yourself for approval. The department also intends to provide the draft strategies to relevant NGO groups for comment, to ensure that justifiable nominations have been adequately included.

In response to the letters seeking comment on the proposed approval decision to Victorian Ministers, the Victorian agencies, on behalf of their Ministers, requested that some of the proposed approval conditions give DSE the authority to enforce the prescriptions. Following advice from the Australian Government Solicitor, these comments were not incorporated into the final approval notice. This is because the EPBC Act does not give the Minister the power to condition a third party to enforce an approval decision under the EPBC Act.

A summary of changes made to the final approval and conditions is at [Attachment B](#), including based on further AGS advice.

Legal effect of giving an approval of actions in an endorsed Program

Section 146D describes the legal effect of taking actions in accordance with an approval made under section 146B. Such actions, for the purposes of the EPBC Act, are considered to be controlled actions and are taken to have been approved under Part 9 for the controlling provisions stated in the strategic approval. This means that the approved actions are not subject to the referral and assessment provisions of Parts 7 and 8 of the EPBC Act and are able to proceed subject to the requirements of the endorsed Program and any conditions imposed by the Minister.

Legal considerations – general considerations for approvals and conditions (MNES)

Subdivision C of Part 10 sets out considerations for approving the taking of actions in accordance with an endorsed policy, plan or program. Section 146E states:

The Minister must comply with this Subdivision in deciding:

- a) *Whether or not to approve, under section 146B, the taking of an action or a class of actions in accordance with an endorsed policy, plan or program; and*
- b) *In the case of a decision to approve the taking of such an action or classes of actions, what conditions (if any) to attach to the approval.*

Information on the general and more specific considerations required to be taken into account is below. Suggested conditions are addressed following this discussion.

Relevant matters of national environmental significance

Section 146F (1) (a) requires that you consider:

matters relevant to any matter protected by a provision of Part 3 that the Minister considers are relevant to the approval.

A full discussion of relevant protected matters and impacts from actions associated with the Program, including urban development within the existing 28 precincts, is in the department's assessment report at Attachment D. Development will impact on listed threatened species and ecological communities (sections 18 and 18A), and potentially on listed migratory species (sections 20 and 20A) and the ecological character of a listed Ramsar wetland (sections 16 and 17B).

More specifically, actions associated with urban development within the existing 28 precincts will have an impact on the Natural Temperate Grasslands of the Victorian Volcanic Plain and the Grassy Eucalypt Woodlands of the Victorian Volcanic Plain ecological communities, as well as the species associated with these ecosystems including the Golden Sun Moth, Spiny Rice Flower, Matted Flax-lily and Striped Legless Lizard.

Developments in Casey (south-east Melbourne) may also impact on the Southern Brown Bandicoot where a regionally important population of this species occurs. Populations of the Growling Grass Frog also occur in this area as well as the Hume-Whittlesea precincts to the north of Melbourne. Impacts on these species are proposed to be managed through maintenance of known populations/habitat and enhanced connectivity between areas of suitable habitat.

Tables summarising impacts on the above MNES are at Attachment C1. Impacts may also occur on the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site, Edithvale-Seaford Ramsar site, Western Port Ramsar site, and associated listed migratory waterbirds (discussed in this attachment).

Assessment and management of MNES

The Victorian Government has adopted an approach whereby impacts of urban development associated with the Program on listed threatened species and communities are avoided, mitigated and offset. This includes the existing 28 precincts within the existing urban growth boundary (Figure 1, Attachment C1) which are the subject of this draft approval.

The existing 28 precincts cover 15,581ha of land (this is in addition to the 43,645ha of land within the new growth areas). According to the Strategic Impact Assessment Report (SIAR), development in the 28 precincts will result in the loss of 1,493ha of native vegetation, including 768ha of the listed native grassland ecological community and 135ha of the listed grassy eucalypt woodland ecological community. The calculation of native vegetation losses and gains, and 'like for like' criteria, must be in accordance with the 'habitat hectare' system as prescribed by Victoria's *Native Vegetation Management Framework*. This framework requires a net gain to be achieved for conservation of native vegetation (usually at a 2:1 offset ratio). The primary source of offsets will be the 15,000ha western grassland reserves and the 1,200ha northern grassy woodland reserve (Figure 3 at Attachment C1).

Natural Temperate Grasslands of the Victorian Volcanic Plain (NTGVVP)

A summary of the current status, impacts and conservation outcomes from the Program for listed critically endangered NTGVVP is in the MNES table at [Attachment C1](#). Further information is in the department's assessment report for the Program at [Attachment D](#).

According to the SIAR, development within the existing 28 precincts will result in the loss of 768ha of NTGVVP, of which 536ha is medium quality and 232ha is low quality. These losses will be offset as required under the NTGVVP prescription. No areas of high quality NTGVVP will be lost.

The 768ha to be cleared is equivalent to 290 'habitat hectares' under the Victorian *Native Vegetation Management Framework* requirements endorsed through the Program. The lower relative score of 'habitat hectares' (eg less than half of the grassland areas to be actually cleared) reflects the relatively poor condition class of the grasslands affected.

A 'habitat hectare' is a calculated score based on both the quality (habitat score) and quantity (hectares) of NTGVVP. The methodology ensures a common terminology to determining the environmental value of native vegetation, including for offset purposes. A 'habitat hectare' essentially represents one hectare of perfect quality habitat.

The habitat score (representing the quality of the NTGVVP) is based on survey criteria established by DSE. This ranks NTGVVP quality on a scale of 0.0 – 1.0 with 1 being the highest and representing pristine/perfect grasslands. The habitat score is multiplied by the number of hectares to derive the total 'habitat hectares' to be cleared. High quality NTGVVP (few weeds or exotics and high biodiversity) typically has habitat scores of 0.6 – 0.9. Low quality NTGVVP (high weed cover, low biodiversity and degraded) typically rates 0.0 to 0.3 and may be marginal in terms of whether it forms the listed ecological community under the EPBC Act. Medium quality grasslands, as occurs in the existing precincts, rank between these condition classes and typically have a degree of weed invasion and degradation from past agricultural practices. Biodiversity is typically low and the grasslands have a limited capacity for improvement (eg degradation will continue under existing land uses).

The required offset to achieve a net gain is the 'habitat hectare' value to be cleared times an offset multiplier based on the vegetative class and its scarcity. Applying the prescribed formulae, the NTGVVP offset required for urban development within the existing 28 precincts, based on the clearing of 290 'habitat hectares', is 530 'habitat hectares' (offset ratio of approx. 2:1). This offset may be discharged in a number of ways including through acquisition, rehabilitation or other recognised habitat credits contributing to net gain. As an example, acquisition of 1,060ha of medium quality NTGVVP (with a habitat score of 0.5) in the grassland reserves would meet the offset requirements for the existing 28 precincts based on the above calculations (eg 1,060ha X 0.5 = 530 'habitat hectares').

Implementation of the overall endorsed Program will achieve the following key outcomes:

- Two conservation reserves totalling 15,000ha of which 10,000ha is NTGVVP, to be owned and managed by the Victorian Government
- 20 per cent remaining NTGVVP in the Victorian Volcanic Plains Bioregion (compared to 2 per cent currently) will be secured in these reserves.
- Additional retention of NTGVVP within the new urban growth areas of 2,674 hectares in retained reserves and open spaces.
- Environmental Significance Overlays outside the growth areas will be added to planning

schemes for Melton and Wyndham Local Government Areas (where most NTGVVP remains) providing legislative protection for listed grasslands on private farm lands outside the reserves.

Whilst 768ha NTGVVP within the existing 28 precincts is expected to be cleared, the offsets required will contribute to achievement of the above outcomes. Protection of NTGVVP at the bioregional and landscape scale within the proposed western grassland reserves will also secure long term protection for listed species typically associated with this ecological community such as the Golden Sun Moth, Spiny Rice-flower, Striped Legless Lizard and the Matted Flax-lily.

The department concludes that impacts of urban development within the existing 28 precincts on NTGVVP, while significant, will be adequately offset through the establishment of the grassland reserves. The department believes that the proposed western grassland reserves will ensure the future protection and management of NTGVVP, currently threatened by Melbourne's urban expansion, at an ecosystem scale such that survival of the community will be assured. The department considers that this is an important and worthwhile outcome of the Program.

Grassy Eucalypt Woodland of the Victorian Volcanic Plain (GEVVVP)

A summary of the current status, impacts and conservation outcomes from the Program for the listed critically endangered GEVVVP is in the MNES tables at [Attachment C1](#). Further information is in the department's assessment report for the Program at [Attachment D](#).

According to the SIAR, the actions associated with urban development within the existing 28 precincts will result in the loss of 135ha of GEVVVP, of which 51ha is medium quality, and 84ha is low quality. These losses will be offset as required under the GEVVVP prescription. No areas of high quality GEVVVP will be lost. The 135ha to be cleared is equivalent to 37 habitat hectares reflecting its generally poor biodiversity value and condition. The offset target is 57 habitat hectares applying the required offset multiplier.

Implementation of the overall Program will achieve the following conservation outcomes for the GEVVVP:

- A new conservation reserve outside the urban growth boundary south-west of Whittlesea of at least 1,200ha in size (Figure 3, [Attachment C1](#)).
- Eighty percent of all GEVVVP within the revised urban growth boundary retained and managed in secure conservation reserves.
- A network of small and medium sized conservation reserves and permanently protected habitat in the Hume-Whittlesea Growth Area associated with Merri Creek and Darebin Creek floodplains. These will consolidate and connect key areas of the Grassy Eucalypt Woodland and associated habitats (stony knolls, plains grassland, floodplain grasslands and riparian areas).
- A network of small connected conservation reserves in the Sunbury area to protect Grassy Eucalypt Woodland and associated habitats.

The 135 ha of GEVVVP to be cleared must be offset in accordance with the prescription and will contribute to the conservation outcomes above. The offsets will be sourced from within the revised urban growth boundary in existing remnants of the ecological community currently on private land within the Hume-Whittlesea Growth and Sunbury areas and constrained land within the northern investigation area. The remaining offsets will be sourced from outside the revised urban growth boundary in the proposed 1,200ha

conservation reserve south-west of Whittlesea. These remnants represent the most extensive and best quality woodlands in the greater Melbourne area.

Protection of GEWVVP at the bioregional and landscape scale within these proposed conservation reserves will also secure long term protection for listed species typically associated with this ecological community such as the Matted Flax-lily.

The program is yet to finalise the status and management regime for the proposed 1,200ha conservation reserve. This is because the required public consultation has not been undertaken. The Victorian Government is investigating the best approach to most efficiently and effectively obtain this reserve. The Program has committed to providing the reserve proposal, acquisition, management approach and schedule to the department by June 2011 following community consultation. In the meantime, the identified 1,200ha area will be protected through zoning provisions (noting also that the proposed boundaries for the new growth areas were revised to specifically exclude this area).

The department concludes that implementation of the program within the existing 28 precincts will contribute to the conservation outcomes of the overall endorsed Program being achieved, including the creation of a new 1200ha conservation reserve outside the revised urban growth boundary, and the retention and management of a large proportion of this ecological community in secure conservation reserves within the revised urban growth boundaries.

These conservation reserves will be managed to improve quality of understorey and structure, as well as protection from weed invasion and urban edge effects. In addition, these reserves will assist to address cumulative impacts and contribute to the long term persistence of this ecological community. Without the implementation of the Program, over time this community will suffer further decreases and degradation with no obligation to create a consolidated area for reserve.

Golden Sun Moth (Synemon plana)

A summary of the current status, impacts and conservation outcomes from the Program for the listed critically endangered Golden Sun Moth is at [Attachment C1](#). Further information is in the department's assessment report at [Attachment D](#).

The Golden Sun Moth is typically associated with the NTGVVP. Whilst ecological surveys in accordance with the precinct structure plans for all the existing 28 precincts are not yet complete, it is expected that the impacts on NTGVVP will result in losses of Golden Sun Moth. The following assessment assumes that the 768ha of NTGVVP to be lost provides potential habitat. While the species is listed as critically endangered, intensive surveys over the last five years indicate that it is perhaps more widespread and persistent than envisaged at the time of the listing. The species is cryptic and it is only recently that reliable survey techniques have been developed to systematically locate populations.

Any impacts on the Golden Sun Moth will be offset in accordance with the prescription for this species and will contribute to the overall conservation outcomes for the endorsed Program. As indicated in the department's assessment report ([Attachment D](#)), the Program's proposed conservation outcomes for the Golden Sun Moth are acceptable. In summary, implementation of the Program and prescription will achieve the following outcomes:

- large areas (at least 15,000ha) of permanently protected grassland habitat to the south

west of Melbourne will be established and managed in a way that enables the species to be sustained over the long term through a series of connected populations and adaptive management regimes

- large areas (1,200ha) of permanently protected grassy woodland habitat to the north of Melbourne
- protection of an additional three reserves, known to support important populations of Golden Sun Moth within the new urban growth boundary, totalling 300ha,
- eighty per cent of highest priority habitats for this species within the Victorian Volcanic Plains Bioregion (confirmed sites contributing most to species persistence as defined in the methodology guiding the prescription for this species) will be permanently protected and managed,
- greatly improved information on Golden Sun Moth distribution within Victoria, to support important research and management knowledge, as a consequence of the commitment by DSE in the Program to undertake surveys across the Victorian Volcanic Plains Bioregion over the next 2 years, and
- retention of areas of confirmed high contribution Golden Sun Moth habitat that are at least 100ha in size, comprising native habitat patches less than 200 metres apart.

Under the Golden Sun Moth prescription, DSE and the Growth Areas Authority will be conducting surveys for the Golden Sun Moth, and other MNES, within the revised urban growth boundary over the next two years. This will identify any site specific requirements for achievement of 80% protection of 'highest priority habitat' within the Victorian Volcanic Plains bioregion. This habitat has been mapped using modelling criteria to reflect expected persistence of the species in the landscape (essentially habitat meeting criteria for self-sustaining populations of Golden Sun Moth in the long term under passive management regimes). The 'highest priority habitat' is where the modelled habitat is confirmed through surveys as containing Golden Sun Moth. DSE will maintain, manage and update the 'highest priority habitat' mapping to register the percentage of protection as surveys are completed and offsets settled, until the achievement of statutory protection of 80% of the habitat. Any areas identified for retention and conservation within the existing 28 precincts will contribute to achieving this 80% protection target.

The prescription requires that confirmed high contribution Golden Sun Moth habitat be retained *in situ* if it is at least 100ha in size and comprises native habitat patches less than 200m apart. These contiguous patches must be determined based on ecosystem function and are not limited by precinct boundaries (for example, there may be 20ha within the precinct with the other 80ha outside the precinct). The application of the Golden Sun Moth prescription in the preparation of the precinct structure plans has already provided an instance at Truganina South where a patch of confirmed high contribution habitat has been found to meet the 100ha prescription retention threshold. The Truganina South precinct structure plan has now been designed with a Golden Sun Moth conservation reserve in place (see [Figure 1, Attachment C2](#)).

The >100ha retention threshold for confirmed high contribution habitat is considered by the department to be a balanced approach for maximising the resources available for the successful protection and ongoing management of the Golden Sun Moth at the landscape scale.

A practical difficulty that emerged in implementing the draft Golden Sun Moth prescription is that the moth often occurs in poor quality and weedy 'native' grasslands that do not meet the definition of the listed NTGVVP (for example, >30% introduced Serrated Tussock).

Requiring protection of such habitat, and noting legal requirements for weed control to prevent infestation risks to nearby listed grasslands, has dubious environmental value. The final prescription was approved subject to the offset requirements below:

- well connected native vegetation with a confirmed population of Golden Sun Moth (high contribution habitat) will require a 2:1 offset comprising 'like for like' (eg equivalent high contribution habitat (x 2) must be found and protected in secure conservation reserves)
- well connected exotic vegetation or areas with greater than 25 per cent weed cover with a confirmed population of Golden Sun Moth (medium contribution habitat) will be offset with an equivalent area of *native vegetation* that contains Golden Sun Moth, and
- if clearing isolated exotic vegetation or areas with greater than 25 per cent weed cover with a confirmed population of Golden Sun Moth (low contribution habitat) then surveys must be carried out in an area outside the growth areas to confirm the presence of an equivalent area of high contribution habitat. This increases the knowledge of suitable areas available for satisfying offsetting requirements. Alternatively, the developer may agree with DSE to payment of \$40,000 per hectare (to be adjusted for anticipated management costs) which will be used to acquire habitat in the western grassland reserves.

Offsets for impacts of urban development within the existing 28 precincts on the Golden Sun Moth are expected to be sourced from the western grassland reserves. These reserves will protect the highest quality and most extensive native grasslands remaining throughout the Victorian Volcanic Plains bioregion. Protection of this ecological community at the bioregional and landscape scale within these large conservation reserves will also secure long term protection for the Golden Sun Moth.

The department concludes that the Program conservation outcomes including the creation of the western grassland reserves, and the arrangements for mitigation and offsetting impacts on the Golden Sun Moth are desirable. Actions associated with urban development within the existing 28 precincts will be taken in accordance with the Program and therefore it is highly likely that these desirable conservation outcomes will be achieved.

Spiny Rice-flower (Pimelea spinescens)

A summary of the current status, expected impacts and conservation outcomes from the Program for the listed critically endangered Spiny Rice-flower is at [Attachment C1](#). Further information is in the department's assessment report at [Attachment D](#).

The Spiny Rice-flower is typically associated with NTGVVP and loss of this habitat type may impact on the species. The following assessment assumes that the 768ha of NTGVVP to be lost provides potential habitat. While the species is listed as critically endangered, intensive surveys over the last five years indicate that this cryptic species is more widespread and persistent than envisaged at the time of listing.

Impacts on the Spiny Rice-flower will be offset in accordance with the prescription for this species and will contribute to the overall conservation outcomes for the endorsed Program. As indicated in the department's assessment report ([Attachment D](#)), the Program's proposed conservation outcomes for the Spiny Rice-flower are acceptable. In summary, implementation of the Program and prescription will achieve the following key outcomes:

- large areas (at least 15,000ha reserve) of permanently protected grassland habitat will be established and managed in a way that enables the species to be sustained over the long term through a series of connected populations and adaptive management regimes

- eighty per cent of highest priority habitats for this species within the Victorian Volcanic Plains Bioregion (confirmed sites contributing most to species persistence as defined in the methodology guiding the prescription for this species) will be permanently protected and managed, and
- protection of four of the seven known populations of more than 200 plants (two of these are currently protected and the remaining population falls outside the Program area).

Spiny Rice-flower is typically associated with NTGVVP and protection of this ecological community at the bioregional and landscape scale will also secure long term protection for this species. Removal of heavy grazing pressure will allow the species to regenerate in circumstances where good quality grasslands remain (such as in the proposed western grassland reserves).

Under the Spiny Rice-flower prescription, DSE and the Growth Areas Authority will be conducting surveys for the species within the revised urban growth boundary over the next two years. This will identify any site specific requirements for achievement of 80% protection of 'highest priority habitat' within the Victorian Volcanic Plain bioregion. This habitat has been mapped using modelling criteria to reflect expected persistence of the species in the landscape (essentially habitat meeting criteria for self-sustaining populations of Spiny Rice-flower in the long term under passive management regimes). The 'highest priority habitat' is where the modelled habitat is confirmed through surveys as containing Spiny Rice-flower. DSE will maintain, manage and update the 'highest priority habitat' mapping to register the percentage of protection as surveys are completed and offsets settled, until the achievement of statutory protection of 80% of the habitat. Any areas identified for retention and conservation within the existing 28 precincts will contribute to achieving this 80% protection target.

The prescription requires that a population of 200 plants or more (and is situated in native vegetation containing < 25 per cent weed cover) be retained *in situ*. In addition, clearing must not occur in this situation if more than 20 per cent of the population is impacted. There are currently seven known populations of greater than 200 plants in the metropolitan region and only two of these are protected. The Program, and application of the prescription, will result in the protection of an additional four of these populations. The remaining population is outside the Program considerations.

As described above, preparation of the Truganina South precinct structure plan has identified a patch to be retained as prescribed by the Golden Sun Moth prescription. Within this reserve, Spiny Rice Flower has also been found and will be protected within the proposed conservation reserve (see precinct MNES table at [Attachment C1](#)).

The prescription also requires that, prior to clearing of individual plants, a fully funded propagation and translocation plan be prepared and implemented to the satisfaction of DSE. Translocation must follow the Translocation Protocol prepared by the *Pimelea spinescens* Recovery Team (Mueck 2009) (or as updated) or the *Guidelines for the Translocation of Threatened Plants in Australia*, 2nd Edition (or as updated).

Offsetting impacts on the Spiny Rice-flower will be in accordance with the prescription and the Victorian *Native Vegetation Management Framework*. The proposed western grassland reserves are expected to account for the majority of offsetting. The prescription requires that the following offsets be obtained:

- native vegetation with a confirmed population of Spiny Rice-flower (high contribution

habitat) will require a 2:1 offset comprising 'like for like' (eg equivalent high contribution habitat (X 2) containing populations of Spiny Rice-flower must be found and protected in secure conservation reserves).

Offsets for impacts of urban development within the proposed 28 precincts on the Spiny Rice-flower are expected to be sourced from the western grassland reserves. These reserves will protect the highest quality and most extensive native grasslands remaining throughout the Victorian Volcanic Plains Bioregion. Protection of this ecological community at the bioregional and landscape scale within these large conservation reserves and the protection of populations of 200 plants or more will also secure long term protection for the Spiny Rice-flower. The department considers that this outcome is highly desirable.

Striped Legless Lizard (Delma impar)

A summary of the current status, expected impacts and conservation outcomes from the Program for the listed vulnerable Striped Legless Lizard is at [Attachment C1](#). Further information is in the department's assessment report at [Attachment D](#).

The Striped Legless Lizard is typically associated with NTGVVP and loss of this habitat type may impact on the species. The following assessment assumes that the 768ha of NTGVVP to be lost provides potential habitat.

Impacts on the Striped Legless Lizard, if present, will be offset in accordance with the prescription for this species and will contribute to the overall conservation outcomes for the endorsed Program. As indicated in the department's assessment report ([Attachment E](#)), the Program's proposed conservation outcomes for the Striped Legless Lizard are acceptable. Implementation of the Program and prescription will achieve the following key outcomes:

- large areas (at least 15,000ha reserves) of permanently protected grassland habitat will be established and managed in a way that enables the species to be sustained over the long term through a series of connected populations and adaptive management regimes
- large areas (1,200ha) of permanently protected grassy woodland habitat will be established and managed in a way that enables Striped Legless Lizard to be sustained over through a series of connected populations and adaptive management regimes
- a series of reserves and other managed areas will be established such that viable populations are maintained across the known metropolitan distribution of the species, and
- a program of research and monitoring will be undertaken to provide a basis for adaptive management of the Striped Legless Lizard in the grassland reserves.

The Striped Legless Lizard prescription applying to urban development within the existing 28 precincts requires offsets for all permitted clearing if the species is present. Offsets will be 'like for like' habitat containing populations of Striped Legless Lizard habitat and are expected to be sourced from the grassland reserves. The required offsets will include a monetary premium specifically to assist with the targeted management and monitoring of the species in the reserve areas.

The grassland reserves are yet to be fully surveyed for this species, however, substantial populations are expected to exist based on modelling, habitat availability and its presence in adjacent and nearby similar habitats. Ongoing surveys have found populations in two locations to date.

The prescription also requires that, if individual Striped Legless Lizards occur within an area of habitat that will be cleared, a fully costed salvage and translocation plan must be prepared to the satisfaction of the DSE and following any protocols agreed between DSE and the National Recovery Team. This requirement can be waived by the DSE in particular situations and following advice from the National Recovery Team. Any translocation attempted must be fully documented and monitored.

Of the first eight precincts that have precinct structure plans nearing completion, six plans have incorporated the prescription requirement that a Striped Legless Lizard offset and translocation plan be implemented with any development permit (see precinct MNES table at [Attachment B.3](#)). Although the species has not been located in surveys, this is a precautionary approach for areas where suitable habitat occurs.

The Striped Legless Lizard is associated with NTGVVP and protection of this ecological community at the bioregional and landscape scale will also secure long term protection of suitable habitat for this species. The Striped Legless Lizard is particularly vulnerable to edge effects and one-off catastrophic occurrences that may affect smaller urban reserves, and is not likely to persist in such circumstances. Implementation of the Program within the existing 28 precincts will secure a substantive net gain in protection and conservation of the species and its habitat.

Matted Flax-lily (Dianella amoena)

A summary of the current status, expected impacts and conservation outcomes from the Program for the listed endangered Matted Flax-lily is at [Attachment C1](#). Further information is in the department's assessment report at [Attachment D](#).

This species is more typically associated with GEVVVP and loss of this habitat type may impact on the species. The following assessment assumes that the 135ha of GEVVVP to be lost provides potential habitat. However, the species does also occur in suitable habitat associated with the NTGVVP (typically well watered and sunny areas often associated with road edges and fence lines). The following assessment also makes the conservative assumption that the 768ha of NTGVVP to be lost provides potential habitat.

Impacts on the Matted Flax-lily will be offset in accordance with the prescription for this species and will contribute to the overall conservation outcomes for the endorsed Program. As indicated in the department's assessment report ([Attachment D](#)), the Program's proposed conservation outcomes for the Matted Flax-lily are acceptable. Implementation of the Program and prescription will achieve the following key outcomes:

- large areas (1,200ha) of permanently protected grassy woodland habitat managed in a way that enables Matted Flax-lily to be sustained over the long term through a series of connected populations and adaptive management regimes
- large areas (at least 15,000ha reserve) of permanently protected grassland habitat will be established and managed in a way that *potentially* enables the species to be sustained over the long term (surveys are yet to be undertaken to confirm that the species is present)
- eighty per cent of highest priority habitats for this species within the relevant bioregions (confirmed sites contributing most to species persistence as defined in the methodology guiding the prescription for this species) will be permanently protected and managed, and
- an additional 600ha network of grasslands, grassy woodlands and riparian corridors will be retained in the northern growth zone (where the species is most likely to occur), with further surveys and sympathetic management for the species.

The Matted Flax-lily prescription applying to urban development within the existing 28 precincts requires the following offsets:

- native vegetation with a confirmed population of Matted Flax-lily (high contribution habitat) will require a 2:1 offset comprising 'like for like' (eg equivalent high contribution habitat (X 2) containing populations of Matted Flax-lily must be found and protected in secure conservation reserves).

The prescription also requires implementation of a fully costed translocation and propagation plan to ensure protection of genetic stock where clearing is allowed. The species is amenable to translocation which has occurred at a number of sites in the Melbourne region. Plants are to be translocated to areas of suitable habitat within secure conservation reserves (either on or off site), preferably to the proposed northern grassland woodland reserve unless a better outcome is likely to be achieved elsewhere. Translocation must follow the *Guidelines for the Translocation of Threatened Plants in Australia*, 2nd Edition (or as updated).

Of the first eight precincts that have precinct structure plans nearing completion, an individual plant has been located during surveys in the Craigieburn R2 precinct (see precinct MNES table at [Attachment C1](#)). This specimen will be retained within Golden Sun Moth habitat to be protected *in situ*.

The department considers that the impacts of urban development within the existing 28 precincts on the Matted Flax-lily are acceptable and will not result in significant population loss at the local, regional, state or national scale. Implementation of the Program will secure a net gain in protection and conservation of the species.

Southern Brown Bandicoot (Isodon obesulus obesulus)

A summary of the current status, expected impacts and conservation outcomes from the Program for the listed endangered Southern Brown Bandicoot is at [Attachment C1](#). Further information is in the department's assessment report at [Attachment D](#).

Implementation of the Program and prescription will achieve the following outcomes:

- functioning sustainable populations of the Southern Brown Bandicoot within and adjacent to the new urban growth boundary with connectivity between populations, and
- protection and enhancement of all populations of Southern Brown Bandicoot including the population of the Royal Botanic Gardens Cranbourne;

The Program requires the protection and management of all populations of Southern Brown Bandicoot including the important population at the Royal Botanic Gardens Cranbourne, and the successful functioning of sustainable populations of the Southern Brown Bandicoot within and adjacent to the new urban growth boundary with connectivity between populations throughout the south-east, particularly the important population stretching from Melbourne to Wilson's Promontory. The prescription for the species is aimed at minimising impacts by excising some areas of likely habitat from development, and securing a network of corridors within the existing precincts and the new growth area at Casey. Key strategic protection and management measures, such as land acquisition and planning scheme measures, will commence in conjunction with precinct structure planning.

The prescription specifies that, following surveys for the species, conservation management plans must be prepared to the satisfaction of DSE for the management of populations and suitable habitat, and must achieve a number of objectives. These include:

- habitat both on and offsite will be retained, connected and managed for long-term population viability
- monitoring must be undertaken over 30 years to determine the long-term effectiveness of management plans
- threatening processes relating to habitat will be managed taking into account the ongoing monitoring program, and
- actions related to development must be sequenced to ensure that there is no net loss of habitat and local population.

The draft conservation management plan (under preparation) concludes that retaining small islands of habitat is unsustainable and focuses on required management activities adjacent to or beyond the precinct. Monitoring to assess progress of implementing the prescription and an evaluation of whether proposed conservation outcomes are being achieved will be carried out every two years or to an agreed schedule. The monitoring reports will be provided to the Minister.

In addition, the Program requires the creation of a new reserve area for the Southern Brown Bandicoot within an area of 200ha of potential habitat within the south-west corner of the new Casey growth area. This will be connected to the existing reservation for the bandicoot at the Botanic Ridge Botanic Gardens via a linkage corridor to be established and maintained within existing precincts.

Of the first eight precincts that have precinct structure plans nearing completion, the Clyde North precinct has identified 20ha of encumbered land along the precinct side of Cardinia creek to be revegetated as habitat and an ecological corridor for the Southern Brown Bandicoot (see precinct MNES table at [Attachment C1](#)).

The Program enforces a broad conservation outcome for Southern Brown Bandicoot for the existing precincts in Casey along with performance measures to ensure that outcomes are being achieved. The department considers that the conservation activities required by the Program will help ensure maintenance and growth of important populations of the species. In particular, the strategic approach under the Program will establish linkages and refuges at the regional scale. This would be unlikely to occur under a 'project-by-project' approach. Provided that urban development within the existing 28 precincts is implemented in accordance with the Program, the department considers that good conservation outcomes for Southern Brown Bandicoot will be achieved.

Growling Grass Frog (Litoria raniformis)

A summary of the current status, expected impacts and conservation outcomes from the Program for the listed vulnerable Growling Grass Frog is at [Attachment C1](#). Further information is in the department's assessment report at [Attachment D](#).

In summary, implementation of the Program will achieve the following key outcomes:

- Functioning sustainable populations of Growling Grass Frog within, and adjacent to the new growth centres, with connectivity between populations.
- Protection and enhancement of important populations of Growling Grass Frog including the populations at Merri Creek, Pakenham/south-east growth area, Kororoit Creek and Darebin Creek.

- Management of suitable habitat within the proposed Western Grassland Reserves for the Growling Grass Frog.
- Establishment of sustainable populations in new wetlands to be established within a 300ha area at Koo-Wee-Rup to the south-east of Melbourne.

The prescription for the Growling Grass Frog specifies requirements for the management of the species to achieve the above conservation outcomes, including:

- retention, upgrading and connection or buffering of existing habitat so that the population can function over the long term (in practice, implementation of the prescription will result in 200m buffers around retained/ constructed water bodies where practicable, and up to 100m buffers along connected waterways)
- creation of new habitat within areas identified for urban development
- careful management of hydrology and aquatic vegetation to avoid introduction of predatory fish
- mandated monitoring regime to determine effectiveness
- habitat and threatening processes will be managed in a way that is responsive to the results of monitoring, and
- actions relating to proposed development will be sequenced to ensure there is no net loss of habitat and population.

Surveys to confirm the presence of suitable habitat or the likely occurrence of the species within the existing 28 precincts must be undertaken. If likely to be present, precinct conservation management plans must be prepared and demonstrate how habitat and connectivity will be retained, created and managed to the satisfaction of DSE. Sympathetic design and construction techniques must be used so that impacts can be minimised by the careful treatment of water and the ability to manipulate the hydrological regime to maintain habitat values. Additionally these plans must demonstrate how they will adaptively manage habitat and threatening processes.

In addition, the program will establish a new wetland complex within a 300ha area situated on the site of the former Koo Wee Rup swampland to the immediate south-east of the Casey growth area. This will be managed to provide habitat for the Growling Grass Frog as well as enhancing water quality runoff into the Western Port Ramsar site. The Growth Areas Authority and Melbourne Water have committed to undertake investigations for the establishment and management of these wetlands (to be submitted to the department by March 2011). Melbourne Water will be responsible for creating the wetlands and implementing a management plan. Monitoring will be undertaken by DSE with results submitted to the department.

Of the first eight precincts that have precinct structure plans nearing completion, a number of precincts have identified areas of suitable Growling Grass Frog habitat for retention and enhancement (see precinct MNES table at [Attachment C1](#)). The following outcomes have been achieved:

- Cardinia Road Employment precinct - 111.26 ha of encumbered open space will be revegetated with wetlands to provide habitat for the species
- Clyde North - 20 hectares of encumbered land along Cardinia Creek will be revegetated as a ecological corridor for the species
- Toolern – 33ha of habitat retained along Toolern Creek, and
- Taylors Hill West – 1.4 ha of habitat for the species protected as part of a 124 ha area retained for the Plains Grassy Wetland ecological community (not currently listed).

Conservation management plans are being prepared for the above precincts applying the prescription. Extracts from the draft Cardinia Road Employment Precinct Structure Plan are at Figure 2, Attachment C2. This illustrates that all potential habitat for the Growling Grass Frog will be protected and managed for the species. Additional dispersal corridors will be provided and all habitat will be revegetated with native species (Table 13, Figure 2). New habitat, including an additional 24 Growling Grass Frog ponds, will be constructed in accordance with best practice standards (Table 13 and Plan 13, Figure 2).

The department considers the conservation activities proposed by the Program will contribute to the persistence of important populations of the Growling Grass Frog. Provided that urban development within the existing 28 precincts is implemented in accordance with the Program, the department considers that good conservation outcomes for the Growling Grass Frog will be achieved.

Other EPBC Act Listed Species

The SIAR states that urban development within the existing 28 precincts is unlikely to have a significant impact on any other listed species or ecological community. According to the SIAR, other listed species that may occur in the broader Program area include:

- Adamson's Blown Grass *Lachnagrostis adamsonii* (endangered)
- Australian Grayling *Prototroctes maraena* (vulnerable)
- Australian Painted Snipe *Rostratula australis* (vulnerable)
- Button Wrinklewort *Rutidosia leptorhynchoides* (endangered)
- Clover glycine *Glycine latrobeana* (vulnerable)
- Dwarf Galaxias *Galaxiella pusilla* (vulnerable)
- Fragrant Leek-orchid *Prasophyllum suaveolens* (vulnerable)
- Grassland Earless Dragon *Tympanocryptis pinguicolla* (endangered)
- Large-fruit Groundsel *Senecio macrocarpus* (vulnerable)
- Large-headed Fireweed *Senecio macrocarpus* (vulnerable)
- Maroon Leek-Orchid *Prasophyllum frenchii* (endangered)
- Plains Wanderer *Pedionomus torquatus* (vulnerable)
- River Swamp Wallaby Grass *Amphibromus fluitans* (vulnerable)
- Small Golden Moth *Diuris basaltica* (endangered)
- Swamp Everlasting *Xerochrysum palustre* (vulnerable)
- Swift Parrot *Lathumus discolor* (endangered)
- Sunshine diuris *Diuris fragrantissima* (endangered), and
- Yarra Pygmy Perch *Nannoperca obscura* (vulnerable)

Targeted surveys to date have not located these species within the existing 28 precincts and impacts are not expected. In the event any such species are located, and are potentially impacted, a prescription will be developed by DSE to manage impacts on the species. This must be approved by the Minister prior to any impacts being permitted.

Conclusion on listed species and ecological communities

Construction associated with urban development within the existing 28 precincts will result in loss of 768ha of listed NTGVVP and 135ha of GEWVVP ecological communities. Impacts on these ecological communities are also likely to lead to losses for listed species associated with these ecological communities including the Golden Sun Moth, Spiny Rice-flower, Striped Legless Lizard and Matted Flax-lily.

Impacts on the Growling Grass Frog and Southern Brown Bandicoot may also occur

through developments in existing precincts adjacent to Casey in south-east Melbourne and Hume-Whittlesea (Growling Grass Frog only). However, implementation of the Program will ensure that important populations are maintained through the retention, upgrading and connection or buffering of key existing habitat for important populations. The prescriptions require conservation management plans to be prepared and adopted to the satisfaction of DSE. This is consistent with approaches in 'project-by-project' assessments although the plans must be prepared at the broader precinct level to ensure recognition and retention of regional linkages. The creation of Growling Grass Frog habitat will also be implemented in urban design when necessary as required by conservation management plans.

The loss of NTGVVP, GEWVVP and associated habitat for listed species will be offset in accordance with Victoria's *Native Vegetation Management Framework* and the MNES. This will result in a substantive net gain in the conservation and protection of the relevant MNES. Offsets are expected to be provided within the 15,000ha grassland reserve to the south-west of Melbourne and the 1,200ha grassy woodland reserve to the north of Melbourne. The creation of these large conservation reserves will secure long term protection for populations and suitable habitat for the ecological community and species impacted by the project. The department considers that impacts of urban development within the existing 28 precincts on listed threatened species and communities will be acceptable provided the project is implemented in accordance with the Program.

Wetlands of International Importance

There are three Ramsar sites within the Melbourne region. These are the Port Phillip Bay (western shoreline) and Bellarine Peninsula, Edithvale-Seafood Wetlands, and Western Port sites. Ecological characteristics of these wetlands potentially affected by developments associated with the Program include water quality/hydrology and values for migratory birds. Further information is in the department's assessment report at [Attachment D](#).

According to the SIAR, implementation of the Program will achieve the following outcomes:

- a network of small and large conservation reserves including diverse wetland areas managed for migratory species and other wetland values, particularly in areas distant from urban development
- improved management and design of retained and constructed wetlands to maximise habitat opportunities for migratory species
- new wetland areas established in the Melbourne south-east investigation area in order to contribute to water quality mitigation and biodiversity conservation
- improved or maintained water quality entering the Western Port and Port Phillip Bay Ramsar sites from precincts covered by the Program, and
- limited indirect disturbances to identified wetlands.

Urban development within the existing 28 precincts will not have direct impacts on the Ramsar sites. Several precincts adjacent to the Melton/Wyndham growth area are within 5km of the Port Phillip Bay Ramsar site. Other precincts are 10km or further from the nearest shorelines. There is the potential for urban development to indirectly impact wetlands through urban stormwater runoff.

Downstream hydrological impacts as a result of implementing the Program will be addressed through the precinct structure planning process with an integrated water management plan forming a prerequisite for each precinct structure plan. Integrated water management plans will:

- include water sensitive urban design
- restrict downstream flows from subdivision sites to pre-development levels, unless increased flows are approved by the relevant drainage authority
- implement stormwater harvesting and management options that meet Best practice Environmental Management Guidelines (CSIRO 1999), and
- set design standards for flood capacity and conveyance.

Precinct Structure Planning guidelines will ensure that:

- urban run-off systems are designed and managed in accordance with requirements of the relevant water authority
- existing natural waterways, wetlands and riparian vegetation are incorporated into urban runoff systems
- constructed lakes, ponds and other water bodies will be included, where necessary, that protect and enhance natural systems, and
- urban runoff will not be discharged into native vegetation, unless it can be demonstrated to the satisfaction of DSE that it cannot be avoided and will be managed and be beneficial to the discharge area.

Other downstream water quality management processes relevant to the overall Program include:

- monitoring of water quality entering Ramsar sites, and preparation of adaptive management measures in response. Water quality must be consistent with relevant state environmental protection policy, and
- a remedial management plan to deal with potential water quality breaches submitted to Department of the Environment, Water Heritage and the Arts by 2010.

In addition, the Program will establish a new wetland complex within a 300ha area at Koo-Wee-Rup to the immediate south-east of the Casey growth area. This will be designed to improve the water quality flowing into Western Port. The Growth Areas Authority and Melbourne Water have committed to undertake investigations for the establishment and management of these wetlands (to be submitted to the department by March 2011). Melbourne Water will be responsible for creating the wetlands and implementing a management plan. Monitoring will be undertaken by DSE with results submitted to the department.

The department notes that the catchments for the potentially affected sections of the Ramsar sites include urban, semi-urban and rural lands already subject to disturbance. Urban development within the existing 28 precincts will occur some distance from the Ramsar sites and will be managed to control sedimentation and runoff risks. In these circumstances, the department concludes that impacts on the ecological character of the Ramsar sites are not expected or likely.

Listed Migratory Species

Specialist flora and fauna reports identified the potential occurrence of 31 migratory bird species in the Program area. The potential may exist for indirect impacts through runoff and sedimentation affecting downstream on Ramsar sites. As concluded above, impacts on the ecological character of these sites, including values for listed migratory waterbirds, are not expected or likely.

A summary of the current status, expected impacts and conservation outcomes from the Program is at [Attachment C1](#). In summary, implementation of the Program and prescription will achieve the following key outcomes for migratory species:

- a network of conservation reserves including wetlands managed for migratory species and other wetland values
- improved management and design of retained and constructed wetlands to maximise habitat opportunities
- major new area of re-established wetlands managed for water quality mitigation and biodiversity conservation
- improved or maintained water quality entering the Western Port and Port Phillip Bay Ramsar sites from precincts covered by the Program, and
- limited indirect disturbances to identified wetlands.

The prescription and other associated mitigation measures to achieve the above outcomes include:

- flora and fauna surveys for the preparation of precinct structure plans will survey wetlands and maximise the assessment of migratory species present at the site, consistent with Commonwealth guidelines
- important wetlands and other migratory species habitat will be included in biodiversity conservation strategies to be approved by the Minister
- sites that are used or are likely to be used by nationally significant migratory species will be protected with a 200 metre buffer as part of the precinct structure plan, and will be managed under a conservation management plan
- retained and constructed wetlands will be designed and managed to maximise opportunities for migratory species, including the exclusion of dogs and other disturbances in identified areas, and imposing a minimum buffer of 100 metres
- if surveys detect use of the wetland by the Australian Bittern, the buffer around the wetland will be increased to 300 metres, and
- a fully costed Conservation Management Plan (CMP) must be prepared and implemented. The CMP must be to the satisfaction of DSE and set out the detailed management arrangements for any wetlands and their buffers.

Sixty hectares of wetland are already proposed to be protected from urban development within the overall Program area. Surveys will be conducted on a 'site by site' basis and, if nationally significant species use or are likely to use the site, the site will be retained and managed under a conservation management plan. It is therefore possible that more wetland habitat may be retained within the overall program area than the current estimate of sixty hectares. This regime for retaining important wetlands will be incorporated into the precinct plans for the existing 28 precincts as required.

The Program commits to retaining wetlands that provide, or are likely to provide, habitat for nationally listed migratory species. These sites will be protected with a 200 metre buffer and managed under a conservation management plan. The program prescription proposes to address indirect impacts by achieving conservation outcomes whereby water quality entering Ramsar sites is either maintained or improved. The department concludes that a net conservation outcome for listed migratory birds is likely to be achieved through implementation of the Program.

Heritage

There are no World Heritage areas, National Heritage places or Commonwealth Heritage places affected by the Program. A number of places on the Register of the National Estate are present. Further information is in the department's assessment report at Attachment D.

Conservation outcomes required under the Program will ensure that all known sites on the Register of the National Estate and sites of Aboriginal cultural heritage are protected and managed. This will be achieved through the following commitments:

- all sites on the Register of the National Estate will be referenced in planning schemes with appropriate controls in place.
- cultural heritage management plans will be prepared and implemented through the precinct structure planning process, and
- monitoring and enforcement of land management obligations will occur to ensure compliance with statutory planning controls and cultural heritage management plans.

Significant impacts on listed heritage places are not expected or likely.

Legal considerations – general considerations (economic and social matters)

Section 146F (1) (b) requires that you consider economic and social matters in deciding whether to approve actions under a Program and in setting conditions. The following discussion draws on the SIAR and the department's assessment report (Attachment D).

Economic and social matters

According to the SIAR, the Program to expand Melbourne's urban growth boundary is the Victorian Government's response to the anticipated growth in the city's population of another 1.8 million people in the next 30 years, to bring the total population for the city past five million. To accommodate this growth, and provide affordable housing, the Victorian Government is planning that 600,000 new dwellings will be constructed in metropolitan Melbourne over the next 20 years, with 316,000 dwellings in the established areas and 284,000 dwellings in Melbourne's growth areas.

It is anticipated that there will be a similar increase in the number of people with jobs in Melbourne with a growth from 1.86 million to three million by 2036. Most of these jobs will be located in central and inner Melbourne, adding to the congestion of the city's inner and middle areas. The Program therefore aims to employ a "polycentric" city structure that includes several large employment centres.

The Program seeks to design and integrate urban development around high capacity, efficient transport infrastructure, and increase the levels of housing and employment within these major transport corridors. Known as employment corridors, these areas will:

- provide for substantial increase in employment, housing, education and other opportunities along each corridor which are linked through improved connectivity
- link the outer areas to a greater choice of jobs, services and goods in the corridor, and
- provide transport networks that allow circumferential in addition to radial movements.

The Program also seeks to address the imbalance of Melbourne's growth that has focussed on eastward and south-eastward expansion at the expense of development to the west and north. The creation of these new growth areas in the northern and western investigation areas will provide a greater balance to Melbourne's expansion with easier and more equitable access to affordable housing, employment and services for the growing population. The Program seeks to achieve a spatial arrangement of land use and transport that will both

stimulate development and sustain efficient economic activity within a metropolitan context that is progressively restructured to reflect the aims of a “polycentric” city.

The existing 28 precincts are integral to the implementation of the social and economic aspects of the Program for Melbourne’s urban expansion even though they are located within the current urban growth boundary. These precincts were included so that their precinct planning process could be carried out in accordance with the Program and be consistent with its social and environmental objectives.

In summary, the Program seeks to:

- provide affordable housing
- provide high capacity, efficient transport infrastructure which does not contribute to inner city congestion;
- integrate urban development with transport infrastructure to ensure easier and more equitable access to employment, education and services, and
- restructure Melbourne’s focus on its city centre to a “polycentric” city.

Legal considerations – general considerations (ecologically sustainable development)

Section 146F (2) requires that you take into account the principles of ecologically sustainable development (ESD) in deciding whether to approve actions under a Program and in setting conditions. ESD principles are defined at section 3A of the EPBC Act. The following discussion draws on the SIAR report for the Program (attached separately) and the department’s assessment report (Attachment D).

(a) Decision making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations.

The SIAR describes how the Victorian Government has integrated both short and long-term economic, environmental, social and equity considerations into the strategic planning process for the long term development of Melbourne.

The Victorian Government’s economic considerations include the ongoing provision of land and housing supplies to meet projected demand resulting from Melbourne’s increasing population. The demand for affordable housing is a key driver behind the expansion of the urban growth boundary addressed by the Program. The Program seeks to achieve a balance between affordable development and meaningful protection of MNES at the landscape level.

In general, consideration of the environment is demonstrated in the Program by the exclusion of identified areas of high conservation value from development and creation of new reserves to ensure protection of MNES at the ecosystem scale. The Program, to be delivered over 20 years, takes a long term perspective on protection of environmental assets whilst ensuring sufficient land can be released for orderly economic development. As noted previously, the Victorian Government considers development within the framework of the Program to address sustainable social, economic and environmental considerations.

(b) That if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

The expansion of Melbourne’s urban growth boundary and development in the 28 existing precincts is expected to lead to substantial impacts on MNES. Due to the long duration of the expansion, the Program adopts a process for identifying and protecting MNES and

other biodiversity values, within the context of specific conservation outcomes. This necessarily involves some uncertainty regarding the extent of actual impacts at the time of making a decision on endorsement or approval.

To address this uncertainty, the Program includes mandatory mitigation and offset requirements. The Program also contains monitoring, auditing and reporting commitments and requirements designed to lower the risk of irreversible and serious environmental harm. These processes and commitments are summarised at [Attachment C1](#).

The Program identifies and will protect key environmental assets. Offsets from clearing will be used to establish consolidated reserves for protection for listed ecological communities and associated species (15,000ha western grassland reserve and 1,200ha northern grassy woodland reserve). This will ensure lasting and meaningful protection of relevant MNES at the landscape and ecosystem scale. The SIAR concludes that this approach will achieve significant and measurable gains for MNES compared with the existing approach of ad-hoc offsetting requirements generated by individually referred development actions (*Projections of Future Grassland Extent – Condition Change in the West of Melbourne*, RMIT University, contained at Appendix 7 to SIAR).

The Program requires the Victorian Government to develop a monitoring and reporting framework for approval by the Commonwealth. An independent monitor will be appointed to ensure the program is being properly implemented by all relevant parties, and commitments identified in the Program are being met. Additionally, Victoria's own monitoring will indicate whether on-ground works are being undertaken in accordance with the Program.

Results of reporting will be utilised in the adaptive management framework to be agreed upon by the Commonwealth and Victorian Governments. The framework will allow new information and listings to be accommodated within the scope of the Program. These monitoring frameworks will significantly reduce the risk of environmental degradation or damage, increase the likelihood of achieving good biodiversity outcomes and to protect and enhance MNES.

(c) The principle of inter-generation equity- that the present generation should ensure the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.

To ensure the maintenance and enhancement of the environment, the Victorian Government aims to manage native vegetation to achieve a net gain in protection. The temporal scale of the Program, and the application of adaptive management commitments, provides the opportunity to increase the security provided to broader biodiversity across the Victorian landscape.

The Program will result in the reservation of a series of integrated conservation reserves across the greater Melbourne region including:

- two large native grassland reserves (totalling 15,000ha), and a 1,200ha grassy eucalypt woodland reserve
- a number of grassland reserves within the growth areas such as the Ravenhall and Clarke Road Grasslands, 1,200ha within the western and northern growth areas and 300ha at Epping North
- a network of woodland reserves of some 773ha in size in the northern investigation area or 80 per cent of this ecological community retained within the new growth areas, and

- further protection and management of suitable habitat for MNES within the existing precincts that meet the Program prescription retention thresholds, for example as occurred within the Truganina South precinct for Golden Sun Moth (Figure 1, Attachment C2).

The Program provides for the management of large areas of land set aside for conservation purposes which will include targeted management measures to maximise biodiversity outcomes both now and into the future. Environmental significance overlays and targeted conservation zoning will be placed on land to protect ecological values.

Large, well managed reserves provide landscape-scale improvement and benefits for individual species through allowing free movement and preventing isolation from further disturbance. Smaller patches are considered to be more at risk to invasion and degradation by exotic species, urban edge effects and management limitations.

The Program establishes statutory and policy mechanisms and committed funding under which the majority of conservation activities will be carried out. Monitoring, reporting and adaptive management will provide an opportunity for improved environmental outcomes to be achieved as ecological systems are better understood over time.

Offsets from urban development within the existing 28 precincts will contribute to the above conservation outcomes under the Program for the benefit of future generations.

(d) The conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making.

The Program proposes large scale avoidance, mitigation and offsetting mechanisms together with a planning framework of legislation and integrated biodiversity strategies as the basis for the conservation of biodiversity and ecological integrity in planning for Melbourne's urban expansion. Development under the Program is focussed on existing urban areas and predominantly modified landscapes. This will reduce the extent of impacts on the environment than would otherwise occur if 1.8 million people needed to be housed within new growth areas alone or through *ad hoc* zoning by local governments.

Commonwealth Government involvement in the Program through the strategic assessment process has allowed it to have a role in the planning for the expanded growth boundary, and ensuring that the aims and requirements of the EPBC Act are considered early in the process. This has given the Commonwealth an opportunity to influence landscape outcomes, consolidate conservation measures such as offsets and reduce bureaucracy by engaging at the planning stage.

The location of the growth expansion and the development of the Program have sought to avoid large intact areas of native grasslands, woodlands, Ramsar and other areas with high biodiversity values in the initial planning phases for Melbourne's expansion. The development and application of sub-regional species strategies and biodiversity conservation strategies at a landscape level will assist the conservation of biological diversity and maintenance of ecological integrity. This will be achieved through ensuring the needs of MNES are considered at a scale that spans precincts and development footprints and reflects the ecological function of the landscape.

Mitigation measures will be carried out as the planning framework for the existing 28 precincts is implemented. At a precinct level, surveying for species, the use of

prescriptions to identify how species should be managed in the landscape and the subsequent development and application of native vegetation precinct plans and conservation management plans are mandatory processes in the planning process established by the Program. These structured processes will facilitate improved conservation outcomes, and retain flexibility to adapt and evolve with the advance of relevant scientific knowledge and incorporating feedback from monitoring and auditing processes.

(e) Improved valuation, pricing and incentive mechanisms should be promoted.

The Victorian Government uses Victoria's existing *Native Vegetation Management Framework* to quantify offsets. The approach is a metric based environmental valuation method that provides detailed information on the gains or losses of ecological characteristics. By knowing the values of the environment prior to impacts, the Victorian Government can calculate the expected loss to occur as a result of urban development within the existing 28 precincts and establish a net gain in conservation outcomes.

The existing Bush Broker mechanism will be used in establishing the required offsets. Bush Broker creates, advertises and sells native vegetation credits (offsets) generated by environmental improvements made elsewhere. Through the Bush Broker system the Victorian Government will offer native vegetation credits for sale to developers, with the proceeds progressively funding the establishment and ongoing management of the western grassland reserves. Prior to the necessary acquisition overlays for the proposed western grassland reserves being in place, DSE will act as a broker for developers by calculating offsets required in accordance with the prescriptions and the Program, and will accept receipt of the required funds from developers. These funds will be held in trust and will then be used by Bush Broker to purchase offset lands in the new grassland reserves.

The Program prescription requirements for offsetting incorporate the valuation and pricing of environmental impacts and creates an incentive for developers to minimise the extent of impacts due to the cost associated with securing suitable offsets

The Victorian Government has committed to commencing the acquisition of the grassland reserves, with a view to being able to establish a "bank" of offsets from which developers can more efficiently secure the necessary offset values. This approach represents an innovative method to simultaneously deliver on conservation outcomes and improve the efficiency of development approval processes.

Conclusion

Melbourne's growing population has increased the demand for land supply, more affordable housing, employment areas and access to transport. Establishing a multi-node settlement pattern, using existing urban areas and adopting sustainable community design principles demonstrates the Victorian Government has considered economic and social matters. The Program considers protection of MNES within this context.

The Program proposes broad conservation activities and outcomes supported by planning frameworks, strategies, policies, plans and mechanisms to ensure the long term protection of MNES for future generations. The Program provides for the creation of large grassland and woodland reserves to protect critically endangered ecological communities, and a series of smaller reserves protecting threatened species, riparian corridors and broader biodiversity. The Program will also ensure water quality inflows into Ramsar wetlands remain the same or improve.

The Program addresses the lack of full scientific certainty through requirements for species surveying, management strategies and monitoring, reporting and adaptive management frameworks.

The Program integrates existing state processes and Australian Government requirements under the EPBC Act to deliver a landscape scale gain in protection and conservation of critically endangered native grasslands and associated protected species. The integrated approach will deliver new reserves for the benefit of future generations.

Legal considerations - Approvals relating to protected matters

Sections 146G to 146M describe additional requirements for decision-making relating to protected matters. Sections 146G (World Heritage properties), 146H (National Heritage places) and 146M (nuclear actions) are not relevant to the Program and are not considered further.

Approvals relating to declared Ramsar wetlands

Section 146J requires:

If the approval relates to a declared Ramsar wetland, the Minister must not act inconsistently with Australia's obligations under the Ramsar Convention.

The department notes that the catchments for the potentially affected sections of the Ramsar sites include urban, semi-urban and rural lands already subject to disturbance. Urban development within the existing 28 precincts will occur some distance from the Ramsar sites and will be managed to control sedimentation and runoff risks. In these circumstances, the department concludes that impacts on the ecological character of the Ramsar sites are not expected or likely.

As discussed previously, the Program will implement a range of measures to address indirect impacts on Ramsar wetlands:

- downstream hydrological impacts will be addressed through the precinct structure planning process with an integrated water management plan forming a prerequisite for any precinct structure plan
- precinct Structure Planning guidelines will ensure that urban runoff and urban design protect and complement the ecological character of Ramsar wetlands and any other existing wetlands retained for its importance for migratory birds, and
- the proposed new wetlands in the Melbourne south-east investigation area are situated on the site of the former Koo Wee Rup swampland, and will be designed to improve the water quality flowing into Western Port.

The department concludes that approval of actions associated with urban development of the 28 existing precincts under the Program will not be inconsistent with Australia's obligations under the Ramsar Convention.

Approvals relating to listed threatened species and ecological communities

Section 146K (2) requires:

The Minister must not act inconsistently with:

- (a) Australia's obligations under:*
- (i) the Biodiversity Convention; or*
 - (ii) the Apia Convention; or*

- (iii) *CITES*; or
(b) a recovery plan for the species or community or a threat abatement plan.

Urban development within the existing 28 precincts is not inconsistent with Australia's obligations under the Biodiversity Convention, the Apia Convention or CITES because the project aims to avoid high biodiversity sites, mitigate impacts on listed threatened species and ecological communities and offset losses of native vegetation and species to achieve a net gain in conservation and protection of biodiversity.

Natural Temperate Grassland of the Victorian Volcanic Plain (NTGVVP)

There is no current recovery, or draft recovery, plan for NTGVVP. The NTGVVP advice prepared by the Threatened Species Scientific Committee (TSSC) at the time of listing recommended that 'there be a bioregional plan for the Victorian Volcanic Plain as a strategic initiative'. The committee advice also states that the conservation value of a patch of the ecological community is enhanced if it shows any of the following features:

- a high native plant species richness
- large patch size.
- minimal weed invasion
- presence of threatened plant and/or animal species.
- presence of natural exposed rock platforms and outcrops, and
- presence of mosses, lichens or a soil crust on the soil surface.

The endorsed Program and resultant strategic identification, protection and management of the 15,000ha grassland reserve areas, as well as the other smaller reserves retained within the UGB is consistent with the TSSC advice recommending a bioregional approach to protection. The reserves will provide for the protection of the highest quality patches of the NTGVVP ecological community consistent with the conservation values described by the TSSC above. Urban development within the existing 28 precincts will result in loss of 768ha of NTGVVP of medium and lower quality grasslands, but is not inconsistent with conservation advices made by the TSSC. The grasslands to be cleared are unlikely to exhibit the enhanced conservation values described by the committee in the preceding paragraph.

Grassy Eucalypt Woodland of the Victorian Volcanic Plain (GEVVVP)

There is no current recovery plan, or draft plan, for GEVVVP. However, conservation advice was made at the time of listing in June 2009. The advice specifies a number of threats to the community including:

- habitat loss, disturbance and modification
- invasive weeds
- trampling, browsing or grazing, and
- fire regimes.

The advice also provides information relevant to maintenance and protection of the ecological community.

Development of the 28 existing precincts under the Program will result in loss of 135ha of low to medium quality GEVVVP. This equates to 37ha of pristine GEVVVP under Victoria's Native Vegetation Framework which requires an equivalent offset of 57ha of pristine GEVVVP (equal to about 200ha of low to medium quality GEVVVP similar to that cleared). Conservation outcomes include the creation of a new 1,200ha woodland reserve and retention of 80% of this ecological community in other smaller reserves within the new

growth areas. The overall outcome is consistent with the conservation advice in ensuring protection of the highest quality GEVVVP remnants.

Golden Sun Moth

There is not currently a national recovery plan under the EPBC Act or other relevant conservation advice issued by the TSSC. The department has prepared and published significance threshold guidelines to assist developers and other stakeholders determine when referral under the EPBC Act is likely to be required. These only relate to significance thresholds for referral of individual projects under the EPBC Act.

Spiny Rice-flower

A national recovery plan has been prepared for the Spiny Rice-flower under the EPBC Act (12 December 2006). The stated goal of the plan is to minimise the probability of extinction of the species in the wild and to increase the probability of important populations becoming self-sustaining in the long term. More specific objectives are stated as:

- acquisition of accurate information for conservation status assessments
- identification of habitat that is critical, common or potential
- ensuring that all populations and their habitat are protected and managed appropriately
- management of threats to populations
- identification of key biological functions
- determination of the growth rates and viability of populations, and
- building community support for conservation.

Urban development undertaken in accordance with the Program within the existing 28 precincts will be consistent with the goals of the recovery plan in that its implementation will contribute to the protection of known self-sustaining populations in the grassland reserves as well as an additional four grassland areas currently supporting more than 200 plants. The surveys to be undertaken by DSE and the Growth Areas Authority will provide accurate information for conservation status assessments and identification of habitat that is critical, common or potential (the endorsed Program has developed and utilised a methodology meeting this objective). The endorsed Program will also manage threats to populations and identify key biological functions through management of the grassland reserves.

The recovery plan also states that all populations and their habitat should be protected. Surveys are yet to be completed within the 28 existing precincts and it is possible that populations will be located. While the recovery plan does not define a population, the recovery team has advised that such a population might comprise 20 or more individual plants. Arguably, the Program and prescriptions are inconsistent as they may allow the clearing of populations of less than 200 plants. This situation exists for individual project assessments where clearing is often allowed, subject to offsets. Fragmented populations may not persist within small urban reserves and have limited conservation values. In the department's view, this loss (if it occurs) will be appropriately offset such that there is a net gain in the conservation and protection of the Spiny Rice-flower.

The department considers that urban development within the existing 28 precincts will contribute to the conservation outcomes under the Program for the Spiny Rice-flower and that these outcomes are consistent with the intent and key goals of the recovery plan.

Striped Legless Lizard

A national recovery plan has been prepared for the Striped Legless Lizard under the EPBC

Act (16 July 2000). The stated primary conservation goal is to ensure the long-term survival of the Striped Legless Lizard and to maintain its potential for evolutionary development in the wild across its natural geographic range. The key objective is to ensure viable populations or cluster populations are represented and maintained in reserves or appropriately managed sites across the known distribution of the species.

More specific objectives include:

- determine the current distribution and abundance of the Striped Legless Lizard in Victoria, New South Wales, the Australian Capital Territory and South Australia
- establish a series of reserves and other managed areas such that viable populations are maintained across the known distribution of the species
- determine the habitat use and ecological requirements of Striped Legless Lizard
- identify the nature and extent of threatening processes affecting Striped Legless Lizard
- undertake a program of research and monitoring to provide a basis for adaptive management of Striped Legless Lizard, and
- assess the need for salvage and translocation, determine their feasibilities, develop protocols and undertake a trial translocation if appropriate.

Urban development within the existing 28 precincts undertaken according to the Program is not inconsistent with the draft recovery plan. The Program addresses goals of the recovery plan in that it will ensure the protection of self-sustaining populations in the grassland reserves at a scale allowing for evolutionary development in the wild. The endorsed Program will also manage threats to populations and identify key biological functions through management of the grassland reserves. The prescription requires 'best practice' salvage and relocation plans to be implemented and requires a premium offset specifically to advance scientific knowledge and management of the species.

Matted Flax-lily

There is currently no national recovery plan for the Matted Flax-lily under the EPBC Act, although a draft plan is currently on exhibition for public comment (prepared October 2008 with comments closing 12 April 2010). The stated objective of the draft plan is to minimise the probability of extinction of the Matted Flax-lily in the wild and to increase the probability of populations becoming self-sustaining in the long term. Other stated objectives include:

- determining distribution, abundance and population structure
- determining habitat requirements
- managing threats to populations
- identifying key biological functions
- determining growth rates and viability of populations, and
- establishing a population in cultivation.

Urban development within the existing 28 precincts is not inconsistent with the draft recovery plan. Outcomes for the endorsed Program and Matted Flax-lily prescription are consistent with the objective of minimising risks of extinction and securing self-sustaining populations through the establishment of large reserves. The Program and prescription, through the requirements for surveys, will contribute to knowledge about distribution, population structures, habitat requirements, management of threats and cultivation of populations.

Southern Brown Bandicoot

A national recovery plan has been prepared for the Southern Brown Bandicoot under the EPBC Act (November 2006). It identifies actions to be undertaken to attempt to ensure the

long-term viability of the species in nature. More specific objectives are stated as:

- establishing intensive introduced carnivore control programs around known populations
- monitoring of populations to determine the success of these control programs
- implementing fire management regimes around known populations that promote favoured habitat
- ensuring development is carried out in a way that does not impact significantly on known populations, and
- undertaking further surveys.

Urban development within the 28 precincts undertaken in accordance with the Program conservation outcomes requires the protection and management of all populations of Southern Brown Bandicoot including the population of the Royal Botanic Gardens Cranbourne, and the successful functioning of sustainable populations of the Southern Brown Bandicoot within and adjacent to the new urban growth boundary with connectivity between populations. These outcomes are consistent with the goals of the recovery plan.

A sub-regional species strategy consistent with the prescription will be developed by 2011 and will guide conservation of the Southern Brown Bandicoot at both growth area and precinct levels. Proposed strategies to minimise impacts on the Southern Brown Bandicoot include excising some areas of likely habitat from development, securing a network of corridors and ensuring links between populations throughout the south-east. Key strategic protection and management measures, such as land acquisition and planning scheme measures, will commence prior to or in conjunction with precinct structure planning.

The prescription for Southern Brown Bandicoot directs that conservation management plans must be prepared for the management of populations and suitable habitat and must achieve the conservation outcomes outlined above.

Monitoring to assess progress of implementing the prescription and an evaluation of whether proposed conservation outcomes are being achieved will be carried out every two years or to an agreed schedule. The monitoring reports will be provided to the Minister.

The department considers that urban development within the existing 28 precincts will contribute to the conservation outcomes under the Program for the Southern Brown Bandicoot and that these outcomes are consistent with the intent and key goals of the recovery plan.

Growling Grass Frog

A draft national recovery plan has been prepared for the Growling Grass Frog under the EPBC Act (July 2007). It identifies actions required to ensure the long-term viability of the species in nature. More specific objectives are stated as:

- securing all current populations of the Growling Grass Frog, particularly those occurring in known breeding habitats, and improving their viability through increases in size and/or area of occurrence
- improving understanding of distribution, biology and ecology of the species, and identifying causes of the decline of the species across its geographic range, and
- addressing known or predicted threatening processes, and implementing appropriate management practices to ensure that land use activities do not threaten survival of the species.

The Program addresses goals of the recovery plan in that it will ensure the protection of functioning sustainable populations of Growling Grass Frog (including the most important currently known populations) within the existing precincts and new growth areas at Casey and Whittlesea/Hume, and ensure connectivity between adjacent populations.

The Program prescription for the Growling Grass Frog also requirements a number of management objectives for the species that relate to how retained sites must be protected and managed which are consistent with the objectives of the draft recovery plan for the species. These requirements will be implemented in the conservation management plans for the species which will inform the preparation of the precinct plans for the 28 precincts (for those precincts where the species occurs).

Urban development within the existing 28 precincts undertaken according to the Program is not inconsistent with the draft recovery plan.

Approvals relating to listed migratory species

Section 146L requires:

If the approval relates to a listed migratory species, the Minister must not act inconsistently with whichever of the following conventions or agreements because of which the species is listed:

- (a) *the Bonn Convention;*
- (b) *CAMBA;*
- (c) *JAMBA;*
- (d) *an international agreement approved under subsection 209(4).*

Specialist flora and fauna reports identified the potential occurrence of thirty-one migratory bird species listed under CAMBA and JAMBA in the Program area (attached reports). Important populations are not known to occur, or to regularly utilise, areas proposed for development within the existing 28 precincts.

The prescription for migratory species includes the following mitigation measures:

- flora and fauna surveys for the preparation of precinct structure plans will survey any wetlands present and identify potential values for migratory species
- if present, migratory bird habitat will be managed for protection of habitat values
- sites that are used or are likely to be used by nationally significant migratory species will be protected with a 200m buffer as part of the precinct structure plan, and will be managed under a conservation management plan
- retained and constructed wetlands will be designed and managed to maximise opportunities for migratory species, including the exclusion of dogs and other disturbances in identified areas and imposing a minimum buffer of 100 metres
- if surveys detect use of the wetland by the Australian Bittern, the buffer around the wetland will be increased to 300m, and
- a fully costed conservation management plan CMP must be prepared prior to development commencing. The CMP must be to the satisfaction of DSE and set out the detailed management arrangements for any wetlands and their buffers retained or constructed in relation to the prescription.

The Program commits to retaining wetlands that provide, or are likely to provide, habitat for nationally listed migratory species. The department considers that a decision to approve development within the existing 28 precincts is not inconsistent with the Bonn Convention, CAMBA, JAMBA or an international agreement approved under subsection 209(4).

Legal considerations – other requirements

Section 391A states that you must have regard to information in the Register of the National Estate kept under the *Australian Heritage Council Act 2003* in making any decision under the EPBC Act to which the information is relevant.

There are 12 sites listed on the Register of the National Estate within the area covered by the Program, and an additional eight “indicative” places. None of these places are expected to be directly or indirectly impacted by urban development within the existing 28 precincts. In addition, the Program includes requirements to protect and maintain places or sites listed on the Register of the National Estate if potentially impacted.

Legal considerations – conditions of approval

Sections 146B (2) (e) and 146E (b) provide for you to add conditions to an approval for actions under an endorsed Program. Considerations to be taken into account in deciding what conditions (if any) to attach to an approval have been discussed above.

The department considers that the commitments and undertakings within the Program are appropriate in ensuring adequate protection of MNES. However, additional requirements are considered appropriate in addressing the following matters:

- reinforcement of the Program requirement to ensure implementation of MNES prescriptions, and
- ensuring reporting to the Australian Government on any construction within the existing 28 precincts commencing in 2010 prior to implementation of the formal reporting requirements for the overall Program (to commence by early 2011).

Victorian legislation does not provide for protection of ‘non-native’ vegetation. MNES prescriptions requiring protection of ‘non native’ habitat for listed species therefore do not have a state legislative underpinning. This means that the compliance with such requirements could be challenged by developers. The species potentially affected is the Golden Sun Moth. The Golden Sun Moth has been recorded in grasslands with a high proportion of exotics, including Serrated Tussock, which does not meet the requirements for the listed native grasslands ecological community.

The approval conditions make it clear that developers must comply with the MNES prescriptions to gain the benefits of an approval under the Program and provides the legislative underpinning for the prescriptions if clearing of ‘non-native’ habitat is required. If developers do not comply, they risk breach of the EPBC Act or needing to go through a separate referral, assessment and approval process.

Proposed conditions of approval are in the final decision notice at [Attachment A](#). Advice was received from the Australian Government Solicitor (AGS) on the proposed conditions on 4 June 2010 and 29 June 2010, and has generally been incorporated (see below). Further information on the suggested conditions is in the table below. Further explanation about the rationale for the approval and conditions is at [Attachment B](#).

Additional legal considerations – section 134, Part 9 (Approval of actions)

Advice from AGS suggests that section 134 needs to be addressed when attaching conditions to approvals granted under Part 10 of the EPBC Act. In particular, section 146D(3) requires that:

Subject to subsection (4), section 134 and Divisions 2,3 and 4 of Part 9 apply in

relation to an approval of the taking of an action that is taken to have been given under Part 9 because of paragraph (1)(b).

Section 134 (1A) requires that:

An approval of the taking of an action by a person (the first person) is subject to the condition that, if the first person authorises, permits or requests another person to undertake any part of the action, the first person must take all reasonable steps to ensure:

- (a) that the other person is informed of any condition attached to the approval that restricts or regulates the way in which that part of the action may be taken; and*
- (b) that the other person complies with any such condition.*

The effect of 134(1A) is to ensure that conditions attached to an approval apply to contractors and other third parties employed, contracted, authorised, permitted or requested by the 'action person' to carry out the action that is the subject of this approval decision.

Section 134(1) requires that:

The Minister may attach a condition to the approval of the action if he or she is satisfied that the condition is necessary or convenient for:

- (a) protecting a matter protected by a provision of Part 3 for which the approval has effect (whether or not the protection is protection from the action); or*
- (b) repairing or mitigating damage to a matter protected by a provision of Part 3 for which the approval has effect (whether or not the damage has been, will be or is likely to be caused by the action).*

The conditions attached to the proposed approval decision are considered necessary to ensure satisfactory protection and mitigation of impacts on matters protected by provisions of Part 3 of the EPBC Act including:

- listed threatened species and communities
- wetlands of international importance, and
- listed migratory species.

Section 134(2) requires that:

The Minister may attach a condition to the approval of the action if he or she is satisfied that the condition is necessary or convenient for:

- (a) protecting from the action any matter protected by a provision of Part 3 for which the approval has effect; or*
- (b) repairing or mitigating damage that may or will be, or has been, caused by the action to any matter protected by a provision of Part 3 for which the approval has effect.*

The conditions attached to the proposed approval decision are considered necessary to ensure satisfactory protection and mitigation of impacts on matters protected by provisions of Part 3 of the EPBC Act including:

- listed threatened species and communities
- wetlands of international importance, and
- listed migratory species.

Section 134(3) outlines the kinds of conditions that can be attached to an approval decision. The subsection does not limit the kinds of conditions that may be attached to an approval. The conditions attached to this proposed approval decision are consistent with the examples provided in section 134(3).

Section 134(3A) states that:

the following kinds of condition cannot be attached to the approval of an action unless the holder of the approval has consented to the attachment of the condition:

- (a) a condition referred to in paragraph (3)(aa), if the activities specified in the condition are not reasonably related to the action;*
- (b) a condition referred to in paragraph (3)(ab).*

Paragraph (3)(aa) refers to conditions required to protect protected matters. The conditions are reasonably related to the action for which approval is proposed. Section (3)(ab) refers to a condition requiring a specified financial contribution to be made for the purposes of protecting protected matters. Although the MNES prescriptions envisage payment of monetary offsets, this is an indirect consequence of the Program and not a matter specifically conditioned such that the prohibition applies. The department also notes that the Victorian Government has consented to carry out the proposal in accordance with the conditions attached to this proposed approval decision.

Section 134(3B) states that, once consent is given by an 'action person' in relation to section 134(3A), this consent cannot be withdrawn. This is not relevant to this proposed approval decision and conditions.

Section 134(3C) requires that:

A condition attached to an approval under paragraph (3)(c) may require a person taking the action to comply with conditions specified in an instrument of a kind referred to in that paragraph:

- (a) as in force at a particular time; or*
- (b) as is in force or existing from time to time;*

even if the instrument does not yet exist at the time the approval takes effect.

Sub-section (3C) is not relevant to this proposed approval decision and conditions.

Section 134(4) requires consideration of:

In deciding whether to attach a condition to an approval, the Minister must consider:

- (a) any relevant conditions that have been imposed, or the Minister considers are likely to be imposed, under a law of a State or self-governing Territory or another law of the Commonwealth on the taking of the action; and*

The endorsed Program describes all relevant legislation and policies applying to actions undertaken under the Program ([Attachment D](#)). These were fundamental considerations in the decision to endorse the Program and have therefore been considered for the current approval.

Section 134(aa) requires consideration of

information provided by the person proposing to take the action or by the designated proponent of the action; and

The draft Program and draft Strategic Impact Assessment Report were released for public comment and finalised in light of comments by the Victorian Government. Information provided by the Victorian Government has been taken into account in this proposed approval decision and conditions, including comments made on the proposed approval.

Section 134(b) requires consideration of

the desirability of ensuring as far as practicable that the condition is a cost-effective means for the Commonwealth and a person taking the action to achieve the object of the condition.

The department considers that the approval conditions are a cost effective means to achieve the objective of the endorsed Program and relevant conditions. The conditions build on the legislation and commitments made by the Victorian Government in the endorsed Program and are complementary to state approval requirements. The conditions are a cost-effective means for the Commonwealth and the person taking the action to achieve the object of the endorsed Program and protection of matters of national environmental significance.

Section 134(4A) states that if:

(a) a condition (the principal condition) attached to an approval under paragraph (3)(c) requires a person taking the action to comply with conditions (the other conditions) specified in an instrument of a kind referred to in that paragraph; and

(b) the other conditions are in excess of the power conferred by subsection (1); the principal condition is taken to require the person to comply with the other conditions only to the extent that they are not in excess of that power.

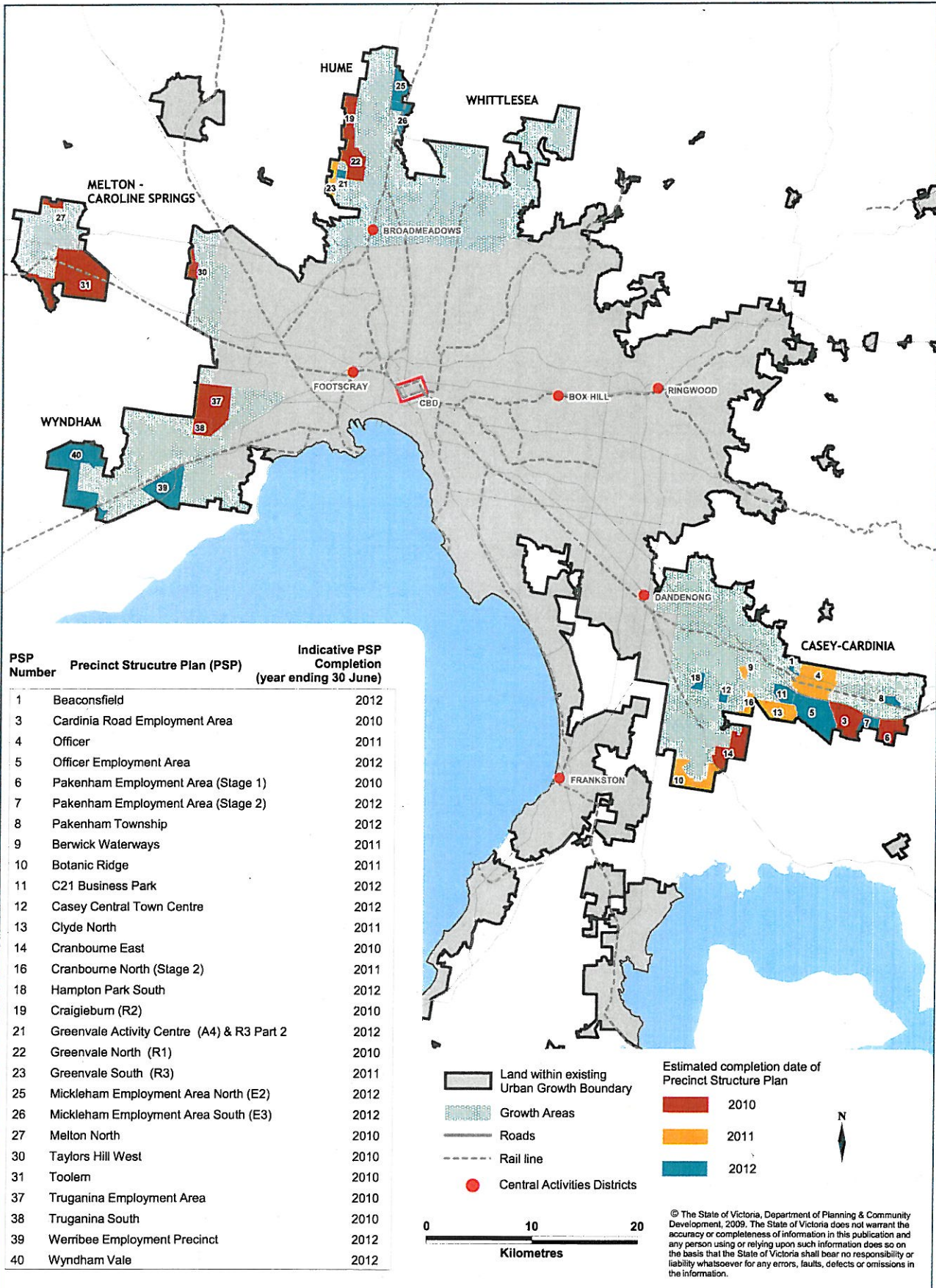
This section is not relevant to the conditions attached to this proposed approval decision.

Section 134(5) states that:

A failure to consider information as required by paragraph (4)(aa) does not invalidate a decision about attaching a condition to the approval.

This is not relevant to this proposed approval decision.

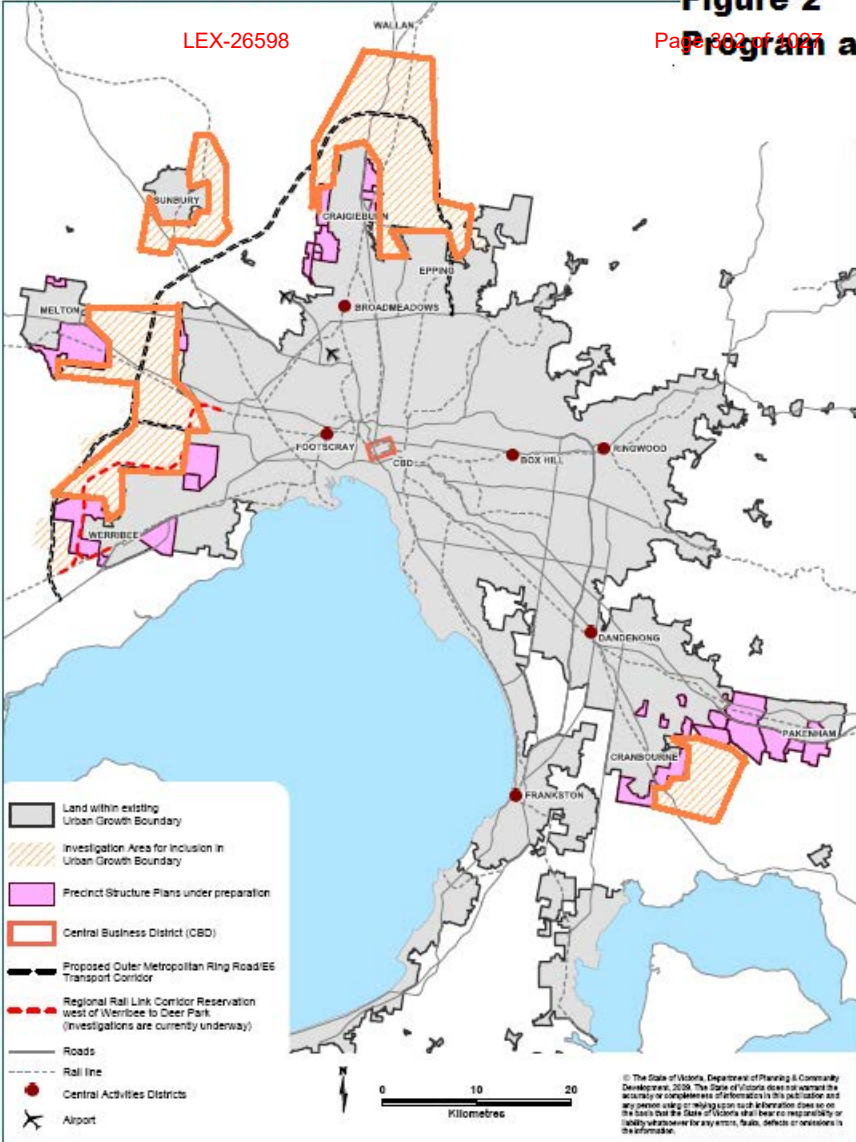
MAP 7: PRECINCT STRUCTURE PLANNING PROGRAM FOR PRECINCTS WITHIN THE EXISTING URBAN GROWTH BOUNDARY



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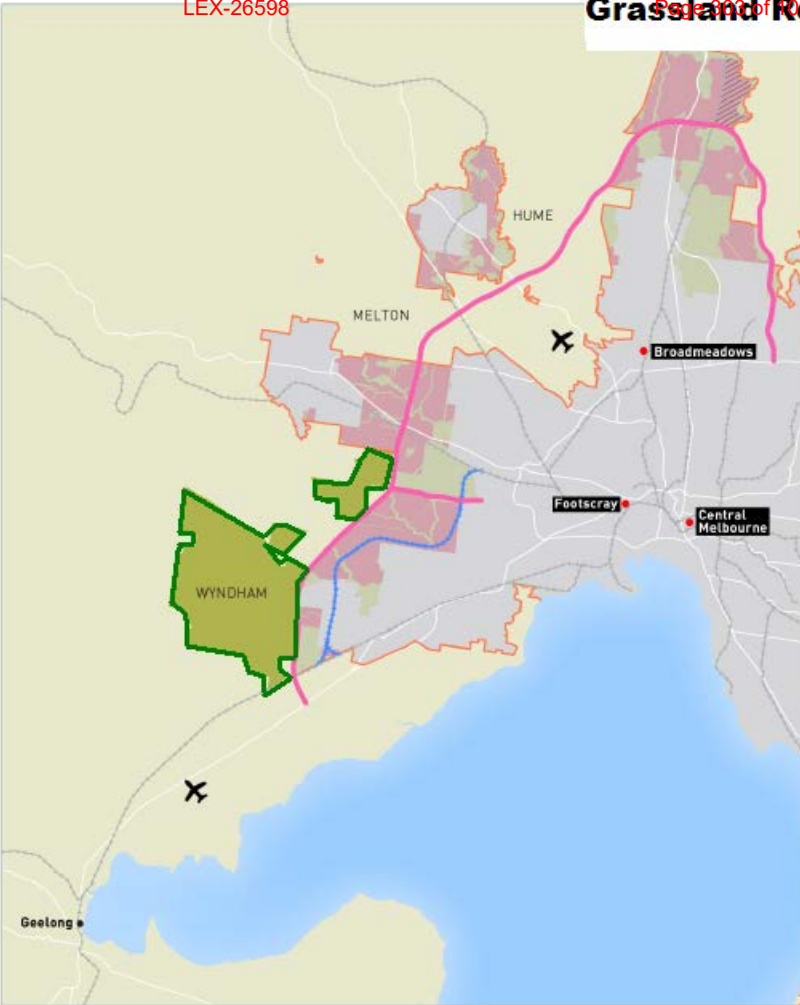
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Program areas



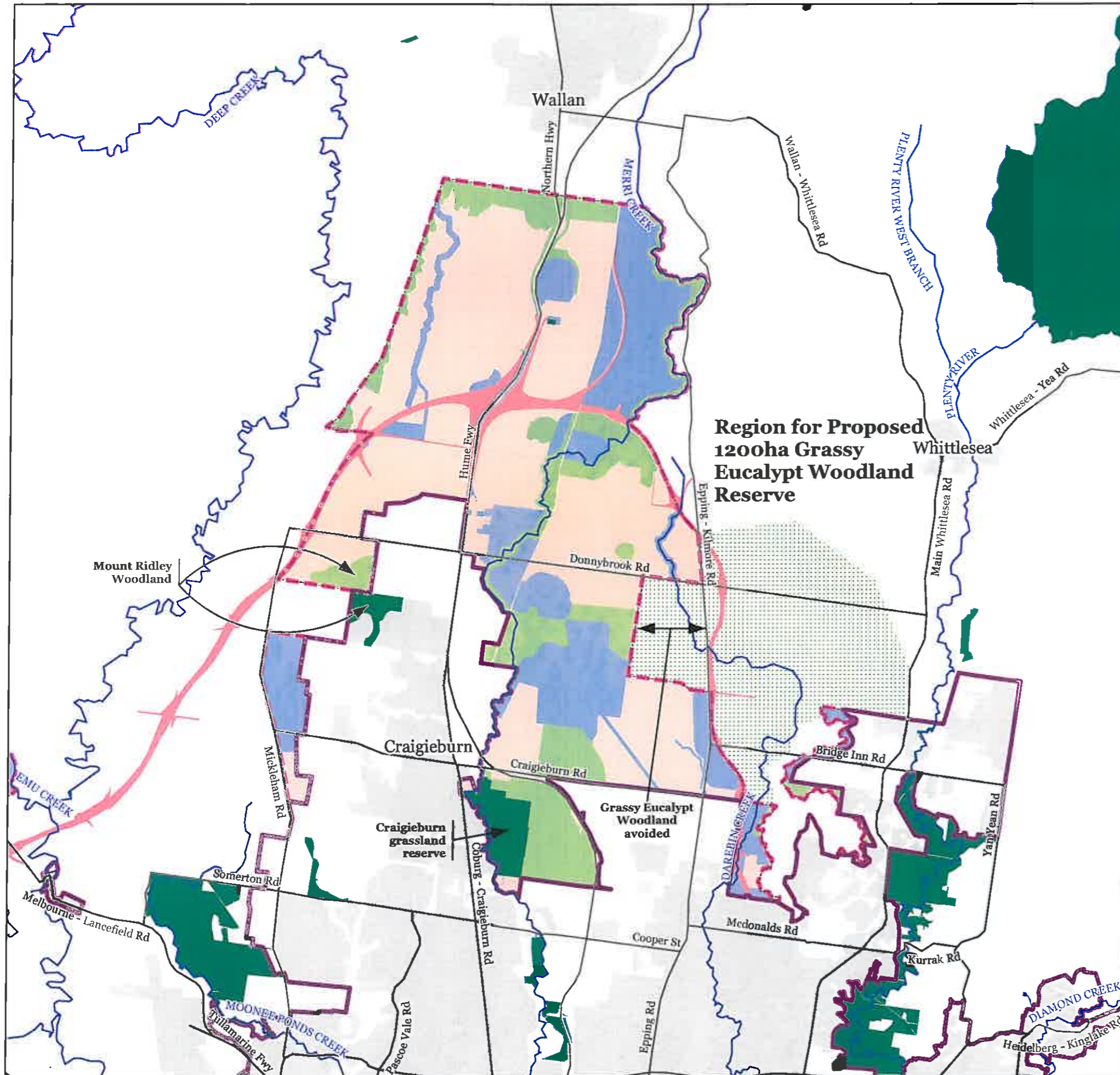
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Grassland Reserves



- | | | |
|---|---|------------------------------|
| Non-urban land | Assessment VCSS Urban Growth Boundary | Central Activities Districts |
| Potentially suitable for urban development | Grassland Reserves | Road network |
| Outer Metropolitan Ring A6 Transport Corridor | Proposed Inter-modal and Logistics Precinct | Rail network |
| | | Regional Rail Link |

Reserves and Developable Areas



- Current Urban Growth Boundary
- Proposed Urban Growth Boundary
- Existing Reserves
- Proposed Reserves
- Conservation Areas (RCZ)
- Non-urban land
- Potentially suitable for urban development
- Transport Corridor
- Urbanised Area

0 5 km

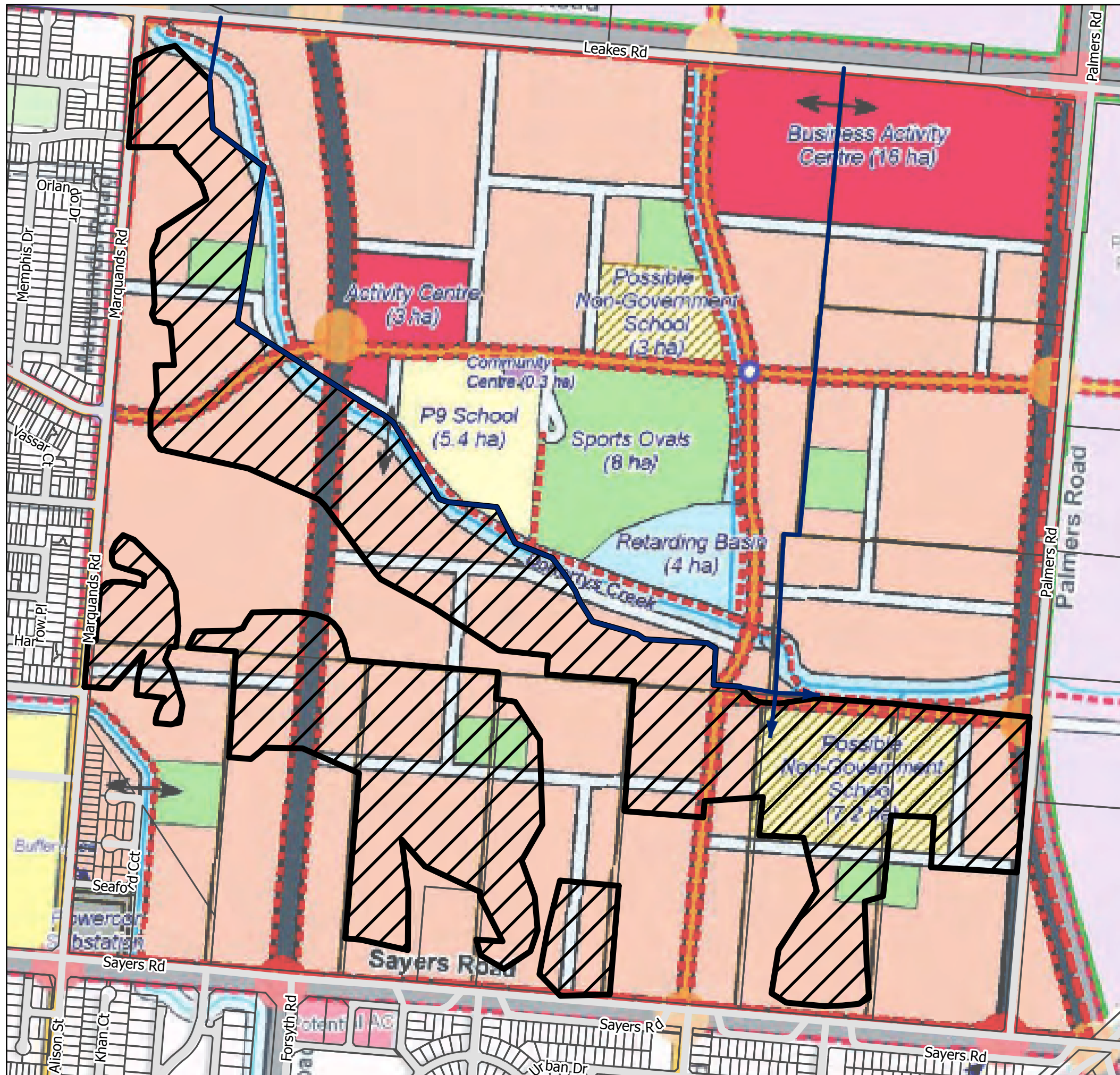





Data Source: DSE Corporate Data Store

Map Production by: Biodiversity & Ecosystem Services, DSE

Map Production Date: 11 February 2010

Proposed Reserve ~65ha



-  Truganina Sth GSM Reserve
-  Drainage Lines
-  Likely continuation



Data Source: DSE Corporate Spatial Data Library, BLA Property Surveys

Map Production by: Biodiversity & Ecosystem Services, DSE

Map Production Date: 14 December 2009



























DRAFT CARDINIA ROAD EMPLOYMENT PRECINCT STRUCTURE PLAN

(INCLUDING THE DRAFT CARDINIA ROAD EMPLOYMENT PRECINCT NATIVE VEGETATION PRECINCT PLAN)



Plan 12: Water Management




























LEGEND

-  Precinct Structure Plan Area
-  Urban Growth Boundary
- Open Space & Environment**
-  Existing Creeks
-  Drainage Lines
-  Areas requiring fill to raise the natural surface level
-  Drainage Corridor (minimum width)
-  Waterways - drainage corridor
-  Conservation Reserve
-  East - West Habitat Link
-  Major Easements
-  Unencumbered Open Space
-  Assumed Drainage Flow & Direction
-  Online Linear Wetland Systems
-  Offline Linear Wetland Systems
-  Existing Frog Wetlands
-  Proposed Frog Wetlands
-  Potential Location of Future Large Wetland and/or Retarding Basin Sites
-  Vegetated Channel
-  1m Contours
- Road Network**
-  State Freeway
-  Arterial Road
-  Connector Street
-  Access Street
- Other Land**
-  Major Easements
-  Future Urban Land
-  Existing Urban Land



Plan 13: Biodiversity Management

LEGEND

-  Precinct Structure Plan Area
-  Urban Growth Boundary
- Road Network**
-  State Freeway
-  Arterial Road
-  Connector Street
-  Access Street
- Land Use**
-  Employment Land
-  Residential Land
- Open Space and Environment**
- Unencumbered Open Space**
-  Parks
- Encumbered Open Spaces**
-  Waterways - drainage corridor
-  Conservation Reserve - EVCs
-  East - West Habitat Link
-  Major Easements
-  Existing Creeks
-  Drainage Lines
-  Existing Major Easements
-  Existing Wetlands
-  New Wetlands
-  Existing waterbodies to be relocated
-  Existing pond with GGF Records
-  Existing pond without GGF Record
-  Indicative location for proposed Growing Grass Frog ponds
-  Offline ponds (30m buffer areas)
-  Online ponds (30m buffer areas)
- Other land**
-  Existing Major Easements
-  Future Urban Land
-  Existing Urban Land



Biodiversity Conservation

The following planning and design guidelines must be met:

- Development is to be staged to ensure constructed habitat (eg. part of the wetland drainage system) is established prior to removal of existing habitat within the Precinct.
- A Construction Management Plan must be prepared to the satisfaction of the Department of Sustainability and Environment and the responsible authority, prior to subdivision and development in proximity to:
 - native vegetation identified to be protected and retained in the Cardinia Road Employment Precinct Native Vegetation Precinct Plan; and
 - dams (including wetlands or other waterbodies) identified to be protected and retained in the Cardinia Road Employment Precinct Conservation Management Plan for Growling Grass Frog.
- The Construction Management Plan must address the following:
 - measures to be used to limit and manage earthworks in proximity to the native vegetation or dam/s identified for protection;
 - management of subdivisional and open space drainage to support the health of vegetation or dam/s to be protected or identified; and
 - any conditions and requirements of the Cardinia Road Employment Precinct Native Vegetation Precinct Plan and Cardinia Road Employment Precinct Conservation Management Plan for Growling Grass Frog.

- Prior to the removal of any dams or native vegetation, a salvage plan for likely threatened species must be prepared and implemented to the satisfaction of the Department of Sustainability and Environment.
- Dam 38 (refer Plan 13), the Turkeys Nest Dam at the rear of the Kaduna Park Homestead, must not be removed until the adjacent group of new ponds has been constructed and left to establish for at least 12 months and the salvage and translocation protocol required (refer above) has been carried out to the satisfaction of the Department of Sustainability and Environment.
- Permits for development of open space and drainage works are to include design requirements for fauna habitat and flora, as appropriate.

Table 12 outlines planning and design guidelines for biodiversity in terms of general precinct design, flora and fauna.

A Conservation Management Plan for the nationally-significant Growling Grass Frog has been prepared concurrently to the PSP (refer Cardinia Road Employment Precinct Conservation Management Plan, Ecology Partners December 2009).

The Conservation Management Plan provides clear requirements for the construction, management and monitoring of Growling Grass Frog habitat and the species, as summarised in Table 13. It also includes site management requirements during building and subdivision works on adjacent sites, which must be addressed in the Construction Management Plan.

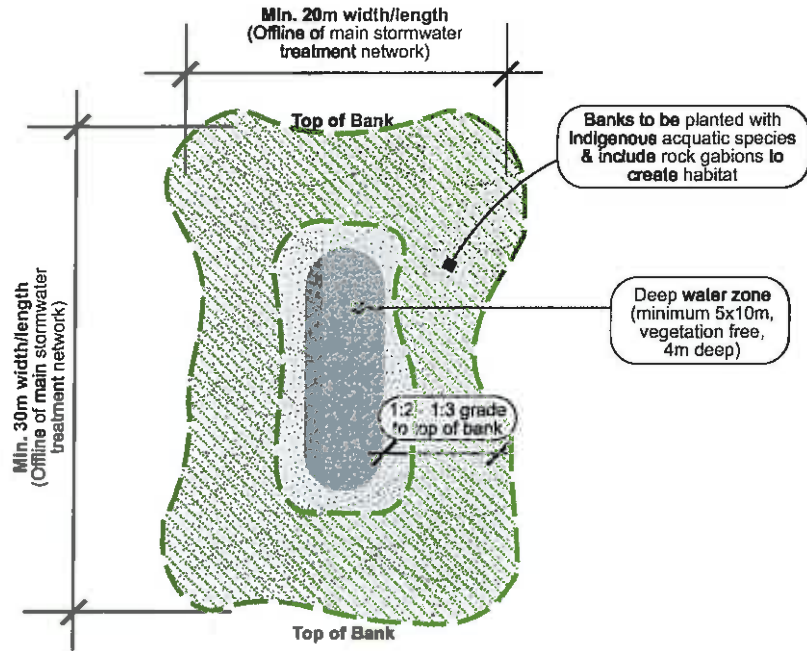
Table 12: Biodiversity Planning and Design Guidelines

Element	Planning and design guidelines that must be met
General	<ul style="list-style-type: none"> ▪ Cardinia Road Drain, Toomuc and Gum Scrub creeks are to provide north-south biodiversity corridors. ▪ East-west biodiversity corridors are to be provided along the Transmission Line Easement and west of Cardinia Road along Princes Freeway. ▪ The use of the Australian Landscape Theme throughout the Precinct are to provide street trees and public open space landscaping to creates habitat for indigenous fauna species.
Flora	<ul style="list-style-type: none"> • Native vegetation is to be retained in accordance with the Cardinia Road Employment Precinct Native Vegetation Precinct Plan (refer Section 5.5.4). • Lecky Road is to be diverted to accommodate road widening and to avoid the significant native vegetation near Gum Scrub Creek as shown on Plan 5. • Any native vegetation identified in the Native Vegetation Precinct Plan and located in open space areas must be retained and incorporated into its design. • Revegetation along Gum Scrub Creek, Toomuc Creek and the Cardinia Road Open Space Corridor is to: <ul style="list-style-type: none"> – create viable habitat corridors for native species; – consist of local indigenous species in line with the Australian Landscape Theme; and – create native grasslands leading into patches of existing Ecological Vegetation Communities in the area (eg. Swamp Scrub, Swampy Woodland) that are to be retained.
Fauna	<ul style="list-style-type: none"> • Growling Grass Frog ponds are to be retained and managed in accordance with the Cardinia Road Employment Precinct Conservation Management Plan (Ecology Partners 2009). • Habitat for a range of native fauna species is to be provided in constructed environments and areas of remnant vegetation, including public open space areas and waterway corridors. • Constructed wetlands forming part of the drainage system are to be designed and constructed to provide additional fauna habitat, particularly for wetland birds and the Growling Grass Frog. • Planning and Design Guidelines outlined in Table 13 apply to existing and new Growling Grass Frog Habitat. Open space corridors are to provide a minimum buffer of 30 metres around Growling Grass Frog ponds.

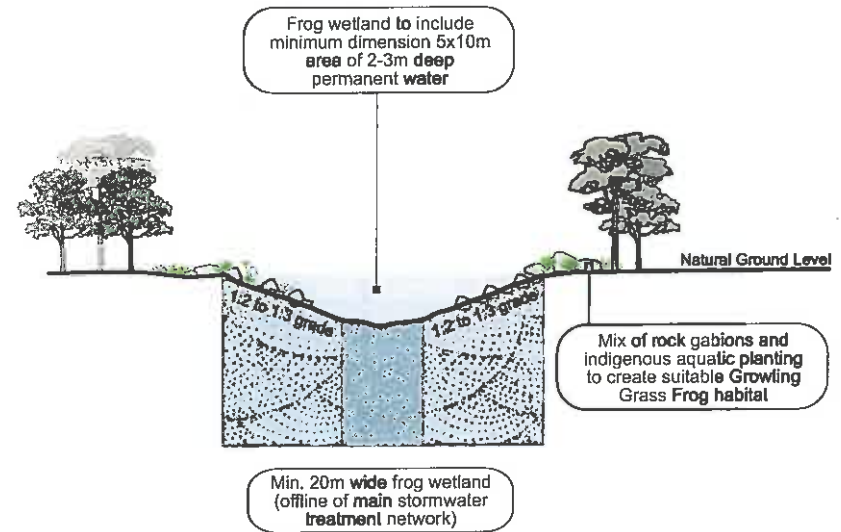
Table 13: Growling Grass Frog Habitat Planning and Design Guidelines

Element	Planning and design guidelines that must be met
Existing Habitat	<ul style="list-style-type: none"> Growling Grass Frog habitat must be retained and enhanced in line with the requirements of the Conservation Management Plan and Plan 13. Existing frog ponds must be enhanced, complemented and retained where possible.
Habitat Corridors	<ul style="list-style-type: none"> A new habitat corridor must be provided between Gum Scrub Creek and Cardinia Road along the Princes Freeway in accordance with Plan 13. A network of frog ponds are to be established along Gum Scrub Creek, Toomuc Creek, Cardinia Road Open Space Corridor, the Transmission Line Easement and in the new habitat corridor along Princes Freeway, to provide comprehensive habitat connectivity. Small ponds and depressions are to be constructed between created wetlands and potential dispersal corridors such as Gum Scrub Creek, preferably along drainage lines, to act as smaller Growling Grass Frog movement corridors in the study area.
Spacing of new wetlands and ponds	<ul style="list-style-type: none"> Off-line water bodies must be constructed to provide a connected Growling Grass Frog habitat. Ponds and wetlands are to be located 200 metres apart increasing up to 300 metres from occupied ponds. Ponds and wetlands are to be located at entrances to underpasses and culvert entrances (where roads cross drainage lines and creeks) to encourage frog movement along habitat corridors. Several smaller ephemeral wetlands are to be created around the larger permanent wetland that provide additional habitat that is more likely to remain fish-free.
Pond dimensions and depth requirements	<ul style="list-style-type: none"> Wetlands must have a minimum area of 400m² with preferred dimensions of 20 metres by 30 metres. Larger dams must be provided along the Transmission Line Easement and Toomuc Creek, in accordance with the Conservation Management Plan and Plan 13. A 3 metre deep water zone of 5 metres by 10 metres must be achieved during drought or low rainfall conditions. Ponds must be 4 metres in depth, measured from top of bank, to ensure this is maintained. Wetland dimensions may be reduced to 10 metres by 40 metres if it can be demonstrated that: <ul style="list-style-type: none"> a minimum 30 metre buffer can be achieved from roads and footpaths; the wetland is located within a network of Growling Grass Frog ponds and provides diversity and variety within that network; a 3 metre deep water zone can be achieved during drought or low rainfall conditions; and the pond provides as a transition point to other larger ponds in the network.
Landscaping and maintenance requirements	<ul style="list-style-type: none"> A range of edge habitats are to be provided throughout the Precinct. Wetlands are to have permanent water levels (between 0.5 metres and 2 metres in depth), low water turbidity, and have low nitrate and phosphate, and salinity levels. Emergent and floating pond vegetation, deep and still water systems are to be constructed within the Toomuc Creek and Gum Scrub Creek open space corridors and the Cardinia Road Open Space Corridor. Wetlands are to be surrounded by a terrestrial buffer in which there is no development, mowing, slashing or use of herbicides and pesticides, but which may be landscaped with indigenous grasses, herbaceous species and low shrubby vegetation (but no trees). Landscaping is to include rock piles, rock matrixes and large woody debris around wetlands. Wetlands are to be kept free of predatory fish such as Plague Minnow and non-native fish such as Redfin.
Surrounding land use	<ul style="list-style-type: none"> Access tracks, roads, houses and other infrastructure are to be located at least 30 metres from created wetlands, and there should be no apparent barriers to dispersal.
Monitoring	<ul style="list-style-type: none"> Monitoring is to occur in accordance with an approved Conservation Management Plan for the Precinct.

Figure 10: Growing Grass Frog Ponds



Typical Preferred Frog Wetland Plan View



Typical Preferred Frog Wetland Cross Section

DELIVERING MELBOURNE'S NEWEST SUSTAINABLE COMMUNITIES



PROGRAM REPORT

DECEMBER 2009



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PART 1: PROGRAM OVERVIEW

1. INTRODUCTION

The Victorian Government has entered into an agreement with the Commonwealth Government, under section 146 of the *Environment Protection and Biodiversity Conservation Act 1999*, to conduct a strategic assessment of the potential impact of the Program 'Delivering Melbourne's newest sustainable communities' on matters of national environmental significance.

Matters of national environmental significance are identified under the *Environment Protection and Biodiversity Conservation Act 1999*, including threatened species and ecological communities, migratory species, world and national heritage properties and Ramsar wetlands. The undertaking of any action that could have an impact on a matter of national environmental significance requires approval from the Commonwealth Minister for the Environment, Heritage and the Arts.

The Program seeks to expand Melbourne's Urban Growth Boundary to develop residential and employment areas and related infrastructure (including transport, utility and social infrastructure, commercial and industrial activities, quarrying and related land use and development) within the growth areas and to construct the Regional Rail Link (west of Werribee to Deer Park) and Outer Metropolitan Ring/E6 Transport Corridor.

In addition to the strategic assessment process, the Program will be subject to assessment and approvals processes under Victorian legislation.

1.1 PURPOSE OF THIS DOCUMENT

The purpose of this report is to specify the Program and to identify the processes and mitigation measures that the Victorian Government will use to implement the Program.

The Victorian Government aims to provide certainty to the Commonwealth Government that the likely impacts of implementing the Program on matters of national environmental significance will be managed through the process of urban and infrastructure development and proposed mitigation measures.

References to legislation in this document are provided generally for background information and contextual purposes. Any amendment to this legislation not affecting conservation activities or any other measures required by this document does not interfere with the applicability or requirements of the Program.

Similarly, references to the names of Commonwealth and Victorian Government Departments and portfolio agencies are correct as at the time of publication. Any change in the names of these entities will not, of itself, interfere with the applicability or requirements of the Program.

1.2 DEFINITION OF THE PROGRAM

The Program means the Urban Growth Boundary Review for Melbourne being undertaken by the State of Victoria and announced on 2 December 2008, for the development of land, including transport infrastructure, within:

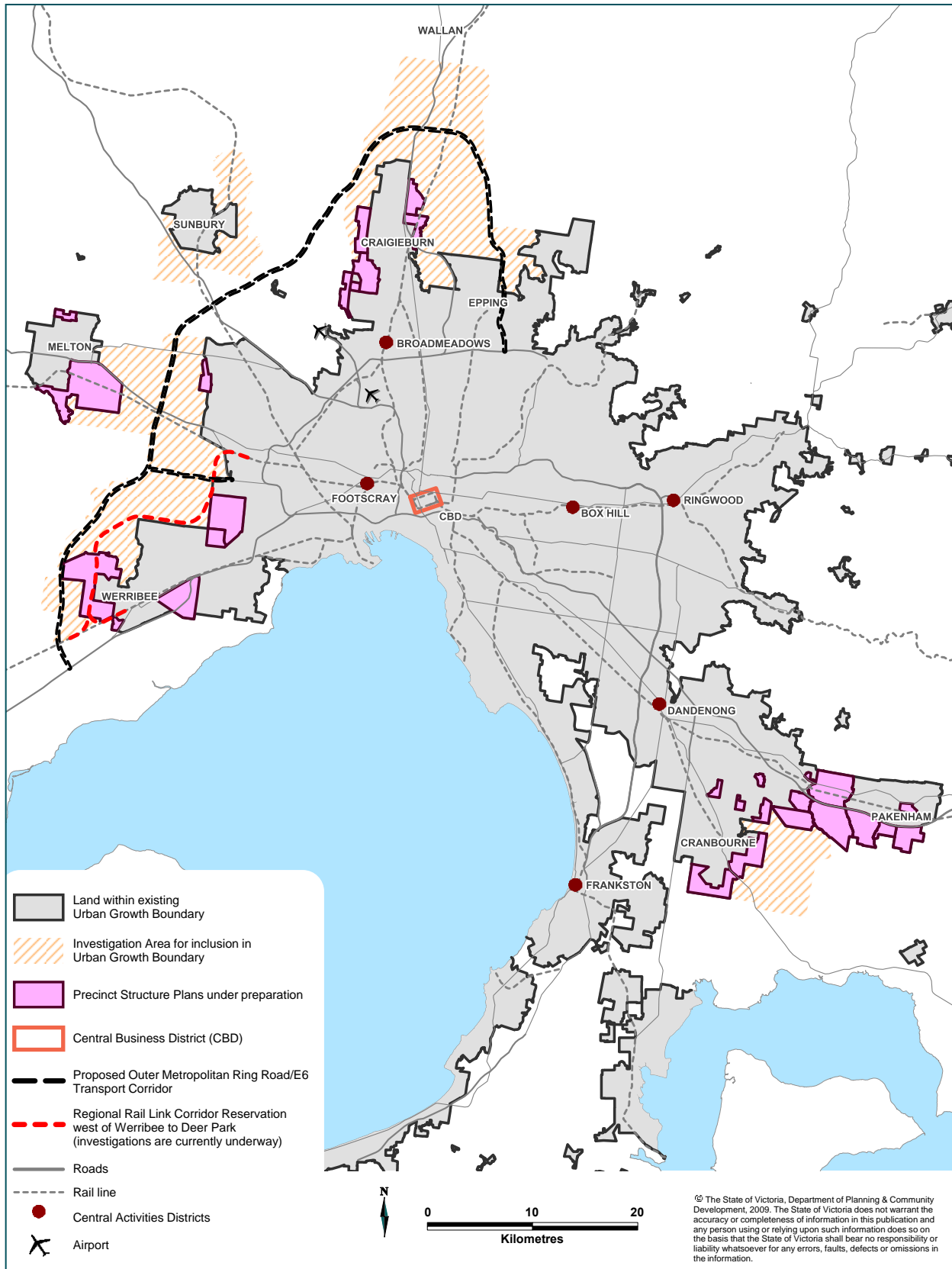
- i. the investigation areas shown in the *Melbourne 2030: a planning update, Melbourne @ 5 million Report* (published by the State of Victoria in December 2008) including the subsequent extension to these areas as shown on Map 1;
- ii. areas inside the existing Urban Growth Boundary for which a planning scheme amendment to introduce a Precinct Structure Plan has not commenced to be exhibited or does not remain on exhibition under sections 17-19 of *The Planning and Environment Act 1987 (Vic)* as at 26 May 2009, as shown on Map 1;
- iii. areas in the Outer Metropolitan Ring Transport Corridor, the E6 Transport Corridor and the Regional Rail Link Corridor between west of Werribee and Deer Park as discussed in *The Victorian Transport Plan* (published by the State of Victoria on 8 December 2008) as shown on Map 1.

This Program Report (this document) provides for the development and implementation of a number of individual plans and policies that will be relevant in the implementation of the wider Program. Where a plan, policy or other document is expressed in this Program Report (this document) as requiring the approval of the Commonwealth Minister, the Victorian Government will provide that policy or plan to the Commonwealth Minister in draft form before it is finalised and implemented. The Commonwealth Minister may approve the plan or policy, or require modifications to the plan or policy before deciding whether to approve it.

Any plan or policy referred to in this document that requires approval by the Commonwealth Minister will form part of the Program once it is approved by the Commonwealth Minister. Where a plan or policy is finalised and implemented without the prior approval of the Commonwealth Minister according to the process outlined above, it will not form part of the Program. Any subsequent variation to a plan or policy proposed by the Victorian Government will require the approval of the Commonwealth Minister before it forms part of the Program.

Within this broad definition, aspects of the Program may be defined more precisely in subsequent updates provided to the Commonwealth.

MAP 1: DEFINITION OF THE PROGRAM



1.3 PLANNING CONTEXT

The Victorian Government anticipates that an additional 600,000 new dwellings will need to be accommodated in Melbourne over the next 20 years of which 316,000 new dwellings will be located in the established areas and 284,000 will be located in the growth areas.

In order for Melbourne's outward growth to occur in a sustainable way, it is important that sufficient land is allocated for housing, retail, local employment, open space, recreational facilities, schools and other community infrastructure; and for major infrastructure corridors and regional employment areas.

The Program is driven by the Victorian Government's land use planning and transport policies (refer to Figure 1).

Melbourne 2030 – planning for sustainable growth (2002) is the Victorian Government's long-term plan to manage Melbourne's growing population over the next 25 years.

In *Melbourne 2030: a planning update – Melbourne @ 5 million (2008)*, the Victorian Government identified the need to review Melbourne's Urban Growth Boundary around the growth areas of Melbourne in response to population projections set out in *Victoria in Future 2008* showing Melbourne will reach five million people faster than anticipated.

The Victorian Government has also identified two major transport initiatives to facilitate Melbourne's growth: the Regional Rail Link and the Outer Metropolitan Ring / E6 Transport Corridor. These policy initiatives are set out in *The Victorian Transport Plan (2008)* and *Freight Futures: Victorian Freight Network Strategy (2008)*.

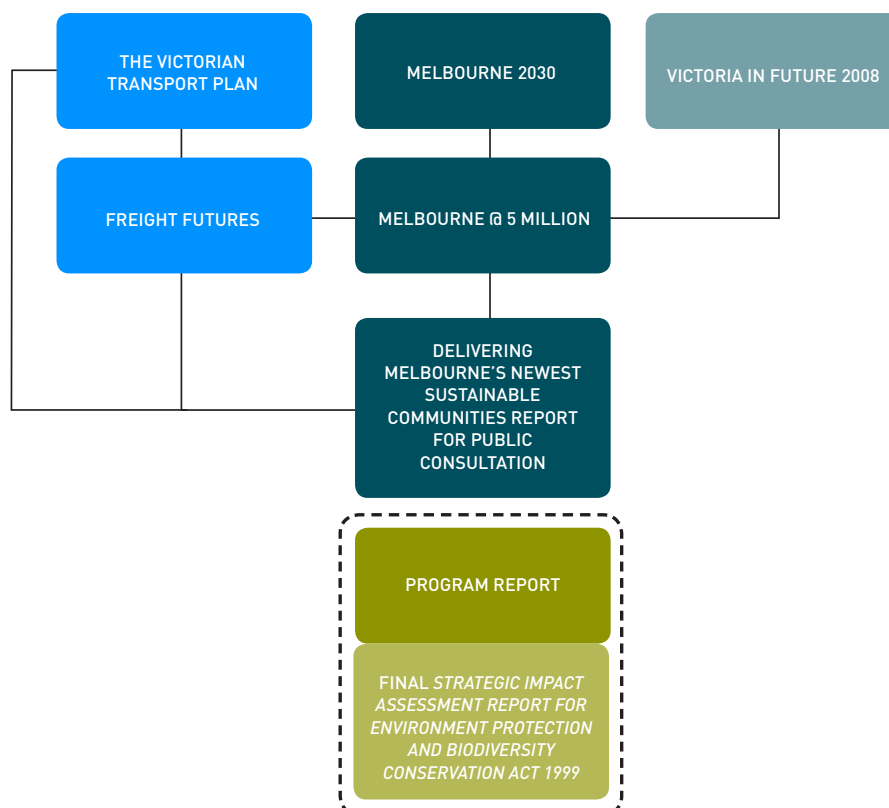
Delivering Melbourne's Newest Sustainable Communities Report for Public Consultation was provided for public comment in June 2009. Information was provided about the Program including the rationale and proposed location of:

- > Melbourne's revised Urban Growth Boundary and land for development;
- > The alignment of the Regional Rail Link (west of Werribee to Deer Park) and the Outer Metropolitan Ring / E6 Transport Corridor; and
- > Grassland reserves in Melbourne's west.

A draft *Strategic Impact Assessment Report for Environment Protection and Biodiversity Conservation Act 1999* was provided for public comment at the same time. This report outlined the strategic impact of the Program on matters of national environmental significance. The Victorian Government has considered all public comments received and has finalised this report.

The final *Strategic Impact Assessment Report for Environment Protection and Biodiversity Conservation Act 1999* report provides the basis for outlining how the potential impacts of the Program on matters of national environmental significance will be managed.

FIGURE 1: INTERACTION OF THIS PROGRAM REPORT WITH GOVERNMENT POLICY



1.4 STRUCTURE OF THIS REPORT

This report is structured as follows:

The remainder of **Part One** describes the Program.

Part Two explains the legislative and policy framework for implementing the Program, including the activity stages required, anticipated timeframes and roles of Victorian Government agencies.

Part Three sets out the Victorian Government's management measures for addressing the impacts of the Program on matters of national environmental significance. It confirms the outcomes to be achieved for each matter and details the Victorian Government's commitments to undertake specific mitigation activities, by indicating responsibilities, timeframes, resourcing and monitoring measures.

Part Four outlines the monitoring processes that will be effective during the development period and the commitments to evaluating the implementation of the Program. It also describes the adaptive management procedures for responding to new information and changing circumstances that may be introduced, reassessed and accounted for in implementing the Program.

2. PROGRAM DESCRIPTION

2.1 DESIGNATION OF AREAS FOR FUTURE URBAN DEVELOPMENT WITHIN AN EXPANDED URBAN GROWTH BOUNDARY

The detailed components of the Program, including the methodology for determining the expanded Urban Growth Boundary and land that will be protected for conservation within the expanded Urban Growth Boundary are set out in *Delivering Melbourne's Newest Sustainable Communities Report for Public Consultation* and the *Strategic Impact Assessment Report for Environment Protection and Biodiversity Conservation Act 1999*.

The expanded Urban Growth Boundary will extend the existing designated growth areas of Casey-Cardinia; Hume; Melton-Caroline Springs; Whittlesea and Wyndham (Refer to Maps 2 to 6). It will require Sunbury to be designated

a growth area. While Sunbury is located within the City of Hume, which is a growth area council, it is not within the designated Hume Growth Area.

Table 1 shows the amount of land that is considered to be suitable for urban development within the expanded Urban Growth Boundary.

TABLE 1: LAND SUITABLE FOR URBAN DEVELOPMENT WITHIN PROPOSED GROWTH AREAS

Growth area extension	Total land inside expanded Urban Growth Boundary (ha)	Total land suitable for development (ha)
Melbourne West (Melton-Caroline Springs and Wyndham growth areas)	17,480	10,710
Melbourne North (Whittlesea, Hume, Mitchell and part Melton growth areas)	21,235	10,135
Melbourne South-East	4,930	3,770

The remaining land is significantly constrained and not suitable for urban development due to a range of reasons including:

- > Land that is flood prone, including major drainage lines;
- > Land that is of high biodiversity and landscape value, such as volcanic cones;
- > Easements or sites for major public infrastructure such as electricity, gas, sewerage treatment, and major transport corridors; and
- > Buffers around industries (with adverse amenity potential) and quarries.

The following sites will be excluded from urban development due to their biodiversity values:

- > Ravenhall grassland – protected by the re-alignment of the Regional Rail Link.
- > Clarke Road grassland – one of two remaining sites of Small Golden Moth orchid in the world.
- > An additional 1200 hectares of Natural Temperate Grassland is excluded from urban development in the western and northern growth area.

- > 300 hectares of Grassy Eucalypt Woodland near Epping North is excluded from Urban Growth Boundary completely and is designated for protection.
- > An additional 650 hectares of Grassy Eucalypt Woodland in the north – part of a network of retained woodland, Natural Temperate Grassland, wetland and riparian habitat along Merri Creek and environs.
- > Truganina Cemetery grassland – one of a handful of sites for Button Wrinklewort, Matted Flax-lilly, Spiny Rice-flower and Large-fruit Groundsel.
- > Sections of the rail corridor in the Clyde area – which is one of the very few sites remaining of Maroon Leek-orchid.
- > Habitat for the Southern Brown Bandicoot near Cranbourne and in the south-west sector of the south-eastern growth area.
- > Three additional areas of grassland totalling approximately 300 hectares known to be some of the most important sites inside the Urban Growth Boundary for the Golden Sun Moth, located just south and north of Wyndham Vale and just north of Boundary Road.
- > Various conservation reserves with a range of national, state and local values including:
 - > Holden Flora and Fauna Reserve near Sunbury;
 - > Mt Ridley woodland near Craigieburn; and
 - > Craigieburn grassland reserve.
- > Waterways across Melbourne that protect riparian habitat and its use by threatened species such as Growling Grass Frog and Australian Grayling – including Kororoit Creek, Werribee River, Jackson's Creek, Emu Creek, Darebin Creek, Cardinia Creek; and Clyde Creek environs.

These areas are excluded from development in addition to the 15,000 hectares of grassland reserves to be established west and north of Werribee.

2.2 OUTER METROPOLITAN RING / E6 TRANSPORT CORRIDOR

The Outer Metropolitan Ring Transport Corridor is 70 kilometres long and it links Werribee, Melton, Tullamarine and Craigieburn/Mickleham and connects to the E6 Transport Corridor, which links Donnybrook to the Metropolitan Ring Road at Thomastown.

The final *Strategic Impact Assessment Report for Environment Protection and Biodiversity Conservation Act 1999* assesses the potential impacts of this final corridor on matters of national environmental significance.

2.3 REGIONAL RAIL LINK CORRIDOR (WEST OF WERRIBEE TO DEER PARK)

The Regional Rail Link is a 50 kilometre railway connection from west of Werribee to Southern Cross Station via the Melbourne-Ballarat railway, connecting at Deer Park. The Program is concerned with the west of Werribee to Deer Park section of the Regional Rail Link, which is approximately 30 kilometres long.

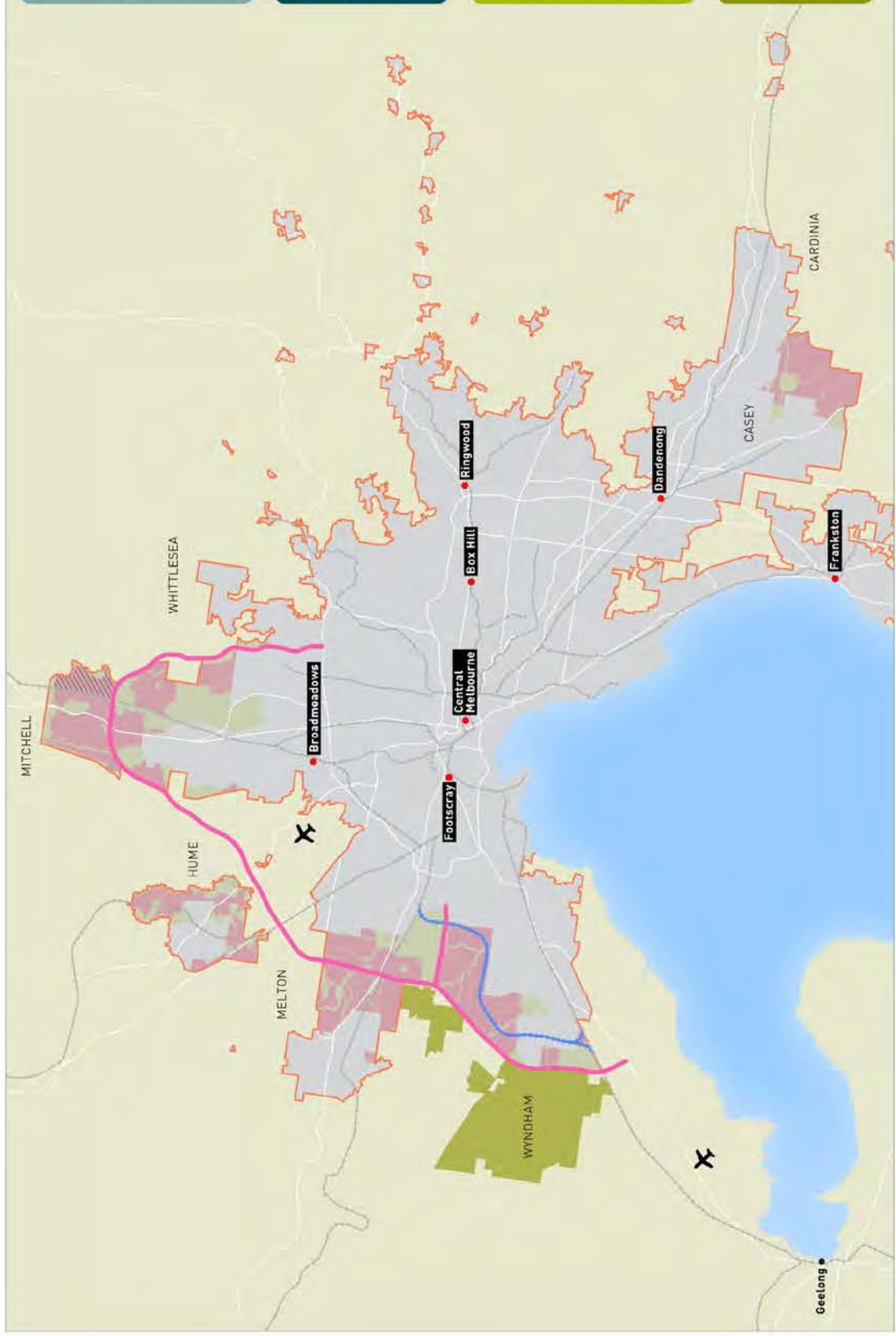
The final *Strategic Impact Assessment Report for Environment Protection and Biodiversity Conservation Act 1999* assesses the potential impacts of this final alignment on matters of national environmental significance.

OUTER METROPOLITAN RING/ E6 TRANSPORT CORRIDOR
 An alignment for the Outer Metropolitan Ring/E6 Transport Corridor, which will cater for expected increases in the volume of freight and people moving around outer metropolitan Melbourne and Victoria over the coming decades. Construction of the Outer Metropolitan Ring/E6 Transport Corridor is not expected to start before 2020.

URBAN GROWTH BOUNDARY
 A review of the Urban Growth Boundary and the land designated for development, to accommodate 284,000 of the 500,000 new homes is required across Melbourne to accommodate the city's growing population.

REGIONAL RAIL LINK
 An alignment for the Regional Rail Link (west of Wertheim to Deer Park), which will provide more frequent and reliable regional rail services in Melbourne's west where country trains reach the metropolitan network and boost the capacity of the metropolitan rail system. Major construction on the Regional Rail Link is expected to start in 2010.

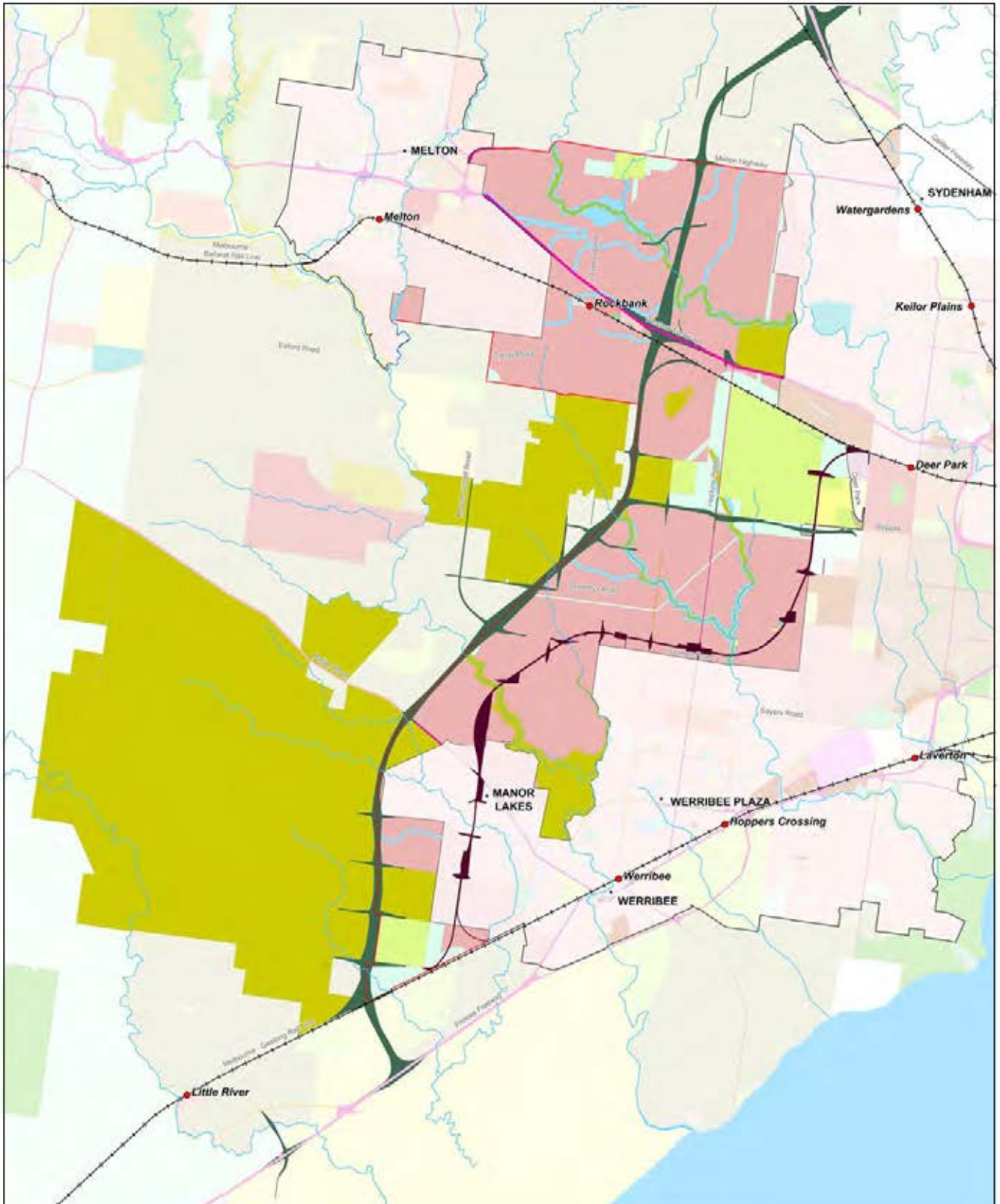
GRASSLAND RESERVES
 Establish and manage the proposed grassland reserves in Melbourne's west to ensure the long term conservation of a nationally significant and threatened ecosystem.



This map represents the information contained in Amendment VC56 as approved by the Minister for Planning, which is still subject to ratification by Parliament before the Amendment comes into operation. The boundaries of land suitable for urban development will be refined by Precinct Structure Plans. © The State of Victoria, 2009. The State of Victoria does not warrant the accuracy or completeness of information in this publication and any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.



MAP 3: MELBOURNE'S WEST - ZONING MAP

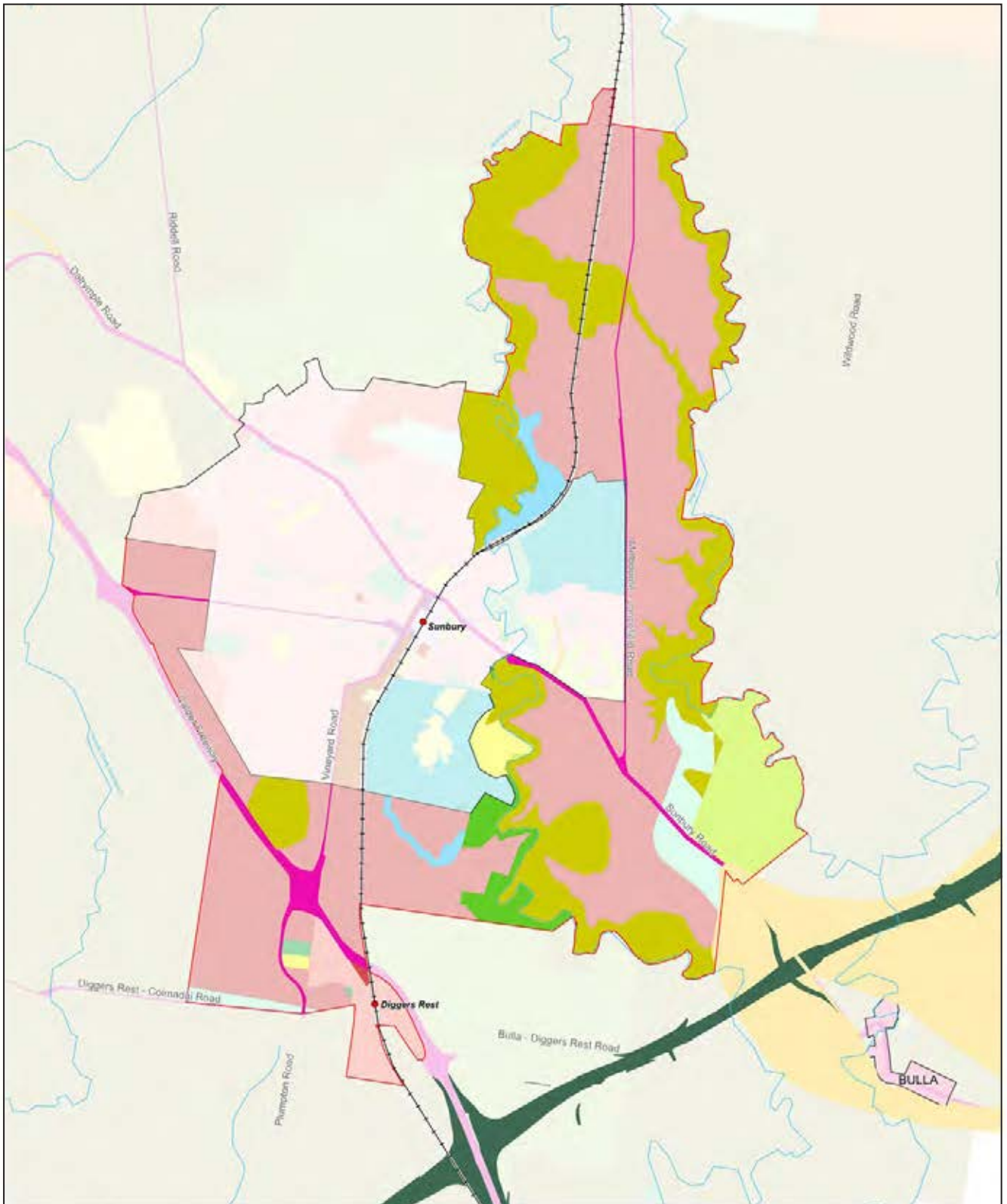


<ul style="list-style-type: none"> Land within existing Urban Growth Boundary Amendment VC55 Urban Growth Boundary Regional Rail Link Outer Metropolitan Ring/ES Transport Corridor <small>(For contextual purposes the OAR/ES Transport Corridor and the RSL, have been highlighted, the map does not show the zones underneath)</small> 	<ul style="list-style-type: none"> Rail Line and Stations Roads Rivers / Creeks Locality 	<p>Planning Zones</p> <ul style="list-style-type: none"> Residential 1 Zone Residential 2 Zone Residential 3 Zone Low Density Residential Zone Mixed Use Zone Neighbourhood Zone Industrial 1 Zone Industrial 2 Zone Industrial 3 Zone Business 1 Zone Business 2 Zone Business 3 Zone Business 4 Zone Business 5 Zone Rural Living Zone Green Wedge Zone Open Wedge & Zone Rural Conservation Zone Farming Zone Small Activity Zone Public Use Zone (other than transport) Public Use Zone (transport) Public Park and Recreation Zone Public Conservation & Reserve Zone Road Zone - Category 1 Road Zone - Category 2 Special use Zone Comprehensive Development Zone Urban Fringe Zone Capital City Zone Durlands Zone Priority Development Zone Urban Growth Zone Activity Centre Zone 	<ul style="list-style-type: none"> Commonwealth Land (not to scale)
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MAP 4: SUNBURY – ZONING MAP



Legend

- Land with existing Urban Growth Boundary
- Amendment VC55 Urban Growth Boundary
- Investigation Area: Outer Metropolitan Ring/E5 Transport Corridor Link Road to Airport
- Outer Metropolitan Ring/E5 Transport Corridor
- For contextual purposes, the OMR has been highlighted, the map does not show the zones underneath.
- Rail Line and Stations
- Roads
- Rivers / Creeks
- Locality

Planning Zones

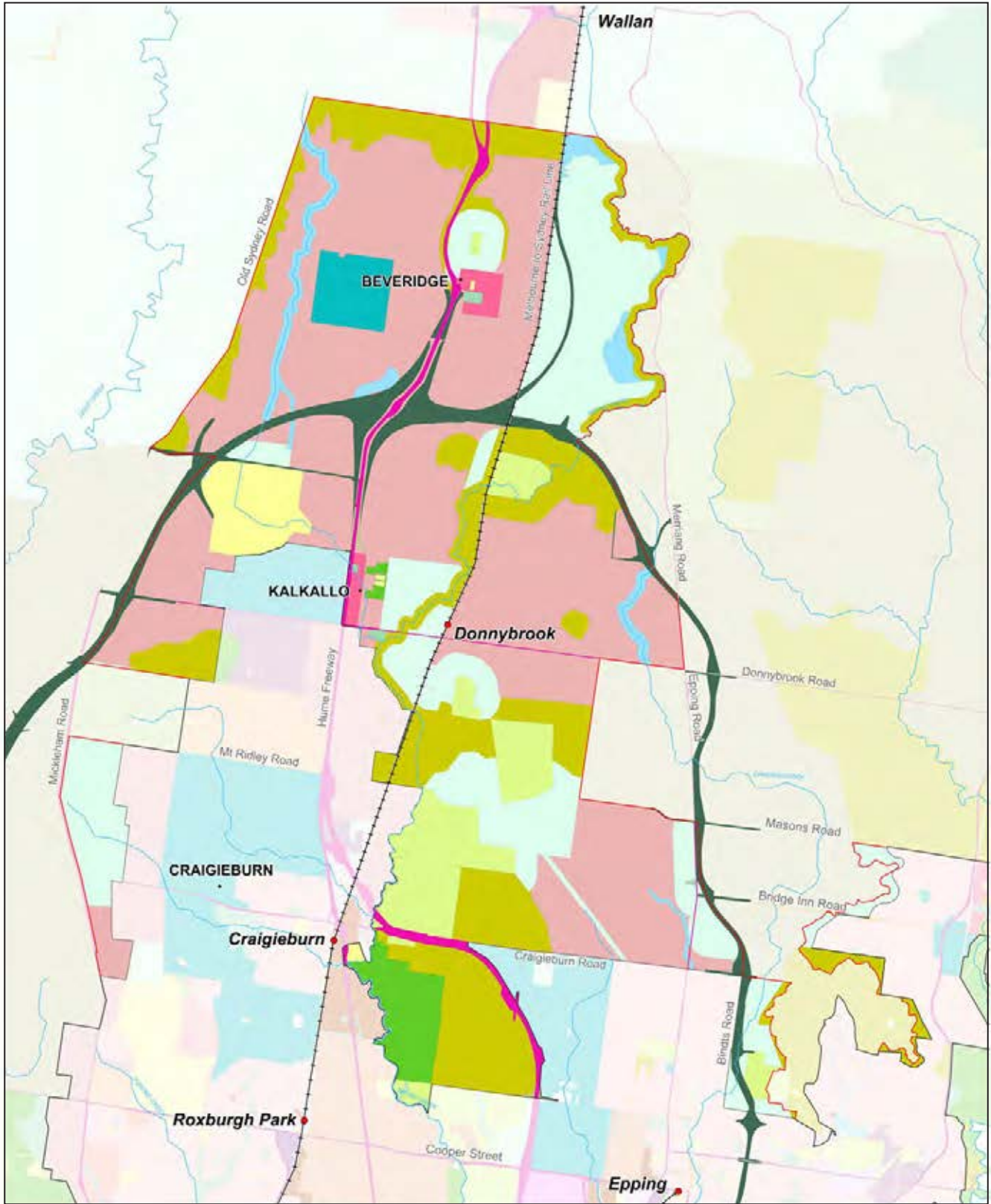
Residential 1 Zone	Industrial 1 Zone	Rural Living Zone	Public Use Zone other than transport	Special Use Zone
Residential 2 Zone	Industrial 2 Zone	Green Wedge Zone	Public Use Zone (transport)	Compressed Development Zone
Residential 3 Zone	Industrial 3 Zone	Green Wedge A Zone	Public Park and Recreation Zone	Urban Floodway Zone
Low Density Residential Zone	Business 1 Zone	Rural Conservation Zone	Public Conservation & Resource Zone	Capital City Zone
Mixed Use Zone	Business 2 Zone	Farming Zone	Road Zone - Category 1	Documba Zone
Township Zone	Business 3 Zone	Rural Activity Zone	Road Zone - Category 2	Priority Development Zone
	Business 4 Zone			Urban Growth Zone
	Business 5 Zone			Activity Centre Zone

Continuously Land (not in scheme)



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MAP 5: MELBOURNE'S NORTH - ZONING MAP

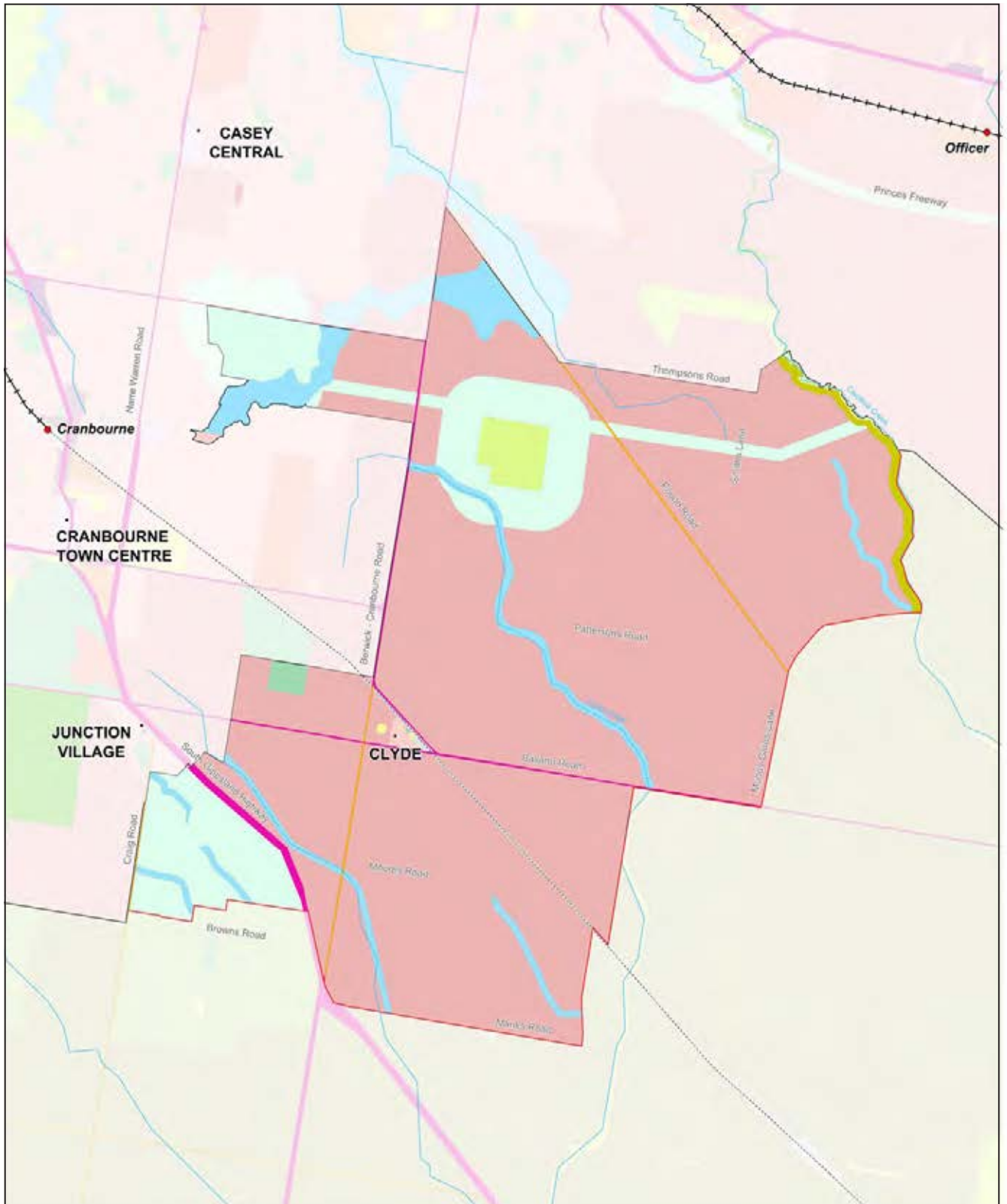


<ul style="list-style-type: none"> Land within existing Urban Growth Boundary Amendment VC55 Urban Growth Boundary Outer Metropolitan Ring Road Transport Corridor <p>(For cartographic purposes the DMRRE Transport Corridor has been highlighted. This map does not show the zones underneath)</p>	<ul style="list-style-type: none"> Fast Line and Stations Roads Rivers / Creeks Locality 	<p>Planning Zones</p> <ul style="list-style-type: none"> Residential 1 Zone Residential 2 Zone Residential 3 Zone Low Density Residential Zone Mixed Use Zone Township Zone Industrial 1 Zone Industrial 2 Zone Industrial 3 Zone Business 1 Zone Business 2 Zone Business 3 Zone Business 4 Zone Business 5 Zone Rural Living Zone Green Wedge Zone Green Wedge A Zone Rural Conservation Zone Farming Zone Rural Activity Zone Public Use Zone (other than transport) Public Use Zone (transport) Public Park and Recreation Zone Public Conservation & Resource Zone Road Zone: Category 1 Road Zone: Category 2 Special use Zone Comprehensive Development Zone Urban Floodway Zone Capital City Zone Coastlands Zone Priority Development Zone Urban Growth Zone Activity Centre Zone Commonwealth Land (see in schedule)
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MAP 6: MELBOURNE'S SOUTH EAST – ZONING MAP



<ul style="list-style-type: none"> Land within existing Urban Growth Boundary Amendment VC55 Urban Growth Boundary Rail Line and Stations Rail Line - disused 	<ul style="list-style-type: none"> Roads Rivers / Creeks Locality 	<p>Planning Zones</p> <ul style="list-style-type: none"> Residential 1 Zone Residential 2 Zone Residential 3 Zone Low Density Residential Zone Mixed Use Zone Transit Zone Industrial 1 Zone Industrial 2 Zone Industrial 3 Zone Business 1 Zone Business 2 Zone Business 3 Zone Business 4 Zone Business 5 Zone Rural Living Zone Green Wedge Zone Green Wedge A Zone Rural Conservation Zone Farming Zone Rural Activity Zone Public Use Zone (other than transport) Public Use Zone (transport) Public Park and Recreation Zone Public Conservation & Resource Zone Road Zone - Category 1 Road Zone - Category 2 Special use Zone Competitive Development Zone Urban Freeway Zone Capital City Zone Doonlands Zone Priority Development Zone Urban Growth Zone Activity Centre Zone Commonwealth Land (not in schedule)
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0 500 1000 1500
Metres

NORTH



This map represents the information contained in Amendment VC55 as approved by the Minister for Planning, which is still subject to ratification by Parliament before the Amendment comes into operation. The boundaries of land suitable for urban development will be refined by Precinct Structure Plans. © The State of Victoria, 2009. The State of Victoria does not warrant the accuracy or completeness of information in this publication and any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.

2.4 GRASSLAND RESERVES

The Victorian Government has committed to establish two grassland reserves in Melbourne's west to offset the impact of development occurring within the expanded growth areas on the Natural Temperate Grasslands, as well as from constructing the Regional Rail Link (west of Werribee to Deer Park) and Outer Metropolitan Ring / E6 Transport Corridor.

While these grasslands have not been identified for possible development in the way the above areas have, they nevertheless do form an important part of the Program as they represent a substantial mitigation and offset measure for potential impacts on matters of national environmental significance.

The grassland reserves will be created through progressive acquisition by the State of Victoria of freehold land within the target areas and reservation for conservation purposes under the *Crown Land Reserves Act 1978*. This process will commence with the application of a Public Acquisition Overlay over the proposed grassland reserves. The Department of Sustainability and Environment will be the acquiring authority and will acquire all freehold land (excluding quarries) and reserve it by 2020. Land will be progressively handed over to Parks Victoria as land manager. The legal mechanisms and responsibility for establishing the grassland reserves are set out in Table 5.

The increased legal protection and improved management of grasslands within the reserves will create gains in native vegetation quality and extent. These gains will be made available (as native vegetation credits) for purchase by developers requiring offsets for permitted clearing in accordance with the Program. The calculation of native vegetation losses and gains (in habitat hectares), and like for like criteria for offsets will be in accordance with Victoria's Native Vegetation Management: A Framework for Action and related implementation tools. In some cases, where specified by prescriptions, offsets for threatened species in addition to native vegetation offsets in the Native Vegetation Framework may be required. The grassland reserves will also provide a source of these threatened species offsets where relevant.

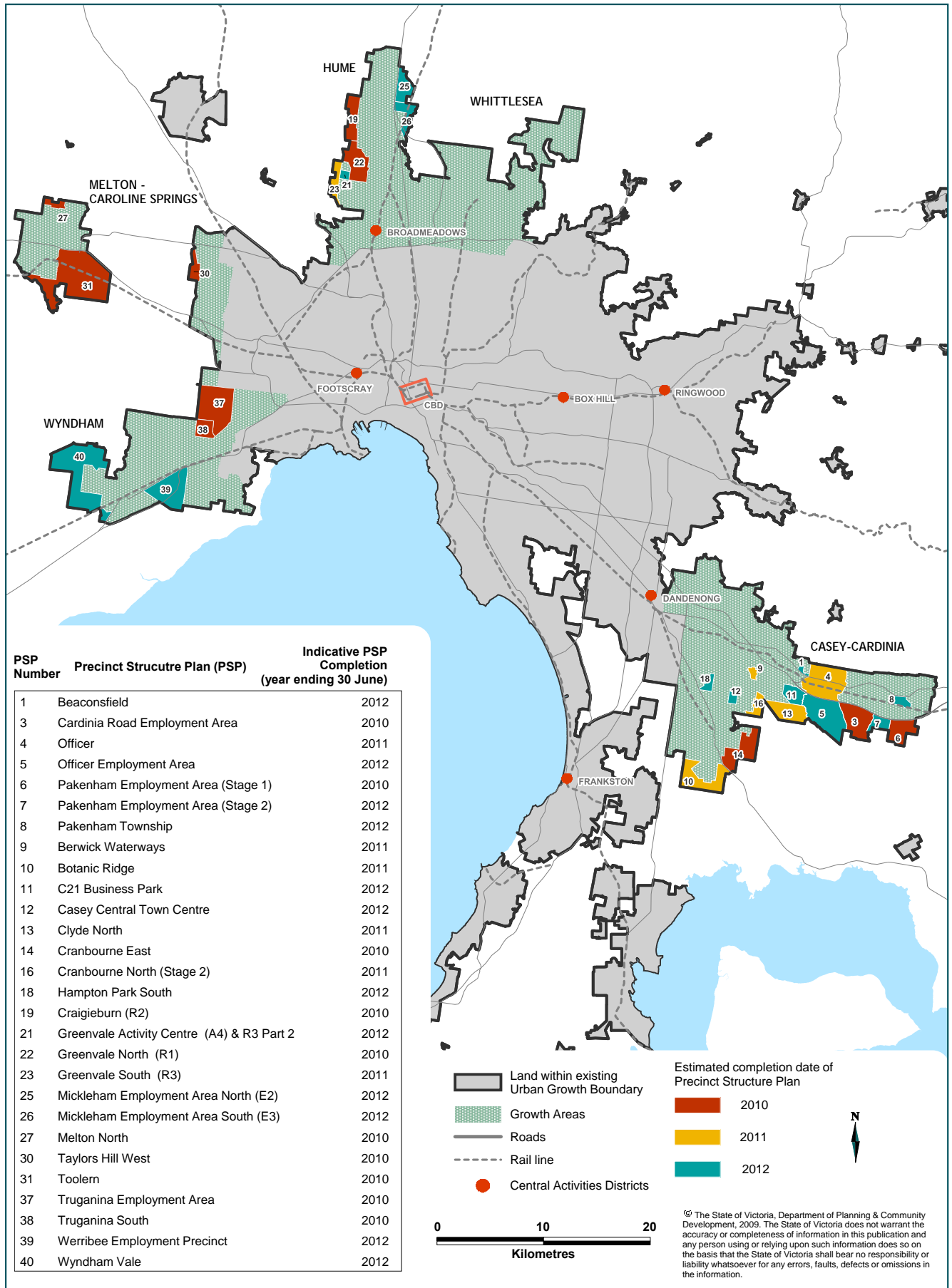
The process of creating, advertising and selling native vegetation credits will utilise the well established BushBroker® program. It is expected that developers requiring offsets for clearing native grasslands in accordance with the Program will purchase credits generated from the western grassland reserves, given the readily available source of offsets this process will provide.

Victoria will finalise a complete dataset of native vegetation type, extent and habitat score in 2010 for the Program Area, following further survey and consultation with stakeholders. The habitat scores determined and published as a result of this process will be used to calculate losses and offset liabilities for all future clearing in accordance with the Program. That is, the offset required for the removal of native vegetation will be calculated using these 2010 condition scores regardless of the condition of the vegetation at the time it is removed.

2.5 PRECINCTS WITHIN THE EXISTING URBAN GROWTH BOUNDARY

Map 7 (see next page) shows the location of precincts within Melbourne's five existing growth areas of Casey-Cardinia, Melton-Caroline Springs, Hume, Whittlesea and Wyndham that form part of the Program.

MAP 7: PRECINCT STRUCTURE PLANNING PROGRAM FOR PRECINCTS WITHIN THE EXISTING URBAN GROWTH BOUNDARY



2.6 SUMMARY OF ACTIVITIES UNDER THE PROGRAM

The relevant actions under the *Environment Protection and Biodiversity Conservation Act 1999* that are proposed to be implemented on the basis of the urban development Program are:

- 1) Clearing of a large proportion of remaining native vegetation within the expanded Urban Growth Boundary, subject to:
 - The completion of the precinct structure planning process in accordance with the Precinct Structure Planning Guidelines and associated Biodiversity Precinct Planning Kit.
 - The preparation and approval of Native Vegetation Precinct Plans, Biodiversity Plans and Conservation Management Plans (where required) as part of the amendment of relevant planning schemes.
 - Compliance with vegetation offset requirements established in accordance with the Native Vegetation Management Framework (2002).
 - Application of the prescriptions approved by the Commonwealth Minister for the Environment for management of Matters of National Environmental Significance for any activity undertaken as part of the Program of urban development.
- 2) Development of urban activities, including transport, utility and social infrastructure, residential, commercial and industrial activities, quarrying and related land use and development within the expanded Urban Growth Boundary, subject to:
 - Growth Area Framework Plans to be developed and approved in accordance with the *Planning and Environment Act 1987* and relevant planning policy.
 - The completion of the precinct structure planning process in accordance with the Precinct Structure Planning Guidelines.
 - Management of stormwater run-off from new urban areas consistent with best practice.
 - Compliance with vegetation offset requirements established in accordance with the Native Vegetation Management Framework (2002).
- 3) Application of prescriptions approved by the Commonwealth Minister for the Environment, Heritage and the Arts for management of matters of national environmental significance Development of the Regional Rail Link and the Outer Metropolitan Ring / E6 Transport Corridor infrastructure generally along alignments assessed in this strategic assessment, including the removal of habitats of listed species and communities, subject to:
 - Any requirements for further environmental assessment that may be required under the *Environment Effects Act 1978* or other applicable Victorian legislation (and conducted in consultation with the Department of Environment, Water, Heritage to inform final decisions on the alignments, design and environmental management of this infrastructure.
 - Compliance with vegetation offset requirements established in accordance with the Native Vegetation Management Framework (2002).
 - Application of prescriptions approved by the Commonwealth Minister for the Environment, Heritage and the Arts for the management of matters of national environmental significance.
 - Management of stormwater run-off from the Regional Rail Link and Outer Metropolitan Ring / E6 Transport Corridor consistent with best practice.

PART 2: PROGRAM IMPLEMENTATION

3. PROGRAM STAGES

The implementation of the Program is made up of four key stages as shown in Figure 2. These stages will occur in sequence, however there will be overlaps given the breadth of the Program.

FIGURE 2: STAGES OF PROGRAM IMPLEMENTATION



Stage 1 involves gaining Government approval of the Program. It is expected that specific conditions for implementation will be applied at this stage by the Commonwealth Government and Victorian Government.

Stage 2 will establish the planning mechanisms for implementing the various parts of the Program. This includes the preparation of urban planning frameworks (i.e. Growth Area Framework Plans and Precinct Structure Plans) and reservation of land for the transport corridors and grassland reserves. This stage also involves completing any land acquisition processes and the environmental assessment of any project works (such as the transport corridors) that could have significant environmental effects under Victorian law.

Stage 3 is when construction and works will occur in accordance with relevant frameworks and controls established at stage 2.

Stage 4 entails the ‘operation’ or use of the areas developed in accordance with the Program. This stage will include urban activity, use of transport infrastructure and ongoing management and use of the grassland reserves in accordance with approved plans.

PROGRAM EVALUATION

An evaluation of the Program will occur at all stages of implementing the Program. Monitoring and reporting processes are in place to ensure that the Program is implemented in accordance with the approvals by the Commonwealth Government and Victorian Government.

Compliance mechanisms are in place to ensure that, in the event the Program is not implemented in accordance with the approvals, appropriate action can be taken.

Adaptive management mechanisms are identified to ensure that as the context changes and new information emerges, matters of national environmental significance will be accounted for as part of implementing the Program.

Refer to Part 4 for further information about Program Evaluation.

4. LEGISLATION AND POLICY

Commonwealth Government and Victorian Government legislation, policy, strategies and plans that will inform processes and guide decision-making as the Program is implemented, are shown in Table 2.

The primary legislation that will apply at each stage of implementing the Program is shown in Table 3. Other legislation (not listed) may be triggered, depending on the nature of land use activity occurring (e.g. extractive industry and utilities).

The Planning and Environment Act 1987 is the primary legislation for regulating the Program. It provides for the preparation of a comprehensive set of provisions and policies for planning schemes, which regulate the use, development and conservation of land in Victoria.

The relevant planning policy mechanisms triggered by the legislation are detailed in the Implementation Framework.

TABLE 2: LEGISLATION AND POLICY RELEVANT TO THE PROGRAM

Category	Legislation	Policy & Strategy	Guidelines & Plans
Land Use and Development	<i>Planning and Environment Act 1987</i> <i>Extractive Industries Development Act 1995</i> <i>Pipelines Act 2005</i> <i>Transport Act 1983</i> <i>Mineral Resources (Sustainable Development) Act 1990</i> <i>Land Acquisition and Compensation Act 1986</i>	<i>Melbourne 2030 - planning for sustainable growth (2002)</i> <i>Melbourne 2030: a planning update - Melbourne @ 5 million (2008)</i> <i>The Victorian Transport Plan (2008)</i> <i>Freight Futures – Victorian Freight Network Strategy for a more prosperous and liveable Victoria (2008)</i> <i>Victoria in Future (2008)</i> <i>Planning for all of Melbourne (2008)</i> <i>A plan for Melbourne’s Growth Areas (2005)</i> <i>Relevant Council Planning Schemes</i> <i>A Fairer Victoria 2008: Strong People, Strong Communities (2008)</i> <i>Linking People and Spaces: A Strategy for Melbourne’s Open Space Network (2002)</i> <i>VicRoads Access Management Policies (2006)</i>	<i>Growth Area Framework Plans (2006)</i> <i>Precinct Structure Planning Guidelines (2009)</i> <i>A Strategic Framework for Creating Liveable New Communities (2008)</i> <i>Public Transport Guidelines for Land Use Development (2008)</i> <i>Activity Centre Design Guidelines (2005)</i> <i>Guidelines for Higher Density Residential Development (2004)</i> <i>Interim Design Guidelines for Large Format Retail Premises (2007)</i> <i>Safer Design Guidelines for Victoria (2005)</i> <i>Austroroads Guides to Traffic Management</i> <i>Native vegetation management guide for the earth resources industries (2009)</i>
Ecologically Sustainable Development	<i>Environment Protection and Biodiversity Conservation Act 1999</i> <i>Environment Effects Act 1978</i>	<i>National Strategy for Ecologically Sustainable Development (1992)</i>	<i>Victoria’s Environmental Sustainability Framework (2005)</i> <i>Ministerial Guidelines for Environmental Assessment under the Environment Effects Act 1978</i>
Environmental Impact Assessment	<i>Environment Protection and Biodiversity Conservation Act 1999</i> <i>Environment Effects Act 1978</i>		<i>Ministerial Guidelines for Environmental Assessment under the Environment Effects Act 1978</i>

Category	Legislation	Policy & Strategy	Guidelines & Plans
Conservation of Biodiversity	<p><i>Environment Protection and Biodiversity Conservation Act 1999</i></p> <p><i>Flora and Fauna Guarantee Act 1998</i></p> <p><i>Wildlife Act 1975</i></p> <p><i>National Parks Act 1975</i></p> <p><i>Parks Victoria Act 1998</i></p> <p><i>Conservation Forests and Lands Act 1987</i></p> <p><i>Victorian Conservation Trust Act 1972</i></p> <p><i>Crown Land Reserves Act 1978</i></p>	<p><i>National Biodiversity Strategy (1996)</i></p> <p><i>Australian National Strategy for the Conservation of Australian Species and Communities Threatened with Extinction (1992)</i></p> <p><i>National Strategy for the Conservation of Australia's Biological Diversity (1996)</i></p> <p><i>Wetlands policy of the Commonwealth Government (1997)</i></p> <p><i>Ramsar Convention on Wetlands (1971)</i></p> <p><i>Victoria's Biodiversity Strategy (1997)</i></p> <p><i>Draft Ecological Character Description for Western Port and Port Phillip Ramsar sites</i></p> <p><i>Victoria's Native Vegetation Management: A Framework for Action (2002)</i></p>	<p><i>Western Port Ramsar Site Strategic Management Plan (2003)</i></p> <p><i>Victoria's Native Vegetation Management: A Framework for Action (2002)</i></p> <p><i>Action statements prepared under the Flora and Fauna Guarantee Act 1998</i></p> <p><i>Vegetation Quality assessment manual – Guidelines for applying the habitat hectares scoring method (2004)</i></p> <p><i>Native Vegetation: Guide for assessment of referred planning permit applications (2007)</i></p> <p><i>Native Vegetation: Vegetation Gain Approach (2006)</i></p> <p><i>Native vegetation: Revegetation planting standards (2006)</i></p> <p><i>Victoria Planning Provisions Practice Notes: Biodiversity (2002), Assessing applications involving native vegetation removal (2006)</i></p> <p><i>Port Phillip and Westernport Regional Native Vegetation Plan (2006)</i></p> <p><i>Biodiversity Precinct Structure Planning Kit (2009)</i></p>
Protection of Cultural Heritage	<p><i>Aboriginal Heritage Act 2006</i></p> <p><i>Aboriginal Heritage Regulations 2007</i></p> <p><i>Environment Protection and Biodiversity Conservation Act 1999</i></p> <p><i>Planning and Environment Act 1987</i></p> <p><i>Heritage Act 1995</i></p>	<p><i>Victorian Heritage Strategy: Strengthening our Communities (2006)</i></p>	<p><i>Guide to Preparing Aboriginal Heritage Management Plans (2008)</i></p> <p><i>Guidelines for Conducting Historical Archaeological Surveys (2008)</i></p>
Water Resources	<p><i>Water Act 1989</i></p> <p><i>Safe Drinking Water Act 2003</i></p> <p><i>Safe Drinking Water Regulations 2005</i></p>	<p><i>National Water Initiative Our Water our Future The White Paper (2004)</i></p> <p><i>Our Water, Our Future – The next stage of the Government's Water Plan (June 2007)</i></p> <p><i>National Water Quality Management Strategy (1992)</i></p> <p><i>Victorian River Health Strategy (2002)</i></p> <p><i>Central Region Sustainable Water Strategy (2004)</i></p> <p><i>Port Phillip and Westernport Regional Catchment Strategy (1997)</i></p> <p><i>Water Quality Improvement Plan for Port Phillip and Western Port</i></p>	<p><i>2004 Australian Drinking Water Guidelines</i></p> <p><i>ANZECC Guidelines 2000</i></p> <p><i>Australian Guidelines for Water Quality Monitoring & Reporting 2000</i></p> <p><i>Victorian River Health Program</i></p> <p><i>Waterway Management Guidelines</i></p>
Greenhouse Gas and Energy Efficiency	<p><i>Victorian Renewable Energy Act 2006</i></p> <p><i>Environment Protection and Biodiversity Conservation Act 1999</i></p> <p><i>Environment Protection (Environment & Resource Efficiency Plans) Regulations 2007</i></p> <p><i>Renewable Energy (Electricity Regulations) 2001</i></p> <p><i>National Greenhouse and Energy Reporting Act 2007</i></p> <p><i>National Greenhouse and Energy Reporting Regulations 2008</i></p>	<p><i>SEPP (Air Quality Management) 2001 (No.5.440)</i></p> <p><i>Victorian Greenhouse Strategy and Action Plan (Update 2005)</i></p> <p><i>Our Environment, Our Future – Sustainability Action Statement (2006)</i></p>	<p><i>Victorian Renewable Energy target Scheme Rules (2007)</i></p> <p><i>Protocol for Environmental Management: Greenhouse Gas Emissions and Energy Efficiency in Industry and associated toolkit (2002)</i></p> <p><i>Renewable Energy Action Plan (2006)</i></p> <p><i>Energy Efficiency for Victoria Action Plan (2006)</i></p>

Category	Legislation	Policy & Strategy	Guidelines & Plans
Environmental Protection and Management	<i>Environment Protection and Biodiversity Conservation Act 1999</i>	SEPP (Air Quality Management) 2001 (No.S.240)	<i>Environmental Guidelines for Major Construction Sites - EPA Publication 480 (1996)</i>
	<i>Environment Protection Act 1970</i>	SEPP (Control of Noise from Commerce, Industry and Trade) No. N1 (1989)	<i>Construction Techniques for Sediment Pollution Control -EPA Publication 275 (1991)</i>
	<i>Catchment and Land Protection Act 1994</i>	SEPP (Ambient Air Quality) (1999)	<i>Industrial Waste Management Policy (National Pollutant Inventory) (1998)</i>
	<i>Commissioner for Environmental Sustainability Act 2003</i>	SEPP (Prevention & Management of Contaminated Land) No. S95 (2002)	<i>Noise Control Guidelines - EPA Publication TG302/92 (1992)</i>
	<i>Ramsar Convention on Wetlands</i>	SEPP (Groundwaters of Victoria) No. G12 (2002)	<i>Classification of Wastes - EPA Publication 448 (2007)</i>
	<i>Environment Protection (Environment & Resource Efficiency Plans) Regulations 2007</i>	<i>Industrial Waste Management Policy (Acid Sulfate Soils) (1999)</i>	
	<i>Environment Protection (Prescribed Waste) Regulations 1998</i>	PEM- Greenhouse Gas Emissions & Energy Efficiency in Industry (2002)	
	<i>Environment Protection (Scheduled Premises and Exemptions) Regulations 2007</i>	<i>Industrial Waste Management Policy (Prescribed Industrial Waste) (2000)</i>	
		<i>Australian Standard AS 1940 Storage & Handling of Flammable & Combustible Liquids</i>	
		<i>Bunding Guidelines - EPA Publication 347 (1992)</i>	
	SEPP (Waters of Victoria) (1988)		
	SEPP (Waters of Victoria) Schedule F8 Waters of Western Port and Catchment (2001)		

TABLE 3: PRIMARY LEGISLATION APPLICABLE TO EACH STAGE OF PROGRAM IMPLEMENTATION

Legislation	Stage 1	Stage 2	Stage 3	Stage 4
<i>Environment Protection and Biodiversity Conservation Act 1999</i>	●	●	●	●
<i>Planning and Environment Act 1987</i>	●	●	●	●
<i>Flora and Fauna Guarantee Act 1988</i>		●	●	●
<i>Wildlife Act 1975</i>		●	●	●
<i>Environment Effects Act 1978</i>		●	●	●
<i>Land Acquisition and Compensation Act 1986</i>		●		
<i>Aboriginal Heritage Act 2006</i>		●	●	
<i>Victorian Heritage Act 1995</i>		●	●	
<i>Crown Land Reserves Act 1978</i>		●	●	
<i>National Parks Act 1975</i>		●	●	
<i>Parks Victoria Act 1998</i>		●	●	●
<i>Environment Protection Act 1970</i>		●	●	●
<i>Catchment and Land Protection Act 1994</i>		●	●	●
<i>Conservation Forests and Lands Act 1987</i>		●	●	
<i>Victorian Conservation Trust Act 1972</i>		●		

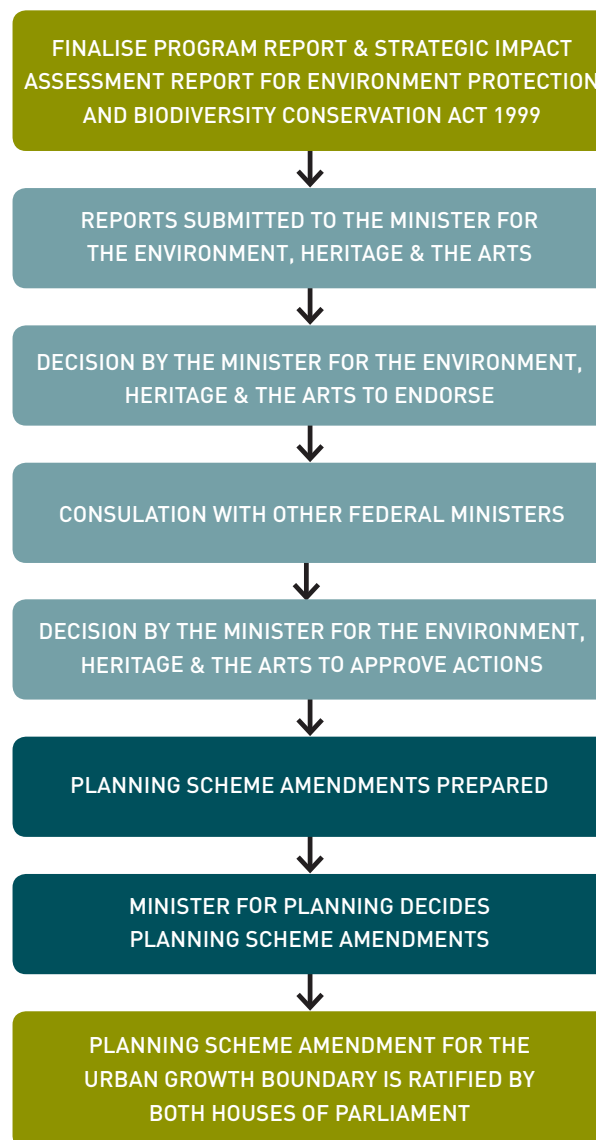
5. IMPLEMENTATION FRAMEWORK

This section outlines the decision-making processes and the planning and management mechanisms relevant to each implementation stage.

5.1 STAGE 1: PROGRAM APPROVAL

The main steps involved in the Program Approval stage are shown in Figure 3. The key legislation and mechanisms for enabling the Program to be approved are set out in Table 4.

FIGURE 3: PROCESS FOR STAGE 1 - APPROVAL



APPROVAL BY THE COMMONWEALTH GOVERNMENT

The Program requires endorsement by the Commonwealth Government, represented by the Minister for the Environment, Heritage and the Arts. Under section 146(2)(f) of the *Environment Protection and Biodiversity Conservation Act 1999*, the Minister may endorse the Program once he is satisfied that the implementation of the Program (as described in this Program Report and explained in the final *Strategic Impact Assessment Report for Environment Protection and Biodiversity Conservation Act 1999*) will appropriately minimise impacts on matters of national environmental significance.

Following the endorsement of the Program, the Commonwealth Minister for the Environment, Heritage and the Arts will consider whether to approve any actions or classes of actions that may result from implementing the Program in accordance with section 146B of the *Environment Protection and Biodiversity Conservation Act 1999*.

PLANNING SCHEME AMENDMENT

A key step in the approval process is an amendment to all Victorian planning schemes to give effect to the planning requirements for the Program under the *Planning and Environment Act 1987*.

The amendment will change the State Planning Policy Framework, Local Planning Policy Framework, and statutory planning tools (zones and overlays) of relevant planning schemes.

Land that is suitable for development and brought into the expanded growth areas is likely to be designated Urban Growth Zone, consistent with the intent of growth area planning.

Appropriate planning controls will be given to land designated for the transport corridors, grassland reserves and land identified as unsuitable for urban development within the expanded Urban Growth Boundary.

Other planning scheme amendments will be required to implement the Program in Stage 2, including the incorporation of Precinct Structure Plans and Native Vegetation Precinct Plans into relevant local planning schemes.

RATIFICATION BY PARLIAMENT

Under section 46AG of the *Planning and Environment Act 1987* any amendment to a metropolitan fringe planning scheme that amends or inserts an Urban Growth Boundary that has been approved by the Victorian Minister for Planning under section 35 must be ratified by both houses of Parliament.

TABLE 4: STAGE 1 – APPROVAL MECHANISMS

Ref	Legislation	Mechanism	Purpose	Responsibility	Timing*
S1.1	<i>Environment Protection and Biodiversity Conservation Act 1999</i>	Program Report supported by <i>Strategic Impact Assessment Report for Environment Protection and Biodiversity Conservation Act 1999</i>	To enable endorsement of the Program. To enable approval of any actions or classes of actions resulting from the implementation of the Program	Commonwealth Minister for the Environment, Heritage and the Arts <i>Assisted by:</i> Department of the Environment, Water, Heritage and the Arts	Short term
S1.2	<i>Planning and Environment Act 1987</i>	Planning scheme amendments	To introduce the revised Urban Growth Boundary (ratification required by both Houses of Parliament) To rezone land within the Urban Growth Boundary for urban development (Urban Growth Zone) and to protect constrained areas (through applying other zoning) To apply the Public Acquisition Overlay to land identified for the transport corridors and grassland reserves	Victorian Minister for Planning <i>Assisted by:</i> Department of Planning and Community Development	Short term

* Notes to Timing:

Short term means the activity is expected to occur within the period 2010 to 2013.

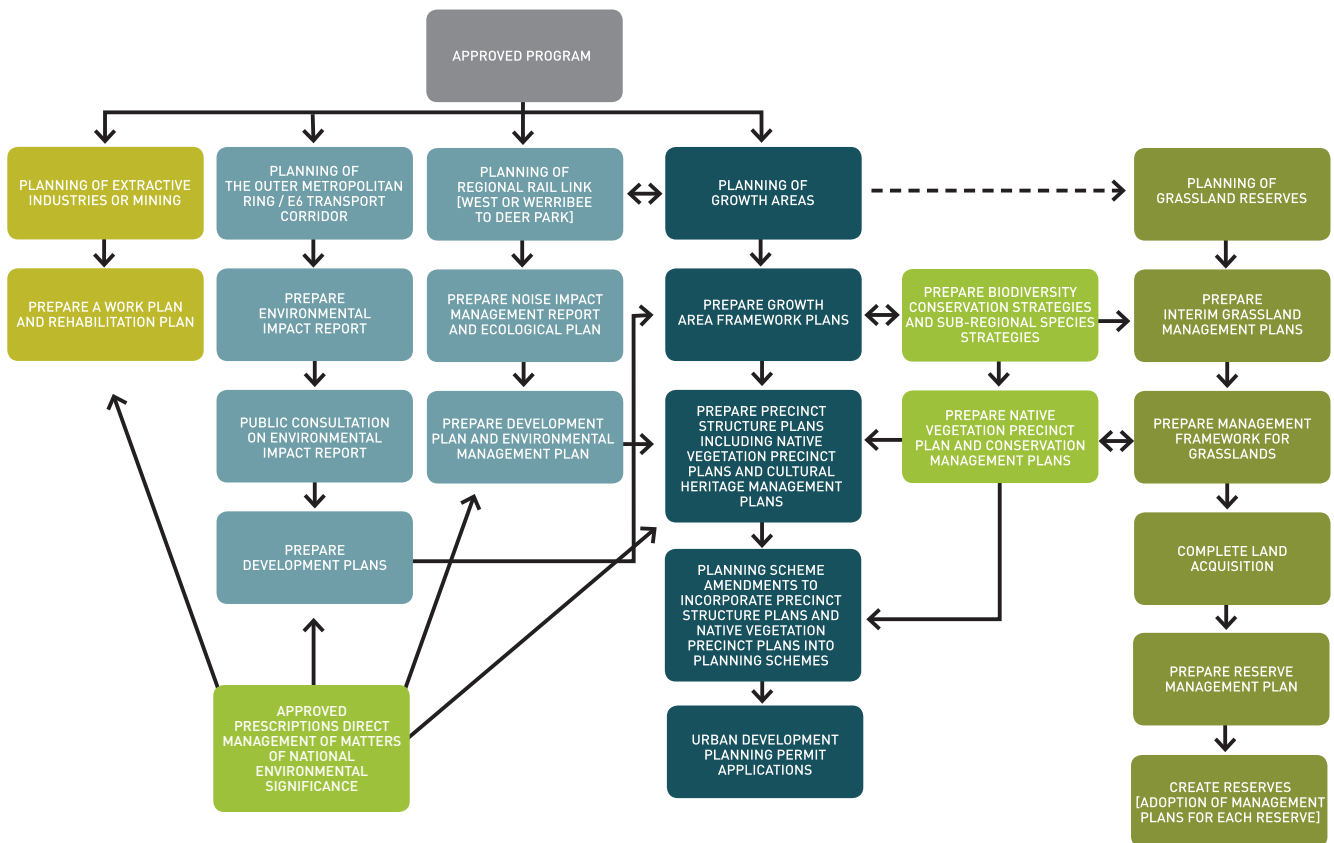
Medium term means the activity is expected to occur within the period 2014 to 2019.

Long term means the activity is expected to occur beyond 2020.

5.2 STAGE 2: PROCESS IMPLEMENTATION

The implementation process for each aspect of the Program is shown in Figure 4 and explained in Table 5.

FIGURE 4: PROCESS FOR STAGE 2 – IMPLEMENTATION



5.2.1 PLANNING OF GROWTH AREAS

Growth Area Framework Plans

Growth Area Framework Plans will be put in place to guide the creation of new communities within the growth areas. Growth Area Framework Plans set the regional framework for planning precincts within the growth areas based on the strategic directions of Melbourne 2030. They show broad land use patterns (including the location of principal and major activity centres) committed and proposed transport networks, regional open space, important direct waterways and areas of environmental sensitivity.

Growth Area Framework Plans are already in place for the existing growth areas of Casey-Cardinia, Hume, Melton-Caroline Springs, Wyndham and Whittlesea. These plans will be amended to cover the extended growth areas.

These amendments to the Growth Area Framework Plans will be developed following the finalisation of the Biodiversity Conservation Strategy prepared for each Growth Area, and the Sub-Regional Species Strategies, where relevant. Growth Area Framework Plans will be developed in a manner that is consistent with these Biodiversity Conservation Strategies and Sub-Regional Species Strategies, as approved by the Commonwealth Minister for the Environment, Heritage and the Arts.

The process will be led by the Growth Areas Authority in conjunction with the Department of Planning and Community Development and with involvement by Victorian Government departments and agencies and growth area councils. There will be an opportunity for the public to comment on the draft plans, which will also be submitted to the Department of Environment, Water, Heritage and the Arts for comment before finalisation.

Growth Area Framework Plans will be prepared once the new Urban Growth Boundary has been confirmed. The plans will be submitted to the Minister for Planning for approval and incorporated into relevant planning schemes.

Biodiversity Conservation Strategies

An overarching Biodiversity Conservation Strategy will be prepared for each of the expanded growth areas. These Strategies will inform the preparation of Growth Area Framework Plans and ensure high level guidance. They will outline how the areas of biodiversity value (state and commonwealth) within the growth areas will be managed and will spatially identify how outcomes for matters of national environmental significance will be delivered within the Growth Area. Each Biodiversity Conservation Strategy must be approved by the Commonwealth Government prior to the finalisation of Growth Area Framework Plans.

Sub-Regional Species Strategies

Sub-Regional Strategies will be prepared for some specific matters of national environmental significance such as the Growling Grass Frog; Southern Brown Bandicoot, and Golden Sun Moth.

These strategies will inform the preparation of Biodiversity Conservation Strategies by identifying important populations, areas to be retained (where known) as required by prescriptions and habitat links. They will influence negotiations and the design of precincts that will occur during the preparation of Precinct Structure Plans, as required by relevant prescriptions. Each Sub-Regional Strategy must be approved by the Commonwealth Government prior to the finalisation of Biodiversity Conservation Strategy.

Precinct Structure Plans

Approval of development within the growth areas is subject to the Victorian Government's precinct structure planning process.

A Precinct Structure Plan sets the future structure of the suburb, detailing the location of housing, activity centres, community facilities, local transport networks and open space. It also identifies biodiversity sites and

heritage places listed on the Commonwealth and National Heritage Lists and the Victorian Heritage Register (subject to the requirements of the *Victorian Heritage Act 1995*).

These plans will be prepared in accordance with the Growth Area Framework Plans by the Growth Areas Authority, a growth area council or developer/land owner, or a combination of these. The preparation of Precinct Structure Plans will be carried out in accordance with *The Precinct Structure Planning Guidelines* and will involve government and non-government service providers, developers, land-owners and other community representatives. Precinct Structure Plans will also be prepared in accordance with the prescriptions approved by the Commonwealth Minister for the Environment, Heritage and the Arts.

The Precinct Structure Planning Guidelines apply to the preparation of Precinct Structure Plans for new residential communities and new major employment areas. The document provides detailed guidance on the process that must be followed in assessing, protecting and managing biodiversity values in planning precincts. It also identifies the outputs that must be produced in accordance with Victorian and Commonwealth Government legislation, including a Native Vegetation Precinct Plan and Conservation Management Plan. The Guidelines incorporate the Biodiversity Precinct Planning Kit, which specifies standards for pre-planning surveys for biodiversity, biodiversity data inputs and templates to be used in preparing biodiversity plans. The Victoria Government will provide the Commonwealth Government with an opportunity to comment on changes to the Precinct Structure Planning Guidelines including the Precinct Structure Planning Notes and Biodiversity Precinct Structure Planning Kit.

The precinct structure planning process applies to all land within the Urban Growth Zone. Precinct Structure Plans can also be applied to localities where the Urban Growth Zone does not apply, although the requirement for planning controls will vary.

Application of the Urban Growth Zone requires that a Precinct Structure Plan be approved by the Minister for Planning and incorporated into the local planning scheme at Clause 81 before urban development can proceed (note: some exemptions apply). Planning controls must also be included in the schedule at Clause 37.07 to guide land use and development decisions.

Once a Precinct Structure Plan has been incorporated into the local planning scheme by a planning scheme amendment, planning permits can be granted by the relevant authority (usually the local council) for urban development activity as set out in the Urban Growth Zone. These permits can usually be issued without further advertising provided the proposal is generally in accordance with the approved Precinct Structure Plan.

Quarries and mines

Native vegetation removal associated with the Earth Resources Industry (Quarries and Mines) is exempt from the requirements of the *Planning and Environment Act 1987* and the planning scheme. The exploration, licensing and development of the Earth resources industries is regulated under the *Extractive Industries Development Act 1995* and the *Mineral Resources (Sustainable Development) Act 1990*.

A Memorandum of Understanding between the Department of Sustainability and Environment and the Department of Primary Industries was signed in 2003. The purpose of the Memorandum of Understanding is to endorse the Mining and Extractive Industries Work Approvals process.

The Memorandum of Understanding recognises that the Department of Primary Industries is responsible for the regulation and administration of mining and Extractive Industries. It also recognises that all relevant land use issues, which are the responsibility of Department of Sustainability and Environment, must be integrated into the approvals process. Approval conditions, including compliance with the Native Vegetation Management Framework and mitigation measures are contained in work plan approvals.

The detailed planning of future quarries within the Urban Growth Boundary will be undertaken in accordance with relevant prescriptions approved by the Commonwealth Minister for the Environment, Heritage and the Arts. This will be affected by amending the *Memorandum of Understanding* to require that the prescriptions approved by the Commonwealth Minister for the Environment, Heritage and the Arts will be applied to all future quarries.

Cultural Heritage Management Plans

A Cultural Heritage Management Plan will be prepared for each precinct in accordance with the *Aboriginal Heritage Act 2006*. These plans provide for the management of known Aboriginal cultural heritage values and those that may be discovered during works.

Cultural Heritage Management Plans are required for any listed high impact activity (including greenfield residential subdivision and construction of major transport infrastructure) and for any activity in an area of cultural heritage sensitivity which has not been subject to major ground disturbance. Areas of cultural heritage sensitivity are defined by the *Aboriginal Heritage Regulations 2007*.

The Growth Areas Authority is working with Aboriginal Affairs Victoria to identify areas of Aboriginal heritage significance on a regional scale. This forms the first step in the production of Cultural Heritage Management Plans.

Native Vegetation Precinct Plans

A Native Vegetation Precinct Plan will be prepared for each precinct in accordance with clause 52.16 of local planning schemes.

Victoria's Native Vegetation Management – A Framework for Action establishes the strategic direction for the protection, enhancement and revegetation of native vegetation across Victoria. Its goal is: a reversal, across the entire landscape, of the long term decline in the extent and quality of native vegetation, leading to a net gain.

The Native Vegetation Precinct Plan will set out the requirements for the protection and removal of native vegetation for a defined area or precinct. It will be incorporated into the relevant local planning scheme. The Native Vegetation Precinct Plan must be consistent with relevant prescriptions approved by the Commonwealth Minister for the Environment, Heritage and the Arts.

Conservation Management Plans

A Conservation Management Plan will be prepared for areas where there are important populations of species that require particular management (e.g. Growling Grass Frog, Southern Brown Bandicoot, Golden Sun Moth, Matted Flax Lily etc). The Conservation Management Plan will outline how matters of national environmental significance will be protected and managed. It will reflect the negotiations undertaken as part of the precinct structure planning process.

The Plan will show on a map the areas that are being retained for particular species and the areas that are being removed. It will outline how the areas that are being retained in the precinct for a species will be managed (e.g. for Growling Grass Frog: where road underpasses will be located, species planting for wetlands, treatment of mosquito fish infestation, subsequent monitoring etc).

A Conservation Management Plan will be prepared alongside or be part of the Precinct Structure Plan. The Conservation Management Plan will form part of the planning scheme amendment to incorporate the Precinct Structure Plan. The Conservation Management Plan must be consistent with relevant prescriptions approved by the Commonwealth Minister for the Environment, Heritage and the Arts.

Planning Permits

The planning permit must be issued generally in accordance with the Precinct Structure Plan and include any implementation provisions outlined in the Precinct Structure Plan.

Development cannot proceed unless requirements (as set out in the Cultural Heritage Management Plan, Native Vegetation Precinct Plan and Conservation Management Plan) are met.

Prescriptions

Prescriptions have been drafted for most matters of national environmental significance. All prescriptions require approval by the Minister for the Environment, Heritage and the Arts and direct the management of matters of national environmental significance. In the event that a prescription has not been developed and approved, the Department of Sustainability and Environment will consult with the Commonwealth Government on the development of one prior to submitting it for approval. No impacts are permitted on a matter of national environmental significance under this Program unless an approved prescription is in place.

These prescriptions contain actions that must be undertaken, such as the translocation of individual animals if encountered to areas of secure and suitable habitat.

If additional relevant recovery plans are developed and legislated in the future, or particular species become a matter of national environmental significance, prescriptions will be developed. Furthermore if new information becomes available that affect the implementation of actions required by the prescriptions, they will be revised by the Department of Sustainability and Environment and re-submitted to the Commonwealth Government for approval.

The specific triggers for reviewing the currency and applicability of the current prescriptions are:

- > The publication of any new recovery plan or policy statement relevant to any matter of national environmental significance subject to a prescription,
- > Any new substantial scientific information on the status of a relevant matter of national environmental significance brought up by either party and as agreed; and
- > Any indication that relevant conservation outcomes described in the program, conservation strategies or sub-species strategy are or may become unachievable or that there may be better ways to achieve the stated outcomes.

If both parties agree that revision to a prescription is required, following its review, a process and timeframe will be established by agreement between the parties. The existing prescription will remain in operation for four months from the date that the need to revise the prescription is agreed. After this time the existing prescription will lapse and, with the exception of:

- > Precinct Structure Plans for which a planning scheme amendment to introduce the Precinct Structure Plan has commenced to be exhibited under sections 17-19 of the *Planning and Environment Act 1987* (Vic);
- > The Regional Rail Link (west of Werribee to Deer Park) where the Ecological Impact Management Plan has been approved by the Victorian Minister for Environment and Climate Change;
- > The Outer Metro Ring / E6 Transport Corridor where the Environmental Impact Report has been approved by the Department of Planning and Community Development; and
- > Extractive Industries for which a work plan has been approved under the *Extractive Industries Development Act 1995*;

no impacts on the relevant matter of national environmental significance will be legally authorised under this Program or any subsequent approval until such time as the revised prescription has been approved by the relevant Victorian and Commonwealth Government Ministers.

Planning of Grassland Reserves

Management plans will be prepared for the grassland reserves.

Interim Management Plans

Interim Management Plans will be prepared for private property that has been earmarked to form part of the grassland reserves, although is yet to be acquired for that purpose.

These plans will be prepared under the *Catchment and Land Protection Act 1994*. The purpose of the Interim Management Plan is to introduce a management regime to ensure grassland areas are not degraded in the period prior to formal acquisition of the land for the grassland reserves. The IMPs will also outline how acquired land will be managed prior to the formal reservation of this land.

National Park or Reserve Management Plans

National Park or Reserve Management Plans will be developed to reserve land for conservation or recreational purposes under the *Crown Land Reserves Act 1978* or *National Parks Act 1975* depending on the final decisions regarding the tenure of the land. These plans are part of the formal requirements of these processes of reserving the land.

Offsets

Offsets are any works, or other actions to make reparation for the loss of native vegetation arising from its removal or destruction.

These works or actions can include protecting and managing existing native vegetation, protecting and revegetating an area or setting aside an area for regeneration or restoration.

To ensure that any losses associated with clearing are mitigated by the appropriate gains, there are specific offset criteria that are graded according to conservation significance of the vegetation being removed – there are more specific requirements for higher conservation significance vegetation and increased flexibility for lower conservation significance vegetation.

Grassland offsets will be contained in the proposed Grassland Reserve unless the Victorian Government and Commonwealth Government agree otherwise (for example supply of offsets in the Grassland reserve is exhausted); however areas of grassland retained within the Urban Growth Boundary that meet prescription requirements (for example for Golden Sun Moth) may also be available as potential offsets for that matter of national environmental significance.

The Grassland Reserve will be established by government acquisition. The acquisition process will be given effect by amending the Victoria Planning Provisions so that properties within the proposed grassland reserves will be identified by a Public Acquisition Overlay.

From the time that a Public Acquisition Overlay is in place the Government has first right of purchase. The Government may also approach individual land holders directly to negotiate a voluntary sale. The Government will acquire all of the areas required for the grassland reserves within 10 years of the Public Acquisition Overlay being put in place.

The process for compulsory acquisition, the measure (i.e. amount) of compensation and the process for disputing the amount of compensation are outlined in the *Land Acquisition and Compensation Act 1986*.

Grassy Eucalypt Woodland offsets will be contained within a reserve to be established for the conservation of Grassy Eucalypt Woodland, south-west of Whittlesea. Areas of Grassy Eucalypt Woodland retained within the Urban Growth Boundary may also be available as potential offsets.

Appropriate offsets that comply with relevant prescriptions must be approved and secured prior to the commencement of the associated clearing of native vegetation or habitat. For proposed public land reserves,

offsets will be secured by reservation under the *Crown Land Reserves Act 1978* or *National Parks Act 1975*. For private land, offsets will be secured using an on-title legal agreement under s69 of the *Victorian Conservation Forests and Lands Act 1987* or s173 of the *Victorian Planning and Environment Act 1987* or an on-title conservation covenant under the *Victorian Conservation Trust Act 1972*, or a mechanism of equivalent security if that mechanism is approved for the purposes of this Program in advance by the Commonwealth Government.

Once an offset is secured, no further credit can be generated from that offset site (i.e. it cannot be used again for any additional matter of national environmental significance offset requirement).

TABLE 5: STAGE 2 – PROCESS IMPLEMENTATION

Ref	Legislation	Mechanism	Purpose	Responsibility	Timing*
S2.1	<i>Planning and Environment Act 1987</i>	Growth Area Framework Plans	To define the regional framework for preparing Precinct Structure Plans.	Victorian Minister for Planning <i>Assisted by:</i> Growth Areas Authority Department of Planning and Community Development	Short term
S2.2	<i>Planning and Environment Act 1987</i>	Biodiversity Conservation Strategies	To define how the protected areas designated within the growth areas will be managed.	Victorian Minister for Environment and Climate Change <i>Assisted by:</i> Department of Sustainability and Environment	Short term
S2.3	<i>Planning and Environment Act 1987</i>	Sub Regional Species Strategies	To define how particular species (i.e. the Growling Grass Frog and Southern Brown Bandicoot) will be protected and managed.	Victorian Minister for Environment and Climate Change <i>Assisted by:</i> Department of Sustainability and Environment	Short term
S2.4	<i>Planning and Environment Act 1987</i>	Precinct Structure Plans	To define the location of land uses and the conditions for development to enable planning permits to be issued.	Victorian Minister for Planning <i>Assisted by:</i> Planning Authority (Growth Areas Authority or growth area council)	Short to Medium term
S2.5	<i>Planning and Environment Act 1987</i>	Native Vegetation Precinct Plans	To define native vegetation to be retained and removed as a result of the Precinct Structure Plan, including mechanisms for offsetting any losses.	Victorian Minister for Planning and Victorian Minister for Environment and Climate Change <i>Assisted by:</i> Department of Sustainability and Environment Planning Authority (Growth Areas Authority or growth area council)	Short to Medium term

Ref	Legislation	Mechanism	Purpose	Responsibility	Timing*
S2.6	<i>Planning and Environment Act 1987</i>	Conservation Management Plans	To identify any conditions for managing the impact of development on matters of national environmental significance.	Victorian Minister for Planning and Victorian Minister for Environment and Climate Change <i>Assisted by:</i> Department of Sustainability and Environment Planning Authority (Growth Areas Authority or growth area council)	Short to Medium term
S2.7	<i>Planning and Environment Act 1987</i>	Planning permits	To specify any conditions for applications to subdivide or develop land.	Responsible Authority (Victorian Minister for Planning or growth area council)	Ongoing
S2.8	<i>Aboriginal Heritage Act 2006</i>	Cultural Heritage Management Plans	To identify any conditions for protecting sites of Aboriginal cultural heritage through the development of precincts.	Victorian Minister for Planning and Victorian Minister for Aboriginal Affairs <i>Assisted by:</i> Department of Planning and Community Development (Aboriginal Affairs Victoria) Planning Authority (Growth Areas Authority or growth area council)	Short to Medium term
S2.9	<i>Victorian Heritage Act 1995</i>	Archaeological approvals	To identify any registered heritage sites.	Victorian Minister for Planning <i>Assisted by:</i> Department of Planning and Community Development (Heritage Victoria)	Short to Medium term
S2.10	<i>Catchment and Land Protection Act 1994</i>	Interim Management Plan	To ensure private land earmarked for grassland reserves are not degraded prior to acquisition.	Victorian Minister for Environment and Climate Change <i>Assisted by:</i> Department of Sustainability and Environment	Short term

Ref	Legislation	Mechanism	Purpose	Responsibility	Timing*
S2.11	<i>Catchment and Land Protection Act 1994</i>	Amendment to the <i>Catchment and Land Protection Act 1994</i>	To amend the <i>Catchment and Land Protection Act 1994</i> to include major weeds of Volcanic Plains grasslands.	Victorian Minister for Environment and Climate Change Department of Sustainability and Environment	Short term
S2.12	<i>Environment Effects Act 1978</i> and <i>Planning and Environment Act 1987</i>	Referral decisions under the <i>Environment Effects Act 1978</i>	Regional Rail Link Preparation of an Ecological Impact Management Plan to inform the Development Plans and Environmental Management for the Project. Outer Metropolitan Ring/E6 Transport Corridor Preparation of an Environment Impact Report to inform decision making on the development plans and environmental protection strategy.	Victorian Minister for Planning <i>Assisted by:</i> Department of Planning and Community Development	Short to Medium term.
S2.13	<i>Land Acquisition and Compensation Act 1986</i>	Notice of intention to acquire Notice of acquisition	To acquire land for the grassland reserves and transport corridors	Secretary of the Department of Sustainability and Environment Secretary of the Department of Transport Chief Executive of VicRoads	Ongoing
S2.14	<i>Conservation Forests and Lands Act 1987</i>	Section 69 agreements	To enter into binding legal agreement with landowners in relation to management of biodiversity on their properties.	Secretary of the Department of Sustainability and Environment	Short to Medium term
S2.15	<i>Crown Land Reserves Act 1978</i>	National Park Management Plans Reserve Management Plans	To reserve land for conservation, recreational, or other public purposes. To enable the creation of management plans.	Victorian Minister for Environment and Climate Change <i>Assisted by:</i> Department of Sustainability and Environment	Short to Medium term

Ref	Legislation	Mechanism	Purpose	Responsibility	Timing*
S2.16	<i>Victorian Conservation Trust Act 1972</i>	Conservation Covenants	To enable the protection of specified areas of high biodiversity value by a legal covenant on land title.	Victorian Minister for Environment and Climate Change <i>Assisted by:</i> Department of Sustainability and Environment	Short to Medium term
S2.17	<i>Planning and Environment Act 1987</i>	Section 173 agreements	To enter into an agreement with an owner of land to set out the conditions or restrictions on the use or development of the land.	Victorian Minister for Planning <i>Assisted by:</i> Department of Planning and Community Development Growth area councils	Ongoing
S2.18	<i>Conservation Forests and Lands Act 1987</i>	Public Authority Management Agreements	To enter into binding legal agreement with a public authority in relation to management of biodiversity on land they legally manage.	Victorian Minister for Environment and Climate Change Department of Sustainability and Environment	Short to Medium term
S2.19	<i>Extractive Industries Development Act 1995 and the Mineral Resources (Sustainable Development) Act 1990</i>	Memorandum of Understanding between the Department of Sustainability and Environment and the Department of Primary Industries	To ensure that mining and extractive industries are planned and managed in accordance with the Department of Sustainability and Environment policy interests and prescriptions approved by the Commonwealth Minister for the Environment, Heritage, and the Arts.	Victorian Minister for Energy and Resources <i>Assisted by:</i> Department of Primary Industries Department of Sustainability and Environment	Short term
S2.20	<i>Environment Protection and Biodiversity Conservation Act 1999</i>	Prescriptions developed under Strategic Assessment	To provide for the protection of matters of national environmental significance	Victorian Minister for Environment and Climate Change <i>Assisted by:</i> Department of Sustainability and Environment	Ongoing

* Notes to Timing:

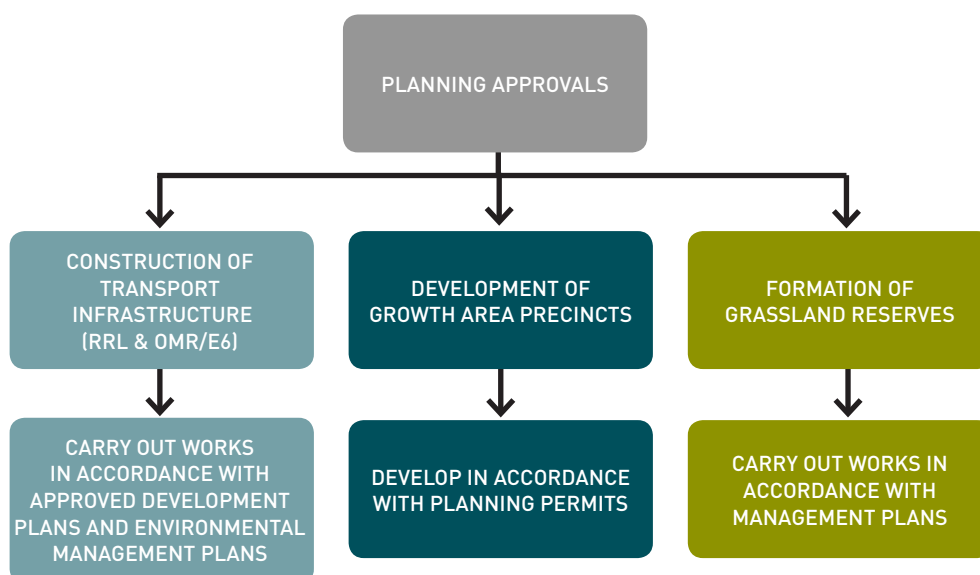
Short term means the activity is expected to occur within the period 2010 to 2013.

Medium term means the activity is expected to occur within the period 2014 to 2019.

Long term means the activity is expected to occur beyond 2020.

5.3 STAGE 3: CONSTRUCTION AND WORKS

FIGURE 5: PROCESS FOR STAGE 3 – CONSTRUCTION AND WORKS



Stage 3 encompasses the physical activities that will occur to implement the Program, such as the construction of urban areas and transport infrastructure (refer Figure 5). It is at this stage that impacts on matters of national environmental significance may occur. Any works or construction activities that occur at this stage will need to be undertaken in accordance with the frameworks and approvals established in stage 2. The legislative mechanisms for implementing the construction and works associated with the Program are set out in Table 6.

Construction and works will be undertaken by various parties, including private developers, statutory bodies, government agencies and land managers in the following way:

- > For urban development, works and construction will generally be undertaken by private developers. The staging of works and rate at which they will occur will be governed by the sequencing of Precinct Structure Plans and granting of relevant planning permits.
- > For major transport infrastructure, works will be undertaken by, or on behalf of a statutory agency in accordance with any approved development plans and Environmental Management Plans or strategies.

Within the Urban Growth Boundary there will also be other ‘non-urban’ works undertaken to implement the Program. This includes establishing conservation areas within the urban areas, including the protection of riparian vegetation. Any works which are required to enable the active management and protection of these areas, in accordance with management plans prepared in stage 2, will generally be undertaken by, or on behalf of the public land manager. In some cases however these works may also be undertaken by a private developer.

It is also envisaged that works will occur in establishing the large grassland reserves. The active management and protection of these areas is an important consideration and must be undertaken in accordance with any management plans. Initially it is envisaged that interim works may occur in order to protect grasslands within private ownership; however following the formal reservation of the grassland reserves it is likely that the public land manager will undertake the works.

TABLE 6: STAGE 3 – CONSTRUCTION AND WORKS

Ref	Legislation	Mechanism	Purpose	Responsibility	Timing*
S3.1	<i>Planning and Environment Act 1987</i>	Planning permits	To specify the conditions for carrying out any works associated with the subdivision or development of land	Victorian Minister for Planning <i>Assisted by:</i> Responsible Authority (i.e. Minister for Planning; growth area council)	Ongoing
S3.2	<i>Aboriginal Cultural Heritage Act 2006</i>	Cultural Heritage Management Plan	To specify management procedures in accordance with the Cultural Heritage Management Plan	Victorian Minister for Aboriginal Affairs <i>Assisted by:</i> Department of Planning and Community Development (Aboriginal Affairs Victoria)	Ongoing
S3.3	<i>Environment Protection Act 1970</i>	State environmental planning policies	To regulate emissions during the construction/ works phase of development (including issuing penalties)	Victorian Minister for Environment and Climate Change <i>Assisted by:</i> Environment Protection Authority	Ongoing
S3.4	<i>Catchment and Land Protection Act 1994</i>	Interim Management Plans for grassland reserves to the west of Melbourne	To monitor any management activities to ensure that protection works occur in accordance with approved plans	Victorian Minister for Environment and Climate Change <i>Assisted by:</i> Department of Sustainability and Environment Department of Primary Industries Parks Victoria Local Government	Short term
S3.5	<i>Crown Land Reserves Act 1978</i>	Reserve Management Plan	To ensure works are undertaken in accordance with the adopted management plan	Victorian Minister for Environment and Climate Change <i>Assisted by:</i> Department of Sustainability and Environment Parks Victoria	Medium to Long term
S3.6	<i>Conservation Forests and Lands Act 1987</i>	Public Authority Management Agreements	To ensure works are undertaken and monitoring occurs in accordance with Public Authority Management Agreements	Victorian Minister for Environment and Climate Change <i>Assisted by:</i> Department of Sustainability and Environment	Medium to Long term

Ref	Legislation	Mechanism	Purpose	Responsibility	Timing*
S3.7	<i>Planning and Environment Act 1987</i>	Environmental Management and Development Plan approvals	To ensure works for the transport projects (Regional Rail Link (west of Werribee to Deer Park and Outer Metropolitan/E6 Transport corridor) are undertaken in accordance with approved development plans and Environmental Management Plans	Department of Transport VicRoads	Short to Medium term
S3.8	<i>Victorian Heritage Act 1995</i>	Archaeological approvals	To check compliance of activities with archaeological approvals	Victorian Minister for Planning <i>Assisted by:</i> Department of Planning and Community Development (Heritage Victoria)	Ongoing
S3.9	<i>Extractive Industries Development Act 1995 and the Mineral Resources (Sustainable Development) Act 1990</i>	Work authorities and work plans	To ensure that mining and extractive works are undertaken in accordance with approved work authorities and work plans.	Victorian Minister for Energy and Resources <i>Assisted by:</i> Department of Primary Industries Development of Sustainability and Environment	Ongoing

* Notes to Timing:

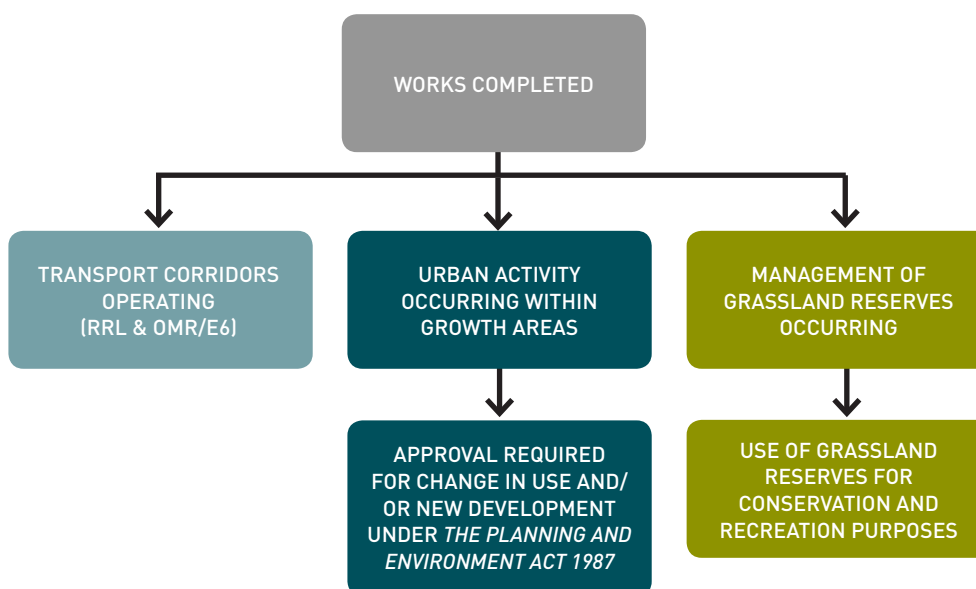
Short term means the activity is expected to occur within the period 2010 to 2013.

Medium term means the activity is expected to occur within the period 2014 to 2019.

Long term means the activity is expected to occur beyond 2020.

5.4 STAGE 4: OPERATIONAL

FIGURE 6: PROCESS FOR STAGE 4 – OPERATIONAL



This is the final and ongoing stage in implementing the Program. It relates to the use of the land, once it has been developed in accordance with the frameworks and controls, approved in stage 2 and constructed in stage 3 (refer to Figure 6 and Table 7).

Within the urban areas, the operation will include urban activities, such as residential, recreational and employment uses as well as infrastructure development, quarrying and related activities. The use of these areas will include the management of residual impacts or urban activity; such as the management of stormwater run-off and/or collection of waste.

The transport corridors will be used for a variety of transport modes, such as public transport, private motor vehicle transport, and freight (both road and rail). This stage will include the ongoing management of the use of these transport corridors.

The grassland reserves (and smaller reserves and linear linkages within the Urban Growth Boundary) will be used for recreational and conservation purposes. The specific type of use will be governed by the management plans and parameters that are established in stage 2. Stage 4 will also comprise the ongoing management of these areas by the relevant public land managers to ensure they are used and maintained in accordance with the approved management plans.

It is within this stage that there will be ongoing changes in the use of the land. Land uses must accord with the planning controls established in stage 2, however if amendments to the underlying planning controls are sought; the proponent (private or public) will be required to return to the processes established at stage 2.

TABLE 7: STAGE 4 – OPERATIONAL

Ref	Legislation	Mechanism	Purpose	Responsibility	Timing*
S4.1	<i>Planning and Environment Act 1987</i>	Planning enforcement	To enforce any non-compliance with planning approvals and/or environmental management plans	Victorian Minister for Planning <i>Assisted by:</i> Responsible Authority (Growth area council)	Ongoing
S4.2	<i>Planning and Environment Act 1987</i>	Planning permit process	To trigger permits for any new use and development or vegetation removal	Victorian Minister for Planning <i>Assisted by:</i> Responsible Authority (Growth area council)	Ongoing (for future projects)
S4.3	<i>Environment Effects Act 1978</i>	Referral/ Environment Effects Statement	To identify new works that may result in environment effects To assess the potential effects of a project, and to identify the optimum option and any specific mitigation	Victorian Minister for Planning <i>Assisted by:</i> Department of Planning and Community Development	Ongoing (for future projects)
S4.5	<i>Crown Land Reserves Act 1978</i>	Reserve Management Plan	To update the adopted management plan to reflect adaptive management requirements	Victorian Minister for Environment and Climate Change <i>Assisted by:</i> Department of Sustainability and Environment Parks Victoria	Ongoing
S4.6	<i>Environment Protection Act 1970</i>	State Environment Planning Policies	To regulate emissions	Victorian Minister for Environment and Climate Change <i>Assisted by:</i> Department of Sustainability and Environment	Ongoing
S4.7	<i>Extractive Industries Development Act 1995 and the Mineral Resources (Sustainable Development) Act 1990</i>	Work plans	To ensure that mining and extractive works are undertaken in accordance with approved work plans, including rehabilitation plans.	Victorian Minister for Energy and Resources <i>Assisted by:</i> Department of Primary Industries	Ongoing

* Notes to Timing:

Short term means the activity is expected to occur within the period 2010 to 2013.

Medium term means the activity is expected to occur within the period 2014 to 2019.

Long term means the activity is expected to occur beyond 2020.

6. ROLE OF THE VICTORIAN GOVERNMENT

A whole of Government approach will be required to implement the Program.

The Victorian Government will work with councils, government and non-government service providers, developers, land-owners and other community representatives in effectively delivering the Program and will report periodically to the Commonwealth Government on the progress being achieved.

The responsibility for implementing the Program lies with the Minister for Planning, Minister for Environment and Climate Change, Minister for Public Transport and Minister for Roads and Ports.

The role of other Ministers and key departments and agencies in implementing the Program is set out in Table 8.

TABLE 8: ROLE OF THE VICTORIAN GOVERNMENT IN IMPLEMENTING THE PROGRAM

Government Body	Relevant Minister	Stage 1	Stage 2	Stage 3	Stage 4
Department of Planning and Community Development	Minister for Planning Minister for Aboriginal Affairs	●	●	●	●
Growth Areas Authority	Minister for Planning		●		
Department of Sustainability and Environment	Minister for Environment and Climate Change Minister for Water	●	●	●	●
Department of Transport	Minister for Roads and Ports Minister for Public Transport	●	●	●	●
VicRoads (or delegated authority)	Minister for Roads and Ports	●	●	●	●
Parks Victoria	Minister for Environment and Climate Change			●	●
Melbourne Water	Minister for Water		●	●	●
Environment Protection Authority	Minister for Environment and Climate Change			●	●
Port Phillip and Westernport Catchment Management Authority	Minister Environment and Climate Change Minister for Water		●	●	●
Local Government	Minister for Planning Minister for Local Government		●	●	●

7. ROLE OF THE COMMONWEALTH GOVERNMENT

The Commonwealth Government has overall responsibility for ensuring that only actions that have been approved by the Commonwealth Minister for the Environment, Heritage and the Arts are undertaken under the Program, and that all actions are consistent with the Program.

The Commonwealth Government, represented by the Minister for the Environment, Heritage and the Arts, has an approval role at various stages of the Program, as described below.

Stage 1

The Program requires endorsement by the Commonwealth Government, represented by the Minister for the Environment, Heritage and the Arts.

Following the endorsement of the Program, Victoria will provide prescriptions for managing Matters of National Environmental Significance likely to be impacted as a result of the Program for the Commonwealth Minister's approval.

In addition the Commonwealth Minister will consider whether to approve actions or classes of actions that may result from implementing the Program.

Within twelve months of approval, the Commonwealth will be asked to approve a Reporting and Monitoring Framework for the Program submitted by Victoria.

Stage 2

During Stage 2 the Commonwealth will receive reports from an Independent party appointed consistent with the approved Reporting and Monitoring Framework and covering all projects under the Program.

The Commonwealth will be provided with Sub-Regional Strategies (for Golden Sun Moth, Growling Grass Frog and Southern Brown Bandicoot) and Biodiversity Conservation Strategies (for Growth Areas), for approval between 2010 and 2011.

The Victorian Minister for Environment and Climate Change will consult with the Commonwealth Minister for the Environment, Heritage and the Arts to ensure matters of national environmental significance are appropriately considered and addressed in the Ecological Impact Management Plan submitted by the proponent for the Regional Rail Link project.

Interim management reports on the Western Grassland Reserves will be provided to Department of the Environment, Water, Heritage and the Arts every six months in 2010-2011 then annually until the land is acquired.

A standard monitoring protocol for detecting changes in vegetation quality and extent, species populations, water quality and heritage sites (where relevant) arising from site-based interventions will be developed and provided to the Department of Environment, Water, Heritage and the Arts for approval in 2011. This will include specific monitoring requirements for the Western grassland reserves.

Stage 3

During the Construction and Works Stage of the Program the Commonwealth Government will continue to receive Program monitoring reports consistent with the approved Reporting and Monitoring Framework.

Stage 4

During the Operational Stage of the Program the Commonwealth Government will have a limited role, unless a particular process in this Program triggers consultation or additional approval, and implementation and monitoring will be undertaken by the Victorian Government according to the legislative processes described in the Program and as otherwise agreed in the Monitoring and Reporting Framework.

8. REASONABLE ASSURANCE

Victoria has a comprehensive legislative and policy framework to manage land use and environmental impacts within Victoria. Part 2 of this Program Report has outlined how the legislative processes, policies and guidance will be used to implement the Program; and how these processes will be used to ensure that actions affecting matters of national environmental significance that result from the Program will be managed through these processes. The Victorian Government is committed to implementing this Program to achieve positive outcomes for biodiversity and heritage.

PART 3: CONSERVATION ACTIVITIES

9. GREATER MELBOURNE REGION

The biodiversity of the Greater Melbourne region including urban and rural areas is steadily declining. This Program Report sets in train a process of identifying, permanently protecting and managing biodiversity assets that are important to the Greater Melbourne region, on a scale never before contemplated.

The focus will be on securing and progressively linking larger representative areas of native vegetation and habitat that are more likely to sustain its values over the long-term (with active management) in the context of a large metropolis. Given the metropolitan context this approach provides the best opportunity to:

- > reverse the long-term decline in the extent and quality of native vegetation;
- > maintain and restore ecological processes and the biodiversity dependent on them;
- > increase the potential for threatened species and ecological communities to persist in sustainable populations, and
- > buffer against and adapt to the impacts of climate change.

The Program will protect the largest consolidated areas of remaining of Natural Temperate Grasslands of the Victorian Volcanic Plain by establishing grassland reserves totalling 15,000 hectares. This will increase the amount of this native grassland community contained within conservation reserves within Victoria from two per cent to 20 per cent.

Eighty per cent of all Grassy Eucalypt Woodland within the Program area will be retained and managed in secure conservation reserves, and an additional large reserve will be established outside the urban area.

The Program establishes clear protection targets for the most threatened species in the region. Eighty per cent of highest priority habitats (confirmed sites contributing most to species persistence) will be permanently protected and managed for Spiny Rice-flower, Matted Flax-lily and Golden Sun Moth. A high level of protection will be provided for endangered and critically endangered orchids within the Program area. There is also a large investment in collection of new information on species distribution within and outside the Program area - detailed surveys will occur over the coming spring and autumn covering 25,000 ha and additional areas will be surveyed in future years. An adaptive management response to any species not specifically addressed in the Program will be developed if and when required in consultation with the Commonwealth Government.

Where clearing is permitted, the Program requires that offsets must be provided consistent with the requirements of *Victoria's Native Vegetation Management – A Framework for Action*. Where it is appropriate many of these offsets will be consolidated into the Western Grassland Reserves in order to maximise the biodiversity benefits available from this approach. Other offsets will be consolidated around other vegetation types such as Grassy Eucalypt Woodland.

In addition to the strategic protection of the Natural Temperate Grasslands of the Victorian Volcanic Plain and Grassy Eucalypt Woodland, the Program proposes the re-establishment of a large (approximately 300 hectare) area of former wetland adjacent to the south-east edge of the Program area. This wetland would be designed to restore important wetland habitats and assist water quality objectives for waterways and the Western Port Ramsar site.

10. MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE

The implementation of the Program will involve carrying out several activities to mitigate the potential impacts of urban development on matters of national environmental significance.

The following sections specify the outcomes intended to be achieved for each matter of national environmental significance that is relevant to the Program (refer to the final *Strategic Impact Assessment for Environment Protection and Biodiversity Conservation Act 1999*). Conservation activities for addressing these matters are summarised in tables 9 to 20 which indicate the mechanism for delivery; responsibilities of Government agencies, councils and the private sector; timeframes; resourcing and performance measures. These tables should be read in conjunction with Part 2 and Part 4. The Conservation Activities listed below represent the currently proposed approach to achieving these outcomes. In the event that the outcomes are not achieved or are unlikely to be achieved, as indicated in adaptive management reporting of program monitoring, the Victorian Government will work with the Commonwealth to either:

- > revise or enhance the conservation activities to better achieve the outcomes, or
- > if the outcomes are agreed to be technically improbable, to revise the outcomes accordingly.

10.1 NATURAL TEMPERATE GRASSLANDS

10.1.1 CONSERVATION OUTCOMES TO BE ACHIEVED

The conservation activities below have been designed to deliver the following outcomes:

- > The creation of large (at least 15,000 hectares) consolidated areas of permanently protected native grasslands outside the Urban Growth Boundary in Melbourne's west, managed to improve their quality and offset losses from clearing associated with urban development and transport Infrastructure.
- > A number of smaller reserves within the Urban Growth Boundary at Clarkes Road, Truganina Cemetery, Craigieburn and associated with Merri Creek in the north, some within the urban context, providing additional protection for key sites and connectivity between related habitat types, particularly grassy woodlands, stony knolls and floodplain grasslands.
- > The long term sustainability and persistence of the Natural Temperate Grasslands of the Victorian Volcanic Plain ecological community through permanent protection and enhancement of the ecological functions and values of the largest consolidated remaining area of grasslands.

10.1.2 ACTIVITIES TO ACHIEVE CONSERVATION OUTCOMES

TABLE 9: CONSERVATION ACTIVITIES FOR NATURAL TEMPERATE GRASSLANDS

Objective	Actions	Mechanism for Delivery	Responsible Agency	Timing*	Resources	Performance Measures
To establish a reservation for 15,000 hectare grasslands (nature conservation reserve or National Park) outside of the Urban Growth Boundary in Melbourne's west.	Prepare amendment to relevant planning schemes to apply a Public Acquisition Overlay to land within the western grassland reserves.	S1.2	Department of Planning and Community Development	Short term	Covered under existing allocations	Public Acquisition Overlay in planning scheme by June 2010
	Publicly acquire land (10 year acquisition program by the State Government)	S2.13	Department of Sustainability and Environment	Short to medium term	Required resources have been committed by the Victorian Government	Acquisition schedule provided to Department of the Environment, Water, Heritage and the Arts by December 2010, following the Victorian Government's gazettal of the planning scheme amendment Purchase and reservation under <i>Crown Land Reserves Act 1978</i> completed by 2020 (excluding quarries) (end stage 2)
To provide interim management of the western grassland reserves before they are acquired, achieved by assisting landholders to manage threats and strengthening regulation to prevent degradation.	Amend local planning schemes to apply an Environmental Significance Overlay to the western grassland reserves.	S1.2	Department of Planning and Community Development	Short term	Covered under existing allocations	Environmental Significance Overlay in relevant local planning schemes by June 2010
	Amend or make declarations under the <i>Catchment and Land Protection Act 1994</i> to legally protect grasslands on the Volcanic Plains grasslands from environmental weeds	S2.11	Department of Primary Industries	Short term	Covered under existing allocations	Declarations to lists or areas under the <i>Catchment and Land Protection Act 1994</i> gazetted by December 2010
	Prepare Interim Management Plan	S2.10	Department of Sustainability and Environment	Short term	Covered under existing allocations	Interim Management Plan provided to the Department of the Environment, Water, Heritage and the Arts by December 2010
	Undertake urgent works from December 2009 (weed control), then in accordance with the Interim Management Plan schedule with landholders and relevant local councils. Conduct on ground surveillance and enforcement.	S3.4	Department of Sustainability and Environment	Short term	Required resources have been committed by the Victorian Government	Monitor and report on implementation of the Interim Management Plan in accordance with the reporting schedule Reports provided to Department of the Environment, Water, Heritage and the Arts every 6 months in 2010-2011 then annually until land acquired

Objective	Actions	Mechanism for Delivery	Responsible Agency	Timing*	Resources	Performance Measures
To manage the western grasslands as conservation reserve or National Park for a range of particular vegetation and species requirements.	Establish expert advisory group and define performance standards for best practice adaptive management of native grassland and threatened species	S2.15	Department of Sustainability and Environment	Short term	Covered under existing allocations	Performance standards for management, and monitoring methodology provided to DEWHA by June 2011
	Progressively survey and assess flora and fauna values on acquired parcels	S2.15	Department of Sustainability and Environment	Short to medium term	Covered under offset arrangements (underwritten by Victorian Government)	Flora and fauna survey undertaken on each newly acquired land parcel with report prepared for the Department of Sustainability and Environment on values and management issues.
	Prepare National Park or Reserve Management Plan that incorporates best practice adaptive management for the western grassland reserves	S2.15	Parks Victoria	Medium term	Covered under existing allocations	Prepare National Park or Reserve Management Plan by December 2012 following community consultation Management Plan revised and updated by 2022
	Undertake works, manage and monitor park activities in accordance with the National Park or Reserve Management Plan and best practice performance standards. This includes undertaking detailed flora and fauna surveys for the Striped Legless Lizard, Plains Wanderer, Grassland Earless Dragon, Spiny Rice-flower, Large-fruit groundsel and other nationally listed species across whole reserve area.	S3.5 S2.E3 S3.E5 S4.E4	Parks Victoria	Short to long Term	Required resources have been committed by the Victorian Government	Each land parcel managed by Parks Victoria according to best practice standards and management practices and procedures within 6 months of acquisition Annual reports from Parks Victoria provided to the Department of Sustainability and Environment including results of threatened species surveys and monitoring

Objective	Actions	Mechanism for Delivery	Responsible Agency	Timing*	Resources	Performance Measures
To identify and protect other grassland remnants on the Werribee Plains	Amend local planning schemes to apply appropriate statutory planning controls to remnant grasslands identified by Department of Sustainability and Environment mapping outside the Urban Growth Boundary and to relevant non-urban land within the Urban Growth Boundary.	S1.2	Department of Planning and Community Development	Short term	Covered under existing allocations	Environmental Significance Overlays in relevant local planning scheme by June 2010
	New mapping program undertaken on private land to inform improved or expanded Environmental Significance Overlays	S1.2	Port Phillip and Westernport Catchment Management Authority	Short term	Subject to funding	Results of mapping provided to Department of the Environment, Water, Heritage and the Arts by June 2013
	Revise Environmental Significance Overlays as a result of new data.	Planning scheme amendments as required to implement the Program	Department of Planning and Community Development	Medium term	Subject to funding	Revised statutory planning controls in local planning schemes by 2015
To implement the prescription approved by the Commonwealth Minister for the Environment, Heritage and the Arts for managing impacts on Natural Temperate Grasslands	Prepare Native Vegetation Precinct Plans and Conservation Management Plans as part of the precinct structure planning process following the methodology of the Biodiversity Precinct Planning Kit and detailed guidance.	S2.5 S2.6	Growth Areas Authority Growth area councils Department of Sustainability and Environment	Short term	Covered under existing allocations	Surveys undertaken according to Biodiversity Precinct Planning Kit methodology
	Monitor planning permits and enforce illegal clearing that is not in accordance with the requirements of the Native Vegetation Precinct Plan or Conservation Management Plan, or relevant approval document for transport infrastructure or other land use.	S2.5 S2.6 S2.7 S2.19 S3.5 S3.7 S3.9	Growth area councils Department of Primary Industries	Ongoing	Covered under existing allocations	Offsetting according to Native Vegetation Management Framework. Grassland offsets located within proposed grassland reserves. Breaches reported to Department of the Environment, Water, Heritage and the Arts as agreed

* Notes to Timing:

Short term means the activity is expected to occur within the period 2010 to 2013.

Medium term means the activity is expected to occur within the period 2014 to 2019.

Long term means the activity is expected to occur beyond 2020.

10.2 GRASSY EUCALYPT WOODLANDS

10.2.1 CONSERVATION OUTCOMES TO BE ACHIEVED

The conservation activities below have been designed to deliver the following outcomes:

- > A large conservation reserve outside the urban Growth Boundary south-west of Whittlesea of at least 1200ha in size.
- > Eighty per cent of all Grassy Eucalypt Woodland within the Urban Growth Boundary retained and managed in secure conservation reserves.
- > Improved quality of retained areas of vegetation including supplementary planting to improve structure.
- > A network of small and medium sized conservation reserves and permanently protected private land habitat in the Hume-Whittlesea Growth Area associated with Merri Creek and Darebin Creek floodplains. These will consolidate and connect key areas of Grassy Eucalypt Woodland and associated habitats (stony knolls, plains grassland, floodplain grasslands and riparian areas).
- > A network of small connected conservation reserves in the Sunbury area to protect Grassy Eucalypt Woodland and associated habitats.

10.2.2 ACTIVITIES TO ACHIEVE CONSERVATION OUTCOMES

TABLE 10: CONSERVATION ACTIVITIES FOR GRASSY EUCALYPT WOODLANDS

Objective	Actions	Mechanism for Delivery	Responsible Agency	Timing*	Resources	Performance Measures
To progressively secure the long-term protection of retained areas of Grassy Eucalypt Woodlands on private land within the Hume-Whittlesea and Sunbury Growth Areas through implementation of the prescription approved by the Commonwealth Minister for the Environment, Heritage and the Arts, for managing impacts on Grassy Eucalypt Woodlands and other strategic planning mechanisms	Amend Hume Planning Scheme and Whittlesea Planning Scheme to introduce appropriate statutory planning controls (Conservation zoning plus an Environmental Significance Overlay) to protect constrained land identified for conservation of Grassy Eucalypt Woodlands.	S1.1	Department of Planning and Community Development	Short term	Covered under existing allocations	Appropriate planning controls in Hume Planning Scheme and Whittlesea Planning Scheme by June 2010

Objective	Actions	Mechanism for Delivery	Responsible Agency	Timing*	Resources	Performance Measures
	Prepare Biodiversity Conservation Strategy for the Northern Growth Areas that sets out the mechanism by which retained Grassy Eucalypt Woodland will be permanently protected and managed to improve its quality within the Growth Area.	S2.2	Department of Sustainability and Environment	Short term	Covered under existing allocations	Northern Biodiversity Conservation Strategy prepared by March 2011
	Prepare revised Growth Area Framework Plans for Hume and Whittlesea that identify conservation corridors and principles for managing the protection of Grassy Eucalypt Woodland.	S2.1	Growth Areas Authority Department of Planning and Community Development	Short term	Covered under existing allocations	Revised Whittlesea Growth Area Framework Plan prepared by June 2011 Conservation strategy reflected in revised Whittlesea and Hume Growth Area Framework Plans
	Prepare Precinct Structure Plans in accordance with the Growth Area Framework Plans and Precinct Structure Planning Guidelines (including requirements for biodiversity conservation). Prepare Native Vegetation Precinct Plans with the Precinct Structure Plans in accordance with Clause 52.16 of local planning schemes.	S2.4 S2.5 S2.6	Growth Areas Authority Hume City Council Whittlesea City Council	Short term	Covered under existing allocations	Eighty percent of Grassy Eucalypt Woodland that meets Commonwealth size and condition thresholds within Hume and Whittlesea Growth Area protected and managed in secure conservation reserves by 2025
	Monitor planning permits and enforce illegal clearing that is not in accordance with the requirements of the Native Vegetation Precinct Plan or Conservation Management Plan, or relevant approval document for transport infrastructure or other land use.	S2.5 S2.6 S2.7 S2.19	Growth area councils Department of primary Industries	Ongoing	Covered under existing allocations	Offsetting according to Native Vegetation Management Framework. Grassy Eucalypt Woodland offsets located within proposed Northern Grassy Woodland reserves. Breaches reported to of the Environment, Water, Heritage, and the Arts as agreed

Objective	Actions	Mechanism for Delivery	Responsible Agency	Timing*	Resources	Performance Measures
Establish a large (at least 1200ha) Grassy Eucalypt Woodland reserve (nature conservation reserve) south west of Whittlesea outside of the Urban Growth Boundary	Prepare and consult on a proposal for a Grassy Eucalypt Woodland reserve. The proposal is to identify the funding mechanism, location of Public Acquisition Overlay and other legal protection mechanisms to be applied to the land to achieve the outcome. Other legal protection measures will include permanent on-title agreements under the <i>Victorian Conservation Forests and Lands Act 1987</i> and <i>Victorian Conservation Trust Act 1972</i> , or equivalent mechanism if approved by the Commonwealth Government.	S2.1	Department of Sustainability and Environment	Short term	Covered under existing allocations	Reserve proposal, acquisition and management approach and schedule provided to Department of the Environment, Water, Heritage and the Arts by June 2011 following community consultation
	Implement agreed Grassy Eucalypt Woodland reserve proposal	S2.10 S2.14 S2.16	Department of Sustainability and Environment	Short to medium term	Funding generated from developer's offset requirements	Reports to Department of the Environment, Water, Heritage and the Arts on progress of reserve establishment in accordance with the acquisition schedule by 2013 and 2016 or as determined by approved Monitoring and Reporting Framework Reserve established and land manager appointed by 2020
To manage the Grassy Eucalypt Woodland reserve as conservation reserve or National Park for a range of particular vegetation and species requirements.	Establish expert advisory group and define performance standards for best practice adaptive management of Grassy Woodland and threatened species	S2.15	Department of Sustainability and Environment	Short term	Covered under existing allocations	Performance standards for management, and monitoring methodology provided to DEWHA by June 2011
	Progressively survey and assess flora and fauna values on acquired or otherwise secured parcels	S2.15	Department of Sustainability and Environment	Short to medium term	Covered under offset arrangements (underwritten by Victorian Government)	Flora and fauna survey undertaken on each newly acquired or otherwise secured land parcel with report prepared for the Department of Sustainability and Environment on values and management issues
	Prepare National Park or Reserve Management Plan that incorporates best practice adaptive management for the Grassy Eucalypt Woodland reserve	S2.15	Parks Victoria (assisted by Department of Sustainability and Environment)	Medium term	Covered under existing allocations	Prepare National Park or Reserve Management Plan by December 2014 following community consultation Management Plan revised and updated by 2022

Objective	Actions	Mechanism for Delivery	Responsible Agency	Timing*	Resources	Performance Measures
	Undertake works, manage and monitor activities in accordance with the National Park or Reserve Management Plan and best practice performance standards. This includes undertaking detailed flora and fauna surveys for the Striped Legless Lizard, Golden Sun Moth, Matted Flax-lily and other nationally listed species across whole reserve area.	S3.5 S2.E3 S3.E5 S4.E4	Parks Victoria	Short to long Term	Required resources have been committed by the Victorian Government	Annual reports from Parks Victoria provided to the Department of Sustainability and Environment including results of threatened species surveys and monitoring

* Notes to Timing:

Short term means the activity is expected to occur within the period 2010 to 2013.
 Medium term means the activity is expected to occur within the period 2014 to 2019.
 Long term means the activity is expected to occur beyond 2020.

10.3 GOLDEN SUN MOTH, SPINY RICE-FLOWER AND MATTED FLAX-LILY

10.3.1 CONSERVATION OUTCOMES TO BE ACHIEVED

The conservation activities below have been designed to deliver the following outcomes:

- > Eighty per cent of highest priority habitats for these species within the Victorian Volcanic Plains bioregion (confirmed sites contributing most to species persistence as defined in the methodology guiding the prescriptions for these species) will be permanently protected and managed.
- > Large areas (at least 15,000 ha) of permanently protected grassland habitat managed in a way that enables Golden Sun Moth and Spiny Rice-flower (and potentially Matted flax-lily) to be sustained over the long term through a series of connected populations and adaptive management regimes.
- > Large areas (greater than 1200 ha) of permanently protected grassy woodland habitat managed in a way that enables Golden Sun Moth and Matted Flax-lily to be sustained over the long term through a series of connected populations and adaptive management regimes.
- > A selection of smaller reserves and protected areas under targeted management in areas with the greatest contribution to species persistence, providing insurance against risk of catastrophic events in the large reserves.
- > Greatly improved information on Golden Sun Moth distribution within Victoria to support important research and management knowledge.
- > Minimisation of the probability of extinction of Spiny Rice-Flower in the wild and an increase in the probability of important populations becoming self-sustaining in the long term.

10.3.2 ACTIVITIES TO ACHIEVE CONSERVATION OUTCOMES

TABLE 11: CONSERVATION ACTIVITIES FOR GOLDEN SUN MOTH, SPINY RICE-FLOWER AND MATTED FLAX-LILY

Objective	Actions	Mechanism for Delivery	Responsible Agency	Timing*	Resources	Performance Measures
To determine the extent of the Golden Sun Moth to inform Sub-Regional Species Strategy and Precinct Structure Plans	Undertake targeted surveys for the Golden Sun Moth across its historic Victorian range for at least two seasons in accordance with the Biodiversity Precinct Planning Kit methodology. Survey period to be extended if required.	S2.3	Growth Areas Authority (growth areas and peri-urban) Department of Sustainability and Environment (rural and regional)	Short term	Resources available and committed	New data provided annually to the Department of the Environment, Water, Heritage and the Arts for recovery planning purposes
	Prepare Sub-Regional Species Strategy for the Golden Sun Moth.	S2.3	Department of Sustainability and Environment	Short term	Covered under existing allocations	Sub-Regional Species Strategy for the Golden Sun Moth submitted by June 2011 for Commonwealth Government approval
To implement the prescriptions approved by the Commonwealth Minister for the Environment, Heritage and the Arts for managing impacts on Golden Sun Moth, Spiny Rice-flower and Matted Flax-lily	Prepare detailed guidance note for stakeholders as part of Sub-Regional Species Strategy outlining assessment and accounting process for the Golden Sun Moth, Spiny Rice-flower and Matted Flax-lily to assist precinct structure planning and other development approvals processes, and to track progress towards bioregional protection targets.	S2.3	Department of Sustainability and Environment	Short term	Covered under existing allocations	Guidance note published by 2010
	Provide regular reports on Victoria's progress towards meeting the '80% of confirmed highest priority sites' (as defined in prescriptions) for Golden Sun Moth, Spiny Rice-flower and Matted Flax-lily	S2.3 S1.E1 S2.E1	Department of Sustainability and Environment	Ongoing	Covered under existing allocations	Reports published every two years commencing 2010 and in line with Monitoring and Reporting Framework
Prepare Native Vegetation Precinct Plans and Conservation Management Plans as part of the precinct structure planning process following the methodology of the Biodiversity Precinct Planning Kit and detailed guidance	Prepare Native Vegetation Precinct Plans and Conservation Management Plans as part of the precinct structure planning process following the methodology of the Biodiversity Precinct Planning Kit and detailed guidance	S2.5 S2.6	Growth Areas Authority Growth area councils Department of Sustainability and Environment	Short term	Covered under existing allocations	Surveys undertaken according to Biodiversity Precinct Planning Kit methodology
	Monitor planning permits and penalise illegal clearing that is not in accordance with the requirements of the Native Vegetation Precinct Plan or Conservation Management Plan or relevant approval document for transport infrastructure or other land use.	S2.5 S2.6 S2.7 S3.5 S3.7 S3.9 S2.19	Growth area councils	Ongoing	Covered under existing allocations	Breaches reported to Department of the Environment, Water, Heritage, and the Arts as agreed

* Notes to Timing:

Short term means the activity is expected to occur within the period 2010 to 2013.

Medium term means the activity is expected to occur within the period 2014 to 2019.

Long term means the activity is expected to occur beyond 2020.

10.4 SMALL GOLDEN-MOTHS ORCHID

10.4.1 CONSERVATION OUTCOMES TO BE ACHIEVED

The conservation activities below have been designed to deliver the following outcome:

- > No substantial negative change to known populations within the Urban Growth Boundary, as a result of protection measures and ongoing management.

10.4.2 ACTIVITIES TO ACHIEVE CONSERVATION OUTCOMES

TABLE 12: CONSERVATION ACTIVITIES FOR SMALL GOLDEN-MOTHS ORCHID

Objective	Actions	Mechanism for Delivery	Responsible Agency	Timing*	Resources	Performance Measures
To protect areas of Clarke's Road grassland containing Small Golden Moths Orchid by applying appropriate planning controls and by land purchase or by securing private land management agreement/s	Amend the Melton Planning Scheme to introduce appropriate statutory planning controls (conservation zoning and Environmental Significance Overlay) to protect the Small Golden-Moths Orchid and other grassland values.	S1.2	Department of Planning and Community Development	Short term	Covered under existing allocations	Appropriate planning controls in planning scheme by June 2010
	Reflect the values of Clarke's Road Grassland in the Biodiversity Conservation Strategy and Growth Area Framework Plan for this Growth Area, including identifying and consulting on potential reserve boundaries and determining the funding and acquisition mechanisms to be applied to the land.	S2.1 S2.2	Department of Sustainability and Environment Growth Areas Authority Department of Planning and Community Development	Short term	Covered under existing allocations	Growth Area Framework Plans in place by June 2011 reinforce protection of this area Provide reserve proposal together with acquisition and management approach to Department of the Environment, Water, Heritage and the Arts as part of Biodiversity Conservation Strategy for the Growth Area by March 2011
	Legal agreements prepared and negotiated with landowners (under s69 of <i>Conservation Forests and Land Act</i> , <i>Victorian and Conservation Trusts Act</i> or s173 agreements under the <i>Planning and Environment Act 1987</i>)	S2.14 S2.16 S2.17	Department of Sustainability and Environment	Short to medium term	Covered under existing allocations	Land purchased or in private land management agreement by 2012

Objective	Actions	Mechanism for Delivery	Responsible Agency	Timing*	Resources	Performance Measures
To manage native grassland areas along Clarke's Road to improve their quality over the long-term and maximise habitat condition for threatened and other resident species, with particular emphasis on Small Golden-moths Orchid	Prepare a Reserve Management Plan for the Clarke's Road area.	S2.15	Department of Sustainability and Environment Parks Victoria	Medium term	Covered under existing allocations	Conservation Management Plan in place that provides appropriate protection and management regimes for persistence of the Small Golden Moth at the Clarke's Road area in perpetuity.
	Undertake works and monitor use of the reserve in accordance with the Conservation Management Plan. If not a public reserve, monitor planning permits and enforce any land management obligations in accordance with the requirements of the Conservation Management Plan and legal agreement.	S3.5 S4.5 S4.1 S1.E1 S2.E1	Parks Victoria Department of Sustainability and Environment Department of Planning and Community Development	Medium term to ongoing	Resources available and committed	Performance standards for management and monitoring provided to Department of the Environment, Water, Heritage and the Arts by June 2011 Each land parcel managed by Parks Victoria or private landowner according to Conservation Management Plan and/or legal agreement.

* Notes to Timing:

Short term means the activity is expected to occur within the period 2010 to 2013.

Medium term means the activity is expected to occur within the period 2014 to 2019.

Long term means the activity is expected to occur beyond 2020.

10.5 SOUTHERN BROWN BANDICOOT AND GROWLING GRASS FROG

10.5.1 CONSERVATION OUTCOMES TO BE ACHIEVED

The conservation activities below have been designed to deliver the following outcomes:

- > Functioning sustainable populations of Southern Brown Bandicoot and Growling Grass Frogs within and adjacent to the new Urban Growth Boundary with connectivity between populations.
- > Protection and enhancement of all populations of Southern Brown Bandicoot including the population at the Royal Botanic Gardens Cranbourne.
- > Protection and enhancement of important populations of Growling Grass Frog including the Merri Creek population, and those in the Pakenham and south east growth area, Kororoit Creek in the west and Darebin Creek in the north.

10.5.2 ACTIVITIES TO ACHIEVE CONSERVATION ACTIVITIES

TABLE 13: CONSERVATION ACTIVITIES FOR SOUTHERN BROWN BANDICOOT AND GROWLING GRASS FROG

Objective	Actions	Mechanism for Delivery	Responsible Agency	Timing*	Resources	Performance Measures
To protect important landscape/habitat areas of the Southern Brown Bandicoot and Growling Grass Frog	Undertake field surveys, population viability analyses and develop models for sub-regional planning, then prepare Sub-regional Species Strategies for conservation of Southern Brown Bandicoot and Growling Grass Frog to inform preparation of Biodiversity Conservation Strategies and Growth Area Framework Plans, and provide guidance to urban development planning	S2.3	Department of Sustainability and Environment	Short to medium term	Covered under existing allocations	Sub-regional strategies for Growling Grass Frog and Southern Brown Bandicoot submitted by February 2011 for Commonwealth Government approval Sub-regional Strategy for the Southern Brown Bandicoot reflected in Casey-Cardinia Growth Area Framework Plan by June 2011
	Implement key strategic management measures identified in the Sub-regional Species Strategies informing relevant Precinct Structure Plans.	S2.3	Department of Planning and Community Development Department of Sustainability and Environment Growth Areas Authority	Short term	Funding to be sought when required	Priority existing habitat protected and mechanism for future management established for Growling Grass Frog and Southern Brown Bandicoot by March 2011

Objective	Actions	Mechanism for Delivery	Responsible Agency	Timing*	Resources	Performance Measures
To implement Conservation Management Plans and prescriptions approved by the Commonwealth Minister for the Environment, Heritage and the Arts for the Growling Grass Frog and Southern Brown Bandicoot	Prepare Conservation Management Plans as part of the precinct structure planning process following the methodology of the Biodiversity Precinct Planning Kit and responding to requirements of relevant prescriptions.	S2.4 S2.6	Growth Areas Authority Growth area council Developer	Short term	Covered under existing allocations	Conservation Management Plans prepared to the satisfaction of Department of Sustainability and Environment and consistent with Sub-Regional Species Strategy (once prepared) Monitoring reports provided to Department of the Environment, Water, Heritage and the Arts at least every two years according to agreed schedule to demonstrate the effectiveness of management approaches for Southern Brown Bandicoot and Growling Grass Frog
	Monitor planning permits and enforce land management obligations in accordance with the requirements of the Native Vegetation Precinct Plan and Conservation Management Plan or other approval document.	S2.5 S2.7 S3.5 S3.7 S3.9 S1.E1 S2.E1	Growth area councils	Ongoing	Covered under existing allocations	Performance reported to Department of the Environment, Water, Heritage, and the Arts as agreed
To ensure the water quality of known and potential Growling Grass Frog habitat is maintained at the level necessary to contribute to their persistence across greater Melbourne	Incorporate best practice urban water management techniques through preparation of Integrated Water Management Plans as specified in the Precinct Structure Planning Guidelines for Precinct Structure Plans and/or equivalent process for transport infrastructure and other development planning	S2.4	Growth Areas Authority Growth area councils Developer	Short term	Covered under existing allocations	Integrated Water Management Plans prepared in accordance with the Precinct Structure Planning Guidelines All precincts, transport and other infrastructure included within the Program developed in accordance with best practice urban water management
	Protect relevant habitat identified in the Sub-Regional Strategy or individual Conservation Management Plan from potential point source water quality contaminants by adherence to Environment Protection Authority guidelines and procedures	S2.4 S2.12 S2.19	Growth Areas Authority Growth area councils Developer Environment Protection Authority	Ongoing	Covered under existing allocations	All precincts, transport and other infrastructure included within the Program managed in accordance with published Environment Protection Authority guidelines and remediation procedures

* Notes to Timing:

Short term means the activity is expected to occur within the period 2010 to 2013.

Medium term means the activity is expected to occur within the period 2014 to 2019.

Long term means the activity is expected to occur beyond 2020.

10.6 STRIPED LEGLESS LIZARD

10.6.1 CONSERVATION OUTCOMES TO BE ACHIEVED

The conservation activities below have been designed to deliver the following outcomes (from the recovery plan):

- > A series of reserves and other managed areas established such that viable populations are maintained across the known distribution of the species.
- > A program of research and monitoring undertaken to provide a basis for adaptive management of the Striped Legless Lizard.
- > Salvage and translocation options assessed, feasibilities determined and protocol developed for translocation.

10.6.2 ACTIVITIES TO ACHIEVE CONSERVATION OUTCOMES

TABLE 14: CONSERVATION ACTIVITIES FOR STRIPED LEGLESS LIZARD

Objective	Actions	Mechanism for Delivery	Responsible Agency	Timing*	Resources	Performance Measures
To implement prescription approved by the Commonwealth Minister for the Environment, Heritage and the Arts for the Striped Legless Lizard prior to detailed planning and construction (precinct planning and transport infrastructure and other development)	Undertake detailed surveys for Striped Legless Lizard. Prepare Conservation Management Plans and Biodiversity component of Precinct Structure Plans following the methodology outlined in the Biodiversity Precinct Planning Kit and responding to requirements of relevant prescriptions	S2.4 S2.6	Growth Areas Authority	Short to medium term	Covered under existing allocations	Surveys undertaken in accordance with the Biodiversity Precinct Planning Kit methodology Surveys undertaken prior to commencement of precinct planning All data provided to the Department of Sustainability and Environment within three months of submission to the Growth Areas Authority Precinct Structure Plan reflects relevant conservation management plan
	Prepare translocation protocol in consultation with the Striped Legless Lizard recovery team	S2.2	Department of Sustainability and Environment	Short term	Covered under existing allocations	Protocol for translocation provided to Department of the Environment, Water, Heritage and the Arts by 2010

Objective	Actions	Mechanism for Delivery	Responsible Agency	Timing*	Resources	Performance Measures
Manage and monitor populations in western grassland reserves and any populations translocated from or within the Program area	<p>Undertake works, manage and monitor and park activities in accordance with the National Park or Reserve Management Plan (refer to Natural Temperate Grasslands above)</p> <p>Undertake control and management of feral and domestic animals to protect grassland wildlife from predation and disturbance.</p>	S3.5 S2.E3 S3.E5 S4.E3 S4.E2	Parks Victoria Department of Sustainability and Environment	Medium to long Term	Required resources have been committed by the Victorian Government (refer to Natural Temperate Grasslands above)	<p>Monitoring results provided to national recovery team and to Department of the Environment, Water, Heritage and the Arts as per park management plan</p> <p>Community in vicinity of grassland reserves and translocated populations is provided with relevant information regarding consequences relating to control of domestic animals and protection of wildlife</p>
Manage and monitor populations in western grassland reserves and any populations translocated from or within the Program area	Undertake works, manage and monitor and park activities in accordance with the National Park or Reserve Management Plan (refer to Natural Temperate Grasslands above)	S3.5 S2.E3 S3.E5 S4.E2 S4.E3	Parks Victoria Department of Sustainability and Environment	Medium to long Term	Required resources have been committed by the Victorian Government (refer to Natural Temperate Grasslands above)	<p>Monitoring results provided to national recovery team and to Department of the Environment, Water, Heritage and the Arts as per park management plan</p> <p>Community in vicinity of grassland reserves and translocated populations is provided with relevant information regarding consequences relating to control of domestic animals and protection of wildlife</p>

* Notes to Timing:

Short term means the activity is expected to occur within the period 2010 to 2013.

Medium term means the activity is expected to occur within the period 2014 to 2019.

Long term means the activity is expected to occur beyond 2020.

10.7 AUSTRALIAN GRAYLING

10.7.1 CONSERVATION OUTCOMES TO BE ACHIEVED

The conservation activities below have been designed to deliver the following outcome (from the recovery plan):

- > Management of factors, including migration routes, riparian vegetation and water quality, affecting Australian Grayling populations to promote persistence and recovery of the species in Cardinia Creek.

10.7.2 ACTIVITIES TO ACHIEVE CONSERVATION OUTCOMES

TABLE 15: CONSERVATION ACTIVITIES FOR AUSTRALIAN GRAYLING

Objective	Actions	Mechanism for Delivery	Responsible Agency	Timing*	Resources	Performance Measures
To protect and actively manage riparian vegetation along Cardinia Creek to improve vegetation quality and extent	Identify Cardinia Creek and land within the buffer in the revised Casey-Cardinia Growth Area Framework Plan as important for grayling conservation. Apply appropriate statutory planning controls (e.g. Environmental Significance Overlay) to land within the buffer area of Cardinia Creek	S2.1	Growth Areas Authority Department of Planning and Community Development	Short term	Covered under existing allocations	Appropriate planning controls in Cardinia Planning Scheme and Casey Planning Scheme by June 2010
	Prepare Conservation Management Plans for precincts that abut Cardinia Creek	S2.6	Growth Areas Authority	Short term	Covered under existing allocations	Protection/management measures affording to in-stream Grayling habitat and adjacent buffers
	Precinct Structure Plans are developed to reflect relevant conservation management plan	S2.4	Growth Areas Authority	Short term		Protection/management measures affording to in-stream Grayling habitat and adjacent buffers.
	Undertake works consistent with the Conservation Management Plans	S3.1	Melbourne Water Casey City Council Cardinia Shire Council	Ongoing	Covered under existing allocations	Management consistent with Port Phillip and Westernport Regional River Health Strategy targets

Objective	Actions	Mechanism for Delivery	Responsible Agency	Timing*	Resources	Performance Measures
To protect potential habitat for the Grayling through enhanced water management measures	Incorporate best practice urban water management techniques through preparation of Integrated Water Management Plans as specified in the Precinct Structure Planning Guidelines for Precinct Structure Plans and/or equivalent process for transport infrastructure	S2.4 S2.E1 S3.E4 S4.E4 S2.E4 S2.E5	Growth Areas Authority Growth area councils Developer	Short term	Covered under existing allocations	Integrated Water Management Plans prepared in accordance with the Precinct Structure Planning Guidelines All precincts and transport infrastructure included within the Program developed in accordance with best practice urban water management
	Protect Cardinia Creek from potential point source water quality contaminants by adherence to Environment Protection Authority guidelines and procedures	S2.4 S2.12 S2.19 S3.E3 S3.E4 S4.E4	Growth Areas Authority Growth area councils Developer Environment Protection Authority Melbourne Water	Ongoing	Covered under existing allocations	All precincts, transport and other infrastructure included within the Program managed in accordance with published Environment Protection Authority guidelines and remediation procedures
	Protect Cardinia Creek from potential point source water quality contaminants by adherence to Environment Protection Authority guidelines and procedures	S2.4 S2.12 S2.19 S.E3 S3.E4 S4.E4	Growth Areas Authority Growth area councils Developer Environment Protection Authority Melbourne Water	Ongoing	Covered under existing allocations	All precincts, transport and other infrastructure included within the Program managed in accordance with published Environment Protection Authority guidelines and remediation procedures

*Notes to Timing:

Short term means the activity is expected to occur within the period 2010 to 2013.

Medium term means the activity is expected to occur within the period 2014 to 2019.

Long term means the activity is expected to occur beyond 2020.

10.8 BUTTON WRINKLEWORT, LARGE-FRUIT GROUNDSEL

10.8.1 CONSERVATION OUTCOMES TO BE ACHIEVED

The conservation activities below have been designed to deliver the following outcomes:

- > No substantial negative change to known populations within the Urban Growth Boundary, as a result of protection measures and ongoing management.

10.8.2 ACTIVITIES TO ACHIEVE CONSERVATION OUTCOMES

TABLE 16: CONSERVATION ACTIVITIES FOR BUTTON WRINKLEWORT, LARGE-FRUIT GROUNDSEL

Objective	Actions	Mechanism for Delivery	Responsible Agency	Timing*	Resources	Performance Measures
To protect and manage all known populations on public land	Identify Truganina Cemetery grassland and land within the buffer (e.g. 200 m) in revising the Wyndham Growth Area Framework Plan	S2.1	Growth Areas Authority	Short term	Covered under existing allocations	Wyndham Growth Area Framework Plan in place by June 2011
	Determine the land management buffer for Truganina Cemetery grassland through precinct structure planning and the preparation of Native Vegetation Precinct Plans	S2.4 S2.5	Growth Areas Authority Growth area council Developer	Short term	Covered under existing allocations	Precinct Structure Plan recognises the significance of Truganina Cemetery grassland
	Renegotiate current Public Authority Management Agreement for Truganina Cemetery to protect grassland and values of threatened species	S2.18	Department of Sustainability and Environment	Short term	Covered under existing allocations	Management agreement sets out clear standards for managing grassland values
	Monitor threatened species populations and results of management interventions in Truganina Cemetery, rail reserves (within urban Growth Boundary) and western grassland reserves, adapting management approach as required	S3.6	Department of Sustainability and Environment (Truganina Cemetery); Parks Victoria (western grassland reserves)	Ongoing	Covered under existing allocations	Monitoring results provided to Department of the Environment, Water, Heritage and the Arts as agreed under Monitoring and Reporting Framework

Objective	Actions	Mechanism for Delivery	Responsible Agency	Timing*	Resources	Performance Measures
To identify and protect where practicable populations on private land and additional populations on public land	Undertake surveys for these species consistent with the Precinct Planning Biodiversity Kit as part of precinct, transport and other development planning	S2.4	Growth Areas Authority Growth area council Department of Transport / VicRoads Developer	Short to medium term	Covered under existing allocations	Surveys undertaken in accordance with the Biodiversity Precinct Planning Kit methodology Surveys undertaken prior to commencement of precinct planning All data provided to the Department of Sustainability and Environment within three months of submission to the Growth Areas Authority
	Develop a prescription for Large-fruit Groundsel based on its occurrence at the Rockbank site to inform the Growth Area Framework Planning, Precinct Structure Planning and transport planning processes. This prescription will guide mitigation and management decisions for the remainder of the Program including whether to retain the species on site.	S2.4 S1.E1 S4.E1	Department of Sustainability and Environment	Short term	Covered under existing allocations	Prescription approved by the Commonwealth Minister of the Environment, Heritage and the Arts
	Develop a prescription for Button Wrinklewort if new populations are located, to inform relevant planning process.	S2.4	Department of Sustainability and Environment	Short to medium term	Covered under existing allocations	Prescription approved by the Commonwealth Minister of the Environment, Heritage and the Arts, Department of the Environment, Water, Heritage and the Arts

* Notes to Timing:

Short term means the activity is expected to occur within the period 2010 to 2013.

Medium term means the activity is expected to occur within the period 2014 to 2019.

Long term means the activity is expected to occur beyond 2020.

10.9 MAROON LEEK-ORCHID, SWAMP EVERLASTING

10.9.1 CONSERVATION OUTCOMES TO BE ACHIEVED

The conservation activities below have been designed to deliver the following outcomes:

- > No substantial negative change to known populations within the Urban Growth Boundary, as a result of protection measures and ongoing management.
- > The potential extinction in the wild of Maroon Leek-orchid is averted and the ability of each population to become self-sustaining in the long term is increased (from the recovery plan).

10.9.2 ACTIVITIES TO ACHIEVE CONSERVATION OUTCOMES

TABLE 17: CONSERVATION ACTIVITIES FOR MAROON LEEK-ORCHID, SWAMP EVERLASTING

Objective	Actions	Mechanism for Delivery	Responsible Agency	Timing*	Resources	Performance Measures
To protect the Maroon Leek-Orchid, Swamp Everlasting within the disused railway at Clyde	Investigate establishing the disused railway at Clyde as a potential conservation area through preparing the Biodiversity Conservation Strategy for the south-east and subsequent revised Casey-Cardinia Growth Area Framework Plan	S2.1	Department of Sustainability and Environment Growth Areas Authority	Short term	Covered under existing allocations	Biodiversity Conservation Strategy for south-east reflects values of disused railway line and provided for Commonwealth approval by March 2011
	Prepare Conservation Management Plan for the Clyde railway as part of preparing a Precinct Structure Plan for area, which provides for protection, management and monitoring of Maroon Leek-orchid and Swamp Everlasting	S2.4 S2.6 S1.E1 S4.E1	Growth Areas Authority Casey City Council Developers	Short to medium term	Covered under existing allocations	Management plan in place prior to commencement of construction Precinct Structure Plan reflects Conservation Management Plan

* Notes to Timing:

Short term means the activity is expected to occur within the period 2010 to 2013.

Medium term means the activity is expected to occur within the period 2014 to 2019.

Long term means the activity is expected to occur beyond 2020.

10.10 LISTED SPECIES WITHOUT CURRENT PRESCRIPTIONS, AND SPECIES AND COMMUNITIES THAT MAY BE LISTED IN THE FUTURE

10.10.1 CONSERVATION OUTCOMES TO BE ACHIEVED

The conservation activities below have been designed to deliver the following outcomes:

- > All listed species and ecological communities are identified and assessed prior to planning and construction of development works.
- > No substantial negative change to known populations within the Urban Growth Boundary, as a result of protection measures and ongoing management. or outcomes as otherwise agreed with the Commonwealth

10.10.2 ACTIVITIES TO ACHIEVE CONSERVATION OUTCOMES

TABLE 18: CONSERVATION ACTIVITIES FOR LISTED SPECIES WITHOUT PRESCRIPTIONS, AND SPECIES AND COMMUNITIES THAT MAY BE LISTED IN THE FUTURE

Objective	Actions	Mechanism for Delivery	Responsible Agency	Timing*	Resources	Performance Measures
To provide further data to inform the preparation of Precinct Structure Plans and transport infrastructure and to establish prescriptions for listed species without current prescriptions, and for species and communities that may be listed in the future	Conduct targeted surveys for all species listed in the Strategic Impact Assessment Report for which a prescription has not been prepared, prior to detailed planning and construction of program activities.	S2.4	Department of Sustainability and Environment	Ongoing	Covered under existing allocations	Surveys undertaken in accordance with Biodiversity Precinct Planning kit standards Surveys undertaken prior to commencement of precinct planning All data provided to the Department of Sustainability and Environment within three months of submission to Growth Areas Authority
	Develop prescriptions for any species likely to be impacted through implementation of the Program.	S2.4	Department of Sustainability and Environment	Ongoing	Covered under existing allocations	All new prescriptions to be provided to the Commonwealth Minister of the Environment, Heritage and the Arts for approval prior to their application Approved prescriptions for any species likely to be impacted as a result of the Program must be in place prior to construction

* Notes to Timing:

Short term means the activity is expected to occur within the period 2010 to 2013.

Medium term means the activity is expected to occur within the period 2014 to 2019.

Long term means the activity is expected to occur beyond 2020.

10.11 MIGRATORY SPECIES, WATERWAYS, WETLANDS AND RAMSAR SITES

10.11.1 CONSERVATION OUTCOMES TO BE ACHIEVED

The conservation activities below have been designed to deliver the following outcomes:

- > A network of small and large conservation reserves including a diversity of wetland areas managed for their migratory species and other wetland values, particularly in areas distant from urban development.
- > Improved management and design of retained and constructed wetlands to maximise habitat opportunities for migratory species.
- > Major new area of re-established wetlands managed for water quality mitigation and biodiversity conservation.
- > Improved water quality entering Western Port Ramsar site.
- > Same or improved water quality entering Port Phillip Bay Ramsar site.
- > Limited indirect disturbances (e.g. dogs) to identified wetlands.

10.11.2 ACTIVITIES TO ACHIEVE CONSERVATION OUTCOMES

TABLE 19: CONSERVATION ACTIVITIES FOR MIGRATORY SPECIES, WATERWAYS, WETLANDS AND RAMSAR SITES

Objective	Actions	Mechanism for Delivery	Responsible Agency	Timing*	Resources	Performance Measures
Protect and re-establish the area of former wetlands adjacent to Casey-Cardinia Growth Area for use as flood and water quality mitigation and biodiversity conservation	Investigate establishing a wetland area in conjunction with the preparation of the Biodiversity Conservation Strategy for the south-east and subsequent revised Casey-Cardinia Growth Area Framework Plan, including identifying the funding and acquisition mechanism.	S2.1	Growth Areas Authority Melbourne Water	Short term	Funding secured	Outcome of wetland investigation provided to Department of the Environment, Water, Heritage and the Arts by March 2011
	Prepare Management Plan for the wetlands	S2.15	Melbourne Water	Short term	Covered under existing allocations	Management plan results in a major portion of the area being actively managed for biodiversity conservation, including threatened and migratory species
	Undertake works in accordance with the Management Plan	S3.5	Melbourne Water	Short to Medium term	Covered under existing allocations	Works undertaken in accordance with management plan
	Monitor threatened and migratory species, management activities and enforce compliance with the Management Plan	S3.5 S1.E1 S4.E1	Department of Sustainability and Environment	Ongoing	Covered under existing allocations	Monitoring results provided to Department of the Environment, Water, Heritage and the Arts as part of two, four yearly (initially) then five yearly audit reports or as agreed in the Monitoring and Reporting Framework

Objective	Actions	Mechanism for Delivery	Responsible Agency	Timing*	Resources	Performance Measures
To manage habitat for migratory species in accordance with the prescriptions approved by the Commonwealth Minister of the Environment, Heritage and the Arts established for precinct structure planning and infrastructure planning	Identify important wetlands and other habitat areas for migratory species as part of the Biodiversity Conservation Strategies prepared for each growth area	S2.2	Growth Areas Authority	Short term	Covered under existing allocations	Biodiversity Conservation Strategies identify important wetland areas for retention and management
	Prepare Conservation Management Plans and Biodiversity component of Precinct Structure Plans, including specifying the design and construction of wetland areas (where appropriate) and the management requirements for retained wetlands; incorporate requirements of relevant prescriptions.	S2.5 S2.6	Growth Areas Authority Growth area councils Developer	Short to medium term	Covered under existing allocations	Surveys undertaken in accordance with the Biodiversity Precinct Planning Kit Nationally significant migratory bird sites protected with a 200m buffer as part of Precinct Structure Plan
	Undertake works in accordance with the Conservation Management Plan and conditions of any planning approval	S2.6 S3.E2 S3.E3 S3.E4	Growth area councils Developer	Ongoing	Covered under existing allocations	Wetlands within precincts suitably buffered from disturbances (including dogs and actively managed to retain or enhance values)
	Monitor and enforce any land management obligations in accordance with the conditions of planning approval	S3.1	Growth area councils	Ongoing	Covered under existing allocations	Breaches reported to Department of the Environment, Water, Heritage and the Arts as agreed
To protect important areas within Ramsar sites and downstream Ramsar sites through enhanced management measures	Incorporate best practice urban water management techniques through preparation of Integrated Water Management Plans as specified in the Precinct Structure Planning Guidelines for Precinct Structure Plans and/or equivalent process for transport infrastructure	S2.4, S2.E1 S3.E4 S4.E4 S2.E4 S2.E5	Growth Areas Authority Growth area councils Developer	Short term	Covered under existing allocations	Integrated Water Management Plans prepared in accordance with the Precinct Structure Planning Guidelines All precincts and transport infrastructure included within the Program developed in accordance with best practice urban water management
	Increase protection measures and monitoring of areas of Port Phillip Bay Ramsar site within 2 kilometres of new urban areas Undertake control and management of feral and domestic animals to protect wetland sites and wildlife from disturbance	S2.15, S1.E1 S4.E1	Parks Victoria	Ongoing	Covered under existing allocations	Process of updating Ramsar management plans incorporates specific measures to protect, monitor and adaptively manage these sites Dogs and pedestrians effectively excluded at least 200 metres from important shorebird sites (within 2km of urban areas) from December 2010 Communities in vicinity of Ramsar sites and upstream waterways are provided with relevant information regarding consequences relating to control of domestic animals and protection of wildlife
	Monitor and enforce land management obligations in accordance with planning permits	S3.1 S4.1 S3.9	Growth area councils	Ongoing	Covered under existing allocations	Breaches reported to Department of the Environment, Water, Heritage and the Arts as agreed

Objective	Actions	Mechanism for Delivery	Responsible Agency	Timing*	Resources	Performance Measures
	Monitor water quality entering Ramsar sites and prepare adaptive management response as required	S3.3 S1.E1 S2.E1 S3.E1	Independent reporter Environment Protection Authority	Ongoing	Covered under existing allocations	Water entering waterways upstream of Ramsar sites complies with published standards consistent with relevant State Environmental Protection Policy Remedial management plan to deal with potential water quality breaches prepared for the Department of the Environment, Water, Heritage and the Arts by 2010 Results of water quality testing, and compliance with proposed conservation outcomes submitted to the Department of the Environment, Water, Heritage and the Arts as part of independent monitoring and auditing of Program. Remedial action taken as necessary
	Protect Ramsar sites and upstream waterways from potential point source water quality contaminants by adherence to Environment Protection Authority guidelines and procedures.	S2.4 S2.12 S2.19	Environment Protection Authority Melbourne Water	Ongoing	Covered under existing allocations	All precincts, transport and other infrastructure included within the Program managed in accordance with published Environment Protection Authority guidelines and remediation procedures
To protect Ramsar site and downstream impacts associated with the Outer Metropolitan Ring /E6 Transport Corridor	Provide specific measures for protecting and adaptively managing potential impacts on Ramsar values in the Environment Impact Report prepared for the Outer Metropolitan Ring/E6 and translate these measures into the overarching environmental protection strategy and relevant Environmental Management Plans.	S2.12 S2.E5	VicRoads	Medium term	Covered under existing allocations	Mechanism for protecting Ramsar site values included in report to Commonwealth as agreed in Monitoring and Reporting Framework

* Notes to Timing:

Short term means the activity is expected to occur within the period 2010 to 2013.

Medium term means the activity is expected to occur within the period 2014 to 2019.

Long term means the activity is expected to occur beyond 2020.

10.12 HERITAGE

10.12.1 CONSERVATION OUTCOMES TO BE ACHIEVED

The conservation activities below have been designed to deliver the following outcomes:

- > All heritage properties or places of national environmental significance protected throughout Greater Melbourne.

10.12.2 ACTIVITIES TO ACHIEVE CONSERVATION OUTCOMES

TABLE 20: CONSERVATION ACTIVITIES FOR HERITAGE SITES

Objective	Actions	Mechanism for Delivery	Responsible Agency	Timing*	Resources	Performance Measures
To protect all known sites on the Register of National Estate and to protect sites of Aboriginal cultural heritage	Retain and protect sites of heritage significance through the precinct structure planning process and implement appropriate statutory controls heritage	S2.4 S2.9	Growth Areas Authority Growth area councils Developer	Short to medium term	Covered under existing allocations	All known sites on the Register of the National Estate referenced in relevant local planning schemes with appropriate controls in place by 2010
	Prepare Cultural Heritage Management plan through the precinct structure planning process	S2.8	Growth Areas Authority Growth area councils Developer	Short to medium term	Covered under existing allocations	Cultural Heritage Management Plan in place for precincts
To manage all known sites on the Register of National Estate and to protect sites of Aboriginal cultural heritage	Undertake activities in accordance with the Cultural Heritage Management Plan and Precinct Structure Plan	S3.1 S3.2	Growth area councils Developers	Ongoing	From land manager	To be agreed with the Department of Environment, Heritage, Water and the Arts
	Monitor use and enforce any land management obligations that apply with statutory planning controls and Cultural Heritage Management Plan	S4.1	Department of Planning and Community Development	Ongoing	From land manager	To be agreed with the Department of Environment, Heritage, Water and the Arts

* Notes to Timing:

Short term means the activity is expected to occur within the period 2010 to 2013.

Medium term means the activity is expected to occur within the period 2014 to 2019.

Long term means the activity is expected to occur beyond 2020.

PART 4: PROGRAM EVALUATION

11. MONITORING AND REPORTING

11.1 VICTORIAN GOVERNMENT AND INDEPENDENT MONITORING AND REPORTING PROCESSES

The Victorian Government will undertake monitoring and reporting at all stages of implementing the Program. This will take place through a combination of processes prescribed under current Victorian legislation; and specific activities established in this Report to monitor the outcomes and processes involved in implementing the Program.

The primary purpose of carrying out monitoring and reporting processes is to ensure compliance with the endorsed Program, any approved actions and specified conditions by the Minister for the Environment, Heritage and the Arts (see 5.1 Stage 1 – approval process).

11.1.1 STAGE 1: APPROVAL

The primary purpose of monitoring and reporting at stage 1 is to ensure that the amendments to *The Planning and Environment Act 1987* and to all Victorian planning schemes to give effect to the Program secure the framework for all subsequent steps during the implementation of the Program. Table 21 outlines the activities that would apply at Stage 1.

The Victorian Government will provide a report to the Commonwealth Government that demonstrates the consistency of the planning scheme amendment with the endorsed Program. This report will outline how, when and where the various elements of the Program are implemented through the planning scheme.

This stage will also establish a process for public reporting of activities and outcomes to assist transparency and accountability. Public reporting will continue through the life of the Program.

11.1.2 STAGE 2: PROCESS IMPLEMENTATION

The purpose of monitoring and reporting at stage 2 is to ensure that the planning mechanisms (i.e. the urban planning frameworks and reservation of land) are established in the manner they are described in the Program. The monitoring activities that will occur at this stage are set out in Table 22.

An independent monitor will be appointed at this stage to check compliance and provide assurance to the Commonwealth Government that the Victorian Government is effectively implementing the endorsed Program. Independent monitoring will occur frequently early on in the implementation process and greater reliance will be placed on existing Victorian monitoring processes as the Program progresses.

11.1.3 STAGE 3: CONSTRUCTION AND WORKS

At this stage in the process there will be a greater range of parties involved in implementing the Program. Construction and works will be undertaken by a combination of Victorian Government agencies and statutory bodies, Local Government, the development industry and other private sector bodies.

The monitoring and reporting activities that will occur at this stage are set out in Table 23. They will predominantly occur through existing Victorian Government enforcement processes.

Some independent evaluation will occur early on in the implementation of stage 3 of the Program in order to provide greater certainty to the Commonwealth Government. The nature of independent evaluation will be determined during stage 1.

11.1.4 STAGE 4: OPERATION

The monitoring and reporting at the operational stage will focus on ensuring the ongoing use and management of transport infrastructure, grassland reserves and activities occurring within the growth areas are operating in accordance with the endorsed Program, subsequent approvals and conditions. A key focus will be on ensuring that conservation areas are being managed so as to achieve the outcomes envisaged for the matters of national environmental significance (as outlined in Part 3). This will be undertaken according to the adaptive management approach set out in Section 11.2.

The monitoring and reporting activities that will occur at this stage are set out in Table 24. In this stage monitoring and reporting will occur through enforcing Victorian legislation.

At different stages in the monitoring process an independent monitor will be appointed to ensure transparent reporting to the Commonwealth Minister for the Environment, Heritage and the Arts. Terms of reference for the independent monitor will be agreed between the Victorian and Commonwealth Governments.

The following tables provide indicative monitoring activities. Further clarification and a schedule will be specified in a monitoring and reporting framework to be agreed with the Commonwealth Government during Stage 1. This framework will include the adaptive management approach for managing and reporting on matters of national environmental significance set out in Section 11.2.

TABLE 21: STAGE 1 (APPROVAL) MONITORING AND REPORTING REQUIREMENTS

Ref	Type	What is Monitored and Reported?	Legislative basis	Purpose	Activities	Responsibility	Timing*
S1.E1	Victorian Government Reporting (Program Specific)	Approval conditions	<i>Environment Protection and Biodiversity Conservation Act 1999</i> [Strategic Approval]	To ensure that the planning scheme amendments give effect to the Program	Report submitted to the Department of Environment, Water, Heritage and the Arts outlining how, where and when the planning scheme amendment and amendment to the <i>Planning and Environment Act 1987</i> has given effect to the Program Reporting and Monitoring Framework (with schedules) established between the Victorian Government and Commonwealth Government	Victorian Minister for Planning <i>Assisted by:</i> Department of Planning and Community Development and Commonwealth Minister for the Environment, Heritage and the Arts <i>Assisted by:</i> Department of Environment, Water, Heritage and the Arts	Report submitted within 3 months of the Victorian Government's Approval Monitoring and Reporting Framework established within 12 months of the Victorian Government's Approval

S1.E2	Public reporting	Program stages and processes Accounting for clearing and offsets for matters of national environmental significance impacted under the Program Results of other monitoring and reporting regimes (eg. water quality, conservation outcomes)	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Strategic Approval)	To assist transparency and public accountability	Details will be determined as part of Monitoring and Reporting Framework, however will include a regularly updated website as a minimum	Victorian Minister for Planning <i>Assisted by:</i> Department of Planning and Community Development and Victorian Minister for Environment and Climate Change <i>Assisted by:</i> Department of Sustainability and Environment	Website established within 3 months of the Commonwealth Government's endorsement of the Program Further details in Monitoring and Reporting Framework established within 12 months of the of the Commonwealth Government's endorsement
S1.E3	Review process	All aspects of the Program's operation	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Strategic Approval)	To provide Commonwealth Minister with confidence regarding progress of implementation and management of matters of national environmental significance	Scope of review and actions that will be taken as a result of the review to be determined	Victorian Minister for Planning <i>Assisted by:</i> Department of Planning and Community Development and Victorian Minister for Environment and Climate Change <i>Assisted by:</i> Department of Sustainability and Environment	Scope to be determined within 18 months of Commonwealth Government's endorsement

* Notes to Timing:

Short term means the activity is expected to occur within the period 2010 to 2013.
Medium term means the activity is expected to occur within the period 2014 to 2019.
Long term means the activity is expected to occur beyond 2020.

TABLE 22: STAGE 2 (PROCESS IMPLEMENTATION) MONITORING AND REPORTING REQUIREMENTS

Ref	Type	What is Monitored and Reported?	Legislative basis	Purpose	Activities	Responsibility	Timing*
S2.E1	Independent Reporting (Program Specific)	<p>Growth Area Framework Plans</p> <p>Sub-Regional Species Strategies</p> <p>Biodiversity Conservation Strategies</p> <p>Conservation Management Plans</p> <p>Native Vegetation Precinct Plans</p> <p>Precinct Structure Plans</p> <p>National park or reserve management plans</p> <p>Framework for transport infrastructure (TBC)</p> <p>Transport planning mechanisms</p> <p>Other activities within the Program if relevant (eg. New quarry approvals, sewage treatment facilities)</p>	<p><i>Environment Protection and Biodiversity Conservation Act 1999</i></p> <p>(Strategic Approval)</p>	To ensure that the processes undertaken to prepare urban frameworks, transport frameworks and the reservation of land occur in the manner described in the endorsed Program Report.	<p>Appoint an Independent party to undertake monitoring and reporting</p> <p>Independent party to prepare and submit a report to the Victorian Government and Commonwealth Government that covers all projects defined by the Program</p>	<p>Victorian Minister for Planning</p> <p><i>Assisted by:</i></p> <p>Growth Areas Authority</p> <p>Department of Planning and Community Development</p> <p>Victorian Minister for Environment and Climate Change</p> <p>Department of Sustainability and Environment</p> <p>Victorian Minister for Road and Ports and</p> <p>Victorian Minister for Public Transport</p> <p>Department of Transport</p> <p>VicRoads</p> <p>Monitoring and compliance:</p> <p>Commonwealth Minister for Environment, Heritage and the Arts</p> <p><i>Assisted by:</i></p> <p>Department of the Environment, Water, Heritage and the Arts</p>	<p>To be determined during Stage 1 in establishing the reporting schedule.</p> <p>Independent reporting will occur every 2 years for the first 4 years unless otherwise agreed</p>

Ref	Type	What is Monitored and Reported?	Legislative basis	Purpose	Activities	Responsibility	Timing*
S2.E2	Reporting under Victorian legislative processes	Growth Area Framework Plans Sub-Regional Species Strategies Biodiversity Conservation Strategies Conservation Management Plans Native Vegetation Precinct Plans Precinct Structure Plans Planning permits	<i>Planning and Environment Act 1987</i>	To ensure that each of the specific plans is implemented in accordance with planning policy, guidelines and practice notes.	All plans prepared to implement the Program to be submitted to the Victorian Minister for Planning for review against requirements of the planning schemes.	Victorian Minister for Planning <i>Assisted by:</i> Victorian Minister for Environment and Climate Change Department of Planning and Community Development Department of Sustainability and Environment Growth Areas Authority VicRoads	Ongoing
S2.E3		Grassland Reserves (Interim Management Plans, Management Strategies, Reserve Strategies)	<i>Crown Land Reserves Act 1978</i>	To ensure grasslands established and managed as outlined in Program and further detailed in the <i>Strategic Impact Assessment Report</i>	Any plans referred to Minister for Environment and Climate Change for endorsement Approved if consistent with overarching Conservation Strategy, and relevant Planning Scheme controls	Victorian Minister for Environment and Climate Change <i>Assisted by:</i> Department of Sustainability and Environment	Ongoing

Ref	Type	What is Monitored and Reported?	Legislative basis	Purpose	Activities	Responsibility	Timing*
S2.E4		Transport Corridor (Regional Rail Link – west of Werribee to Deer Park)	<i>Planning and Environment Act 1987</i>	To ensure that transport infrastructure area assessed and planned in accordance with conditions made under the <i>Environment Effects Act 1978</i> and/or any instrument made under the <i>Planning and Environment Act 1987</i> .	Development plans prepared following implementation of conditions. Environmental Management Plan prepared, including measures for managing construction impacts	Victorian Minister for Planning <i>Assisted by:</i> Victorian Minister for Environment and Climate Change (in consultation with Commonwealth Minister for the Environment, Heritage and the Arts) Department of Planning and Community Development Department of Sustainability and Environment Department of the Environment, Water, Heritage and the Arts	Ongoing
S2.E5		Transport Corridor (Outer Metropolitan Ring/E6)	<i>Planning and Environment Act 1987</i>	To ensure that transport infrastructure area assessed and planned in accordance with conditions made under the <i>Environment Effects Act 1978</i> and/or any instrument made under the <i>Planning and Environment Act 1987</i> .	Development plans prepared following preparation of Environmental Impact Report Environmental Impact Report outlines monitoring in environmental management strategy	Victorian Minister for Planning <i>Assisted by:</i> Victorian Minister for Environment and Climate Change Department of Planning and Community Development Department of Sustainability and Environment	Ongoing

* Notes to Timing:

Short term means the activity is expected to occur within the period 2010 to 2013.

Medium term means the activity is expected to occur within the period 2014 to 2019.

Long term means the activity is expected to occur beyond 2020.

TABLE 23: STAGE 3 (CONSTRUCTION AND WORKS) MONITORING AND REPORTING REQUIREMENTS

Ref	Type	What is Monitored and Reported?	Legislative basis	Purpose	Activities	Responsibility	Timing*
S3.E1	Independent Monitor (Program Specific)	Construction and works undertaken to implement the Program	<i>Environment Protection and Biodiversity Conservation Act 1999</i> [Strategic Approval]	To identify any non compliance with the Program.	Independent monitor to prepare a report and provide to the Commonwealth on any non compliance	Victorian Minister for Planning <i>Assisted by:</i> Department of Planning and Community Development Victorian Minister for Environment and Climate Change Department of Sustainability and Environment Minister for Roads and Ports Minister for Public Transport Department of Transport VicRoads	Every 5 years or as agreed under monitoring and reporting framework

Ref	Type	What is Monitored and Reported?	Legislative basis	Purpose	Activities	Responsibility	Timing*
S3.E2	Monitoring and Enforcement under Victorian legislative processes	Construction of urban areas (within the Growth Areas)	<i>Planning and Environment Act 1987</i> <i>Environment Protection Act 1970</i> <i>Extractive Industries Development Act</i>	To ensure works occur in accordance with the approved plans through enforcement To ensure works occur in accordance with any approved planning permits To ensure any emissions or pollution comply with Victorian Government standards To ensure compliance with approved work plan (licence) for extractive industries To ensure biodiversity is managed in accordance with the Program's approval To notify the Commonwealth Government and independent monitor any known or likely cases of non-compliance	Enforcement of non-compliant activities	Victorian Minister for Planning <i>Assisted by:</i> Department of Planning and Community Development Local Government Victorian Minister for Environment and Climate Change Department of Sustainability and Environment Environment Protection Authority Department of Primary Industries	Ongoing
S3.E3		Construction of infrastructure for the Regional Rail Link – west of Werribee to Deer Park	<i>Planning and Environment Act 1987</i> <i>Environment Protection Act 1970</i>	To ensure works occur in accordance with the approved development plans To ensure any emissions or pollution comply with Victorian Government standards To notify the Commonwealth and independent monitor any known or likely cases of non-compliance	Enforcement of non-compliant activities	Department of Transport	Ongoing

Ref	Type	What is Monitored and Reported?	Legislative basis	Purpose	Activities	Responsibility	Timing*
S3.E4		Construction of infrastructure for the Outer Metropolitan Ring / E6 Transport Corridor	<i>Planning and Environment Act 1987</i> <i>Environment Protection Act 1970</i>	To ensure works occur in accordance with the approved development plans (and any Environmental Management Plans – including any specific performance measures) To ensure any emissions or pollution comply with Victorian Government standards To notify the Commonwealth and independent monitor any known or likely cases of non-compliance	Enforcement of non-compliant activities	VicRoads	Ongoing
S3.E5		Works associated with the Grassland Reserves	<i>Crown Land Reserves Act</i> <i>Planning and Environment Act 1987</i>	To ensure works occur in accordance with the approved management plan	Enforcement of non-compliant activities	Victorian Minister for Environment and Climate Change <i>Assisted by:</i> Victorian Minister for Planning Parks Victoria Department of Sustainability and Environment Department of Planning and Community Development Local Government	Ongoing

TABLE 24: STAGE 4 (OPERATIONAL) MONITORING AND REPORTING REQUIREMENTS

Ref	Type	What is Monitored and Reported?	Legislative basis	Purpose	Activities	Responsibility	Timing*
S4.E1	Audit under Victorian legislative processes	Use of land within urban areas	<i>Planning and Environment Act 1987</i> <i>Environment Protection Act 1970</i> <i>Extractive Industries Development Act 1995</i> <i>Flora and Fauna Guarantee Act 1988</i>	To ensure any new uses comply with relevant planning controls To ensure any emissions or pollution comply with state standards To ensure no non-compliance with approved work plan (licence) for extractive industries To ensure biodiversity is managed in accordance with the Program's approval	Enforcement of non-compliant activities	Victorian Minister for Planning (P&E ACT) Victorian Minister for Environment and Climate Change (FFG Act, EPA Act) Victorian Minister for Trade and Industry (EID Act) <i>Assisted by:</i> Local Government Department of Primary Industries Department of Planning and Community Development Department of Sustainability and Environment Environment Protection Authority	Ongoing
S4.E2		Transport Corridor (Regional Rail Link – west of Werribee to Deer Park)	<i>Planning and Environment Act 1987</i>	To ensure that ongoing use is undertaken in accordance with any Environmental Management Plans and development plans	Enforcement of non-compliant activities	Victorian Minister for Planning <i>Assisted by:</i> Department of Planning and Community Development	Ongoing
S4.E3		Transport Corridor (Outer Metropolitan Ring/E6)	<i>Planning and Environment Act 1987</i>	To ensure that development plans and Environmental Management Plans are consistent with Environmental Impact Report	Enforcement of non-compliant activities	Victorian Minister for Planning <i>Assisted by:</i> Department of Planning and Community Development	Ongoing

Ref	Type	What is Monitored and Reported?	Legislative basis	Purpose	Activities	Responsibility	Timing*
S4.E4		Use of Grassland reserves and any areas designated for conservation purposes within the Growth Areas	<i>Crown Land Reserves Act</i> <i>Planning and Environment Act 1987</i>	To ensure use occurs in accordance with management plans or management agreements To ensure any works comply with the relevant planning scheme controls To ensure that the conservation management plans are adaptively managed to account for new information on matters of national environmental significance	Enforcement of non-compliant activities	Victorian Minister for Environment and Climate Change <i>Assisted by:</i> Victorian Minister for Planning Parks Victoria Department of Sustainability and Environment Department of Planning and Community Development Local Government	Ongoing

11.2 ADAPTIVE MANAGEMENT

It is likely that changing circumstances and procedures and/or new information relating to matters of national environmental significance and impacts of the Program will be introduced, reassessed and accounted for when implementing the Program.

The Victorian Government will monitor whether the outcomes envisaged for each matter of national environmental significance is being effectively achieved and report this to the Commonwealth Government. In the event, that the outcomes are not achieved, the Victorian Government will work with the Commonwealth Government to revise the agreed outcomes and/or establish new conservation activities to achieve the original objectives.

Some such variations will be able to be achieved within the scope of conditions imposed on the approval of actions by the Commonwealth Minister under section 146B of the *Environment Protection and Biodiversity Conservation Act 1999*. Other variations may require amendment of those conditions. This will occur pursuant to section 143 of the *Environment Protection and Biodiversity Conservation Act 1999*.

A critical component of the Program will be to track the implementation process and be able to monitor and report on the progress and effectiveness of various planning, management and mitigation measures for achieving required biodiversity outcomes. This will require the design, collection and analysis of baseline and monitoring data that will both be able to quantify progress towards desired outcomes and enable changes in strategy and management over time in response to monitoring data, new information and/or emerging issues.

An adaptive management framework will be developed to support the monitoring processes established in the Program. The framework will set out the methodology for the systematic improvement of management

practices. The framework will be submitted to the Commonwealth Minister for the Environment, Heritage and the Arts for approval.

To achieve this, the Victorian Government will:

Baseline data collection

1. By 2012, collect relevant species and vegetation data from proposed growth areas to inform sub-regional conservation planning and Precinct Structure Plans that will enable:
 - better assessment of species population viability and habitat quality, and subsequent quantification of the potential impacts of development on species persistence;
 - development of improved methods to mitigate these impacts including improved species offsetting approaches; and
 - design of a satisfactory reserve network within the proposed growth areas (using appropriate software). This will clearly identify areas and their component biodiversity attributes to be retained up to an absolute area limit and will include considerations of functional connectivity to other habitat within and outside the growth areas. It will also identify the required protection and preferred management to achieve desired biodiversity outcomes.
2. By 2012, confirm the presence of listed plant and animal species (identified in the *Environment Protection and Biodiversity Conservation Act 1999*) within various proposed development areas and where applicable arrange for salvaging of individuals or reproductive material for storage, propagation / captive breeding and / or translocation to habitat within in secured reserves in accordance with Commonwealth and Victorian Government-agreed protocols.

Monitoring and Adaptive Management

3. By 2011, develop a standard monitoring protocol for detecting changes in vegetation quality and extent, species populations, water quality and heritage sites (where relevant) arising from site-based interventions. This protocol will employ quantitative and repeatable measures of the site attributes of interest, ensure that sampling within sites is sufficient to detect changes of interest and ensure adequate plot replication (where relevant) across sites under similar starting conditions and management interventions. The protocol must be agreed to by the Commonwealth Department of the Environment, Water, Heritage and the Arts.
4. Applying the standard protocol, monitor sites subject to management or planning interventions seeking to maintain / improve vegetation quality, species persistence, water quality and heritage sites (where relevant) and report to State and Commonwealth Governments on trends over time and the effectiveness of these interventions. This may include monitoring:
 - changes arising from the creation of habitat for species such as Growling Grass Frog;
 - changes from management interventions within existing habitat, such as the grassland reserved to the west of Melbourne (see below for more detail) and other key areas for retention such as Merri Creek corridor, Clarkes Road Grassland and Truganina Cemetery and any future Grassy Eucalypt Woodland reserves;

- the effectiveness of management interventions on sites containing populations of key plant species such as Spiny Rice-flower, Matted Flax-lily, Small Golden-moths, Button Wrinklewort and Large-fruit Groundsel.
 - the effectiveness of translocation efforts within reserved areas; and / or
 - the effectiveness of planning overlays and/or compliance activities to reduce the loss and decline of habitat on private and public land outside the formal reserved areas.
5. By 2011, develop a dynamic reserve management planning approach incorporating a spatial decision-support system to inform on-going management within reserved (and relevant off-reserve) areas that takes account of site characteristics and biodiversity objectives coupled with potential management interventions and their likely impact on all biodiversity in the context of surrounding land use and ecosystem function / dynamics.
 6. Applying the principles of adaptive management, periodically incorporate monitoring data (once every 3-5 years or as otherwise agreed in the monitoring and reporting framework)) and new and emerging science and information into the reserve management planning approach to inform changes to site management within reserved areas. This information will also inform new management practices and prescriptions. Required changes to management may arise from a combination of monitoring data analysis (i.e. trends in species populations and / or habitat at a site); new or improved understanding of species distribution, habitat requirements and / or behaviour; development of new management techniques; or identification of a new or emerging threat (e.g. establishment of a newly recorded weed species with a high risk of spread or changed land use in the vicinity of a reserve that may affect species movement).

11.2.1 ADAPTIVE MANAGEMENT OF THE WESTERN GRASSLAND RESERVES

Designing and implementing an adaptive management approach for the Western Grassland Reserves will be critical to achieving desired biodiversity outcomes. While the general principles of grassland management in south eastern Australia are reasonably well understood, there are very few, if any, known examples of incorporating adaptive management principles into practical spatial decision-support systems to inform on-ground management interventions in the context of broader ecosystem function and dynamics.

Designing a spatially and temporally dynamic decision-support system that connects site based decisions to site and broader ecosystem outcomes will be particularly critical for the Western Grassland Reserve which will:

- > need to meet a range of biodiversity objectives sometimes requiring management interventions that may be in conflict;
- > be progressively established over 10 years and require on-going management thereafter;
- > exist in a mixed tenure landscape with a range of current and future land uses that may positively or negatively impact on biodiversity outcomes within the reserve over time;

- > need to apply management that responds quickly to new information such as monitoring data, emerging science and models, new and emerging threats, and new and emerging management technologies; and
- > need to appropriately incorporate the uncertainties of management interventions on biodiversity objectives into the decision-making process.

Such a support system will be an important compliment to the other monitoring and adaptive management actions described above.

11.3 COMPLIANCE AND ENFORCEMENT

The monitoring and reporting processes are the primary mechanism for identifying non-compliance as outlined in Tables 10 and 11.

Any land use or development activity undertaken in a way that is not in accordance with the requirements or commitments documented in this Program, may not have the benefit of any subsequent approval under the Strategic Assessment process. Such a scenario may arise following a failure to adhere to processes described under this Program or a failure to achieve conservation outcomes identified in this Program, where this failure has been identified by the State and Commonwealth. The *Environment Protection and Biodiversity Conservation Act 1999* precludes the taking of any action that is likely to have a significant impact on matters of national environmental significance without a valid approval.

Where an approval or approvals or actions taken in accordance with the endorsed Program are jeopardised by a failure, or potential failure, to adhere to the requirements of the Program, the following procedure may be used:

1. Monitoring report identifies deviation from or a non-compliance with a Program requirement.
2. Commonwealth reviews deviation/non-compliance and considers the importance in terms of impacts on matters of national environmental significance.
3. Commonwealth Government advises that either:
 - Deviation/non-compliance minor/trivial and no further action required.
 - Deviation/non-compliance requires corrective action.
4. In the event that corrective action is required, the Responsible Minister or other party (as identified earlier in the Program Report) will be provided with an opportunity to correct the non-compliance. For example, in the case of non-compliance with a conservation outcome, the Victorian Government must submit a remedial plan for addressing non-compliance for approval by the Commonwealth Government. The Commonwealth Minister may approve the remedial plan and actions must be undertaken to the Commonwealth Minister's satisfaction. Where a remedial plan is required, no further impacts on the relevant matter of national environmental significance can be authorised until the Commonwealth Minister's approval has been granted.

5. If non-compliance is not addressed within a timeframe agreed between the Commonwealth and Responsible Minister then any actions relevant to the non-compliance will no longer have the benefit of approval under the *Environment Protection and Biodiversity Conservation Act 1999*. For example, actions undertaken within a precinct that did not follow the planning processes required by the Program will not have valid *Environment Protection and Biodiversity Conservation Act 1999* approval.

Additionally, the Commonwealth Government retains all normal powers to prosecute approval holders for taking an action without valid approval, or non-compliance with any conditions that may be attached to an approval of an action or class of actions under the *Environment Protection and Biodiversity Conservation Act 1999*, irrespective of the relationship or role such approval holders may have with the Victorian Government.

In the event that a land use or development activity which is proposed at some stage during the carrying out of the Program invokes processes which do not comprise part of the Program, any approval or class of action approval granted in accordance with the Program will not be available to such actions and proponents will be required to consider the need to refer their proposal for separate assessment under the *Environment Protection and Biodiversity Conservation Act 1999*. Such actions should be recorded in a schedule (or similar) to maintain a record of specific works undertaken that lie outside the endorsed Program and associated approval(s).

11.3.1 DISPUTE RESOLUTION

If any dispute arises under or in connection with this endorsed Program and which Dispute is not able to be resolved by the relationship manager appointed by each of the parties within 28 days, the nominated senior executive officer (or equivalent) of the relevant State and Commonwealth Departments will promptly meet and discuss in good faith with a view to resolving such dispute.

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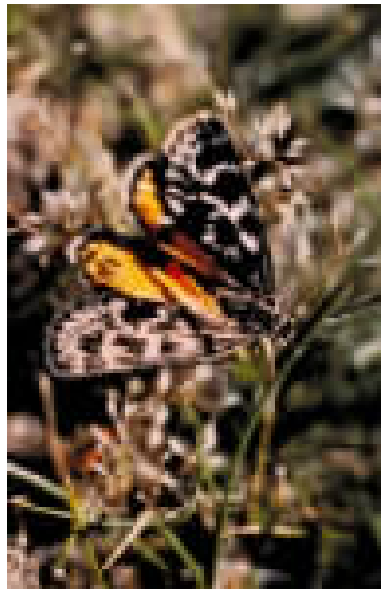
Australian Government

Department of the Environment, Water, Heritage and the Arts

***ENVIRONMENT PROTECTION AND BIODIVERSITY
CONSERVATION ACT 1999***

**STRATEGIC ASSESSMENT REPORT FOR ENDORSEMENT
DECISION**

**Strategic assessment of *Delivering Melbourne's Newest Sustainable
Communities December 2009*, the revision of Melbourne's Urban
Growth Boundary, Victoria**



Executive Summary

1. The Victorian Government has developed a program for implementing urban and associated development to accommodate Melbourne's expected population increase over the next 20 years.
2. The program outlines:
 - where development will occur in the revised urban growth boundary, including some areas within the existing urban growth boundary
 - road and rail transport corridors
 - Victorian legislation, policies, plans and strategies that will implement development
 - commitments to conservation outcomes and activities.
3. This program, *Delivering Melbourne's Newest Sustainable Communities Program Report December 2009* (the program) is the subject of a strategic assessment agreement between the Commonwealth Minister for the Environment, Heritage and the Arts and the Victorian Ministers for Planning and the Environment and Climate Change. The Victorian Government is seeking endorsement of the program under section 146 of the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).
4. The strategic assessment considered the program and the impact assessment report, *Delivering Melbourne's Newest Sustainable Communities Strategic Impact Assessment Report October 2009* (the IAR).
5. The strategic assessment has considered the impacts of implementing the program and the measures proposed to minimise these impacts on matters of national environmental significance (MNES) through a combination of avoidance, mitigation and offsetting.
6. Generally, implementation of the program will result in serious impacts on two critically endangered EPBC Act listed ecological communities (Natural Temperate Grassland of the Victorian Volcanic Plain (grassland) and Grassy Eucalypt Woodland of the Victorian Volcanic Plain (woodland) and listed threatened flora and fauna. Listed migratory birds are known to occur in areas intended for development, and development will occur in the catchment areas of two Ramsar wetlands. Many of the threatened species likely to be impacted are found within the two listed communities. The full list of MNES considered likely to be impacted by the implementation of the program is at [Schedule 1](#).
7. Over the life of the program, it is anticipated that majority of impacts will result from the clearing of vegetation and reduction of extent and connectivity of species habitat. Hydrological changes in water flows and/or quality associated with development are also possible, but are subject to specific mitigation measures.
8. The program has *avoided* impacts through designing the urban growth boundary and transport corridors to avoid, to a large extent, areas of high-quality MNES habitat. The western urban growth boundary (UGB) has been designed to

channel development around areas of listed grassland. The development footprint for northern Melbourne has excised areas of woodland, such that 80 per cent of all woodland within the revised UGB will be retained and managed in secure conservation reserves.

9. The program commits the Victorian Government to utilising specified Victorian planning frameworks (based on legislation, policies, plans and strategies) to deliver conservation outcomes and minimise impacts on MNES.
10. Key elements of the Victorian planning framework for *mitigating* impacts on MNES include: biodiversity conservation strategies, sub-regional species strategies, precinct structure planning guidelines, native vegetation precinct plans, conservation management plans and prescriptions. Many of these measures interact to enhance mitigation of impacts on MNES.
11. Specified conservation outcomes also provide broad-scale goals for mitigation measures, such as: species-specific conservation threshold targets, for example 80 per cent of highest priority habitats to be permanently protected and managed; maintained or improved water quality entering two Ramsar wetlands; a network of actively managed reserves across the landscape; and long-term sustainability and persistence for listed species and ecological communities.
12. At the broad-scale planning level of the four designated growth areas, biodiversity conservation strategies will provide the opportunity to obtain overarching biodiversity outcomes concurrently with urban development, and deliver on the conservation outcomes specified in the program. Sub-regional species strategies will inform the biodiversity conservation strategies by providing information on specific species, such as important populations and habitat links, as well as strategies for their protection. Each biodiversity conservation strategy and sub-regional species strategy requires approval by the Commonwealth.
13. At precinct/suburban planning scale, requirements such as minimum buffers for riparian corridors, best practice water sensitive urban design, protection of native vegetation and particular management requirements for MNES provide further mitigation of impacts. These MNES management requirements are identified through the application of species-specific prescriptions and are incorporated into the precinct structure planning process. All prescriptions for management of MNES must be approved by the Commonwealth.
14. At a smaller scale the program provides for discrete reserves, smaller offsets outside the main reserves such as at least three 100 hectare reserves for Golden Sun Moth conservation and ongoing protection for existing reserves housing MNES.
15. The Victorian Government has committed to acquiring and protecting large reserves for EPBC Act listed grassland and woodland ecological communities to be managed for the long-term persistence of MNES. Two large grassland reserves outside the UGB totalling 15 000 hectares will provide anticipated *offsets* of 10 000 hectares of high quality EPBC Act listed grassland community.

A commitment to a woodland reserve of at least 1 200 hectares is also contained within the program.

Table 1: The comparison of proposed clearance area to offsets.

Ecological Community	Proposed area to be cleared (hectares)	Proposed Offset (hectares)
Grassland (NTPVVP)	4 665	~10 000 within reserve
Woodland (GEWVVP)	708	At least 1200 within reserve

16. The consolidation of offsets into large, contiguous reserves that are actively managed is considered to provide greater conservation benefit than small scale, scattered offsets. This includes the ability to carry out management techniques which would be problematic in smaller areas (such as burning), to adaptively manage, to allow fauna that have limited mobility to maintain genetic connectivity across the landscape and provide greater security against threats. All offsets must be secured prior to any clearing occurring.
17. The department considers the commitment of the Victorian Government to establish and manage these reserves as very significant in relation to ensuring the representation, protection and persistence of MNES in the long term and across the bioregion.
18. The mechanisms proposed within the program to address cumulative impacts affecting water quality are considered to be more effective and efficient at delivering outcomes than through the regulation of individual actions. Initiatives include implementing water sensitive urban design and requiring minimum buffers along riparian areas, with a view to meeting the stated conservation outcome of maintaining or improving the quality of water entering the wetlands.
19. Overall biodiversity benefits are expected to result from the implementation of the conservation activities and offset/reserve proposals, including the protection and management of habitat for non-listed species, appropriately protected river and wetland ecosystems and maintenance of riparian habitat connectivity.
20. The program includes monitoring, reporting, and adaptive management frameworks to manage risks and uncertainties associated with the long-term implementation of the program. Changing circumstances, procedures and/or new information relating to MNES will be incorporated and accounted for when implementing the program. Adaptive management will be critical to improving outcomes delivered through the program. The program commits to independent monitoring and public reporting.
21. Melbourne's growing population has increased the demand for land supply, more affordable housing, employment areas and access to transport. Establishing a multi-node settlement pattern, using existing urban areas and adopting sustainable community design principles with transit oriented development demonstrates the Victorian Government has considered economic and social matters. The program provides protection of MNES within this context, adequately reflecting the principles of ecologically sustainable development.

22. The Victorian Government undertook public consultation on the draft impact assessment report and the department concludes that the IAR and program has adequately addressed the comments received.
23. For the Minister to endorse the program, he or she must be satisfied that the IAR adequately addresses the impacts to which the agreement relates and that any recommended modifications have been made to the program or any modifications having the same effect have been made.
24. There have been two occasions where modifications to the program have been recommended by the Minister or delegate. The department considers that these modifications, or modifications having the same effect, have been made.
25. The department considers that the IAR has adequately addressed the terms of reference in describing the impacts likely to result from the implementation of the program, and the measures proposed in the program that will be taken to avoid, mitigate and offset these impacts.
26. The department believes that the modified program contains the necessary mechanisms to monitor and minimise the likely impacts of the program on MNES over the life of the program, and commits to delivering appropriate and achievable conservation outcomes for those MNES.
27. Once a program is endorsed it cannot be amended or replaced, unless the program itself provides for such changes. The department considers that the program establishes a clear and rigorous framework for shaping urban development undertaken in accordance with the program, while allowing an appropriate degree of flexibility in specified areas to ensure future circumstances can be responded to appropriately.
28. The department notes that, should the program be endorsed, the EPBC Act provides for the attaching of conditions to any approval of an action or class of actions. This affords a further opportunity to ensure the protection of MNES, should it prove necessary or desirable to do so at the level of individual actions.

Recommendation

29. That the Minister endorse the program *Delivering Melbourne's Newest Sustainable Communities Program Report December 2009* under section 146 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

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**SCHEDULE 2: COMMONWEALTH GOVERNMENT INVOLVEMENT IN THE PROGRAM
TO REVISE THE MELBOURNE URBAN GROWTH BOUNDARY93**

1 Strategic assessment overview

30. The strategic assessment provisions under Part 10 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) enable the Minister to enter into an agreement with a person responsible for the adoption or implementation of a policy, plan or program (PPP) for an assessment to be undertaken in relation to the impacts of actions under that PPP on matters protected under the EPBC Act. Once the assessment is complete, these provisions allow the Minister to endorse the PPP and approve the taking of an action or a class of actions in accordance with the endorsed PPP.
31. The strategic assessment agreement provides for:
 - preparation of a draft report on the impacts to which the agreement relates (impact assessment report)
 - publication of the draft report for public comment
 - finalising the report and providing it to the Minister
 - the Minister making recommendations for modifications to the PPP (if any), and
 - the endorsement of the PPP if the Minister is satisfied with the program.
32. The agreement to assess the impacts of the program to revise Melbourne's urban growth boundary was signed by the Commonwealth Minister for the Environment, Heritage and the Arts and Victorian Ministers for Planning and the Environment and Climate Change on 4 March 2009. The program definition and key dates were amended as requested by the Victorian Government on 16 June 2009 (hereafter referred to as the agreement).

2 Endorsement overview

33. Section 146(2)(f) of the EPBC Act sets out matters for which the Commonwealth Minister must be satisfied before endorsing a PPP. These are that the Minister is satisfied that the impact assessment report adequately addresses the impacts to which the agreement relates, and that either the recommended modifications of the PPP have been made or any modifications having the same effect have been made.
34. The strategic assessment agreement also contains terms of reference for preparation of the impact assessment report and endorsement criteria that the Minister will have regard to.
35. The Minister is therefore required to consider the impact assessment report in deciding whether to endorse the PPP. Once the PPP is endorsed, it is not possible to amend or replace it without undertaking another strategic assessment.
36. There are no statutory timeframes for the endorsement decision prescribed under section 146.

37. The decision on whether to endorse the program is a necessary step in the strategic assessment process before the Minister can consider whether to issue approvals for actions or classes of actions taken in accordance with the program.

2.1 Endorsement considerations

2.1.1 The impact assessment report adequately addresses impacts

38. The Minister must be satisfied that the report adequately addresses the impacts to which the agreement relates. The agreement sets out the provisions of section 146 of the EPBC Act and the terms of reference for the preparation of the report.
39. Discussion of the impacts relating to the agreement is at section 4 of this report.

2.1.2 Recommended modifications have been made

40. The Minister must be satisfied that either the recommended modifications of the PPP (if any) have been made or any modifications having the same effect have been made.
41. There have been two occasions where modifications have been recommended by the Minister and the delegate. The first modifications were recommended in letters to the Victorian Ministers for Planning and the Environment from the delegate of the Minister on 2 October 2009 (Commonwealth Government 2009a). The second modifications were recommended in letters to the Victorian Ministers for Planning and the Environment on 18 December 2009 (Commonwealth Government 2009b).
42. Discussion of the recommended modifications and the Victorian Government's response is at section 7 of this report.

2.1.3 Endorsement criteria considered

43. The strategic assessment agreement contains endorsement criteria providing that the Minister will have regard to the extent that the PPP meets the objectives of the EPBC Act.
44. In particular that the PPP:
- protects the environment, especially matters of national environmental significance
 - promotes ecologically sustainable development (ESD)
 - promotes the conservation of biodiversity, and
 - provides for the protection and conservation of heritage.
45. Accordingly, the PPP and final report should:
- incorporate mechanisms which avoid the taking of actions in any location that will have an impact to matters of national environmental significance or are of high biodiversity or heritage value; or
 - provide that where impacts cannot be avoided, then the impacts should be reduced to an acceptable level

- provide for effective management, mitigation or offset of the likely impacts, and
 - contain an effective system of adaptive management that is independently audited and publicly reported.
46. The Minister will also consider the extent to which the PPP and its associated final report adequately incorporates:
- the precautionary principle
 - the other principles of ecologically sustainable development
 - intergenerational equity, and
 - matters the Minister considers to have a high likelihood of being potentially eligible for listing as matters of national environmental significance.
47. The endorsement criteria were amended by way of exchange of letters on 2 October 2009 to remove confusion over the use of “significant” and substitute “avoid” impacts for “prevent”. Discussion about whether endorsement criteria have been addressed is at section 9 of this report.

2.1.4 Terms of reference addressed

48. The terms of reference provide for a report on the impacts to which the agreement relates.
49. The provisions of section 146 of the EPBC Act allows for the preparation of the terms of reference can be provided in the agreement or that draft terms of reference can be prepared, released for public comment and then finalised. In the case of the agreement for this strategic assessment, the terms of reference are provided in the agreement and were not released for public comment. This was due to timeframe considerations and that previous strategic assessment agreements had received very few comments on the draft terms of reference.
50. In summary, the terms of reference for the report specify that the report addresses:
- Project purpose and description
 - Promoting ecologically sustainable development (ESD)
 - Planning for and promoting ESD
 - Environment affected by the program
 - Preventing impacts on matters of national environmental significance (MNES) and promoting the protection and conservation of biodiversity and heritage values
 - Nature and significance of impacts
 - Management, mitigation or offset of likely impacts
 - Addressing uncertainty and managing risk
 - Reasonable assurance
 - Auditing and reporting
 - Adaptive management, review and modification
 - Endorsement criteria
 - Information sources

51. Discussion about how the terms of reference have been addressed is at section 4 (impacts), section 5 (risks and compliance) and section 6 (ESD) of this report. The department's conclusion is at section 9 of this report.

2.1.5 Public consultation on impact assessment report

52. The agreement also requires the draft report is released for public comment for a period of at least 28 days. The final report must take into account the comments (if any) received after publication of the draft report.
53. Public consultation by the Victorian Government on the draft impact assessment report was undertaken for a period of 31 days from 17 June 2009 to 17 July 2009 (Victorian Government 2009c).
54. A summary of the public consultation process and comments is at section 8 of this report.

3 Description of the Program

55. The program subject to this strategic assessment is *Delivering Melbourne's Newest Sustainable Communities Program Report December 2009* (the program) (Victorian Government 2009b). This program is a whole of government initiative by the Victorian Government.
56. The report that addresses the impacts of this program is the *Delivering Melbourne's Newest Sustainable Communities Strategic Impact Assessment Report October 2009* (the IAR) (Victorian Government 2009a).
57. The program is the result of the Victorian Government's plans to cater for and accommodate Melbourne's expected population increase over the next 20 years.
58. The groundwork for the program began when Victorian Government released its vision for metropolitan Melbourne and the surrounding region *Melbourne 2030* in October 2002 (Department of Infrastructure 2002). This was updated with the *Melbourne @ 5 million* report and the *Victorian Transport Plan* in December 2008 to provide the rationale for revising the urban growth boundary and constructing new transport corridors. These documents also described socio-economic considerations for new development (see section 6). The *Melbourne @ 5 million* report (Department of Planning and Community Development 2008) showed investigation areas around Melbourne where urban development could be reasonably located. The *Victorian Transport Plan* (Department of Transport 2008) described the Outer Metropolitan Ring Road and E6 road (OMR/E6) and Regional Rail Link (RRL) transport infrastructure projects. These two reports are the basis for the program.
59. A draft of the program was released for public comment together with the impact assessment report in June (see section 8 of this report). The department has since worked with the Victorian Government on the program to improve the clarity and intent of the document. The final program also incorporates recommended modifications (see section 7 of this report).

3.1 Content of the program document

60. The program describes: the areas for urban development; the Victorian Government legislation, strategies, policies and plans to implement development and the conservation outcomes sought for MNES. More detail on the content of the program, the notional activities under the program and how the program will be implemented is provided below.
61. The department's analysis of the program is based on the final program document submitted to the department by the Victorian Government on 29 December 2009.

3.1.1 *Where the program will be implemented*

62. The program for Melbourne's urban expansion will be implemented in the following areas:
- Land within Melbourne's proposed revised urban growth boundary (UGB) that will accommodate approximately 284 000 new dwellings and employment areas. The total area in four expanded growth areas is approximately 41 000 hectares, of which around two-thirds would be developed (Victorian Government 2009b, map p. 11).
 - Precincts within the existing UGB which have been or will be publicly exhibited after 26 May 2009 (approximately 40 precincts) (Victorian Government 2009b, map p. 17).
 - The Regional Rail Link (RRL) corridor between Deer Park and Werribee (Victorian Government 2009b, map p. 11).
 - The Outer Metropolitan Ring Road/E6 (OMR/E6) corridor provides for four lanes each way and a four-track rail corridor around the west and north of Melbourne (Victorian Government 2009b, map p. 11), and
 - Two grassland reserves to the west of Melbourne totalling 15 000 hectares and an approximate 1200 hectare woodland reserve to the north of Melbourne.

3.1.2 *Program implementation phases: program approval, planning, construction and operation.*

63. The program utilises state legislation, policies, plans and strategies to implement development. Together with specifying conservation outcomes to be achieved, the use of planning frameworks and legislation guides decision making to identify, protect and conserve MNES.
64. The explanation of how the program works is in section 3.3 of this report.
65. Implementation of the program divided into four stages. The stages are sequenced, however there will be overlaps given the breadth of the program.
- Stage 1 – involves securing Commonwealth and Victorian Government approval (and endorsement) of the program through key legislation including the EPBC Act. This stage is currently underway.
 - Stage 2 – develops the plans and strategies that make up the planning framework. Details of the mechanisms that make up the framework are described in section 3.3.2 of this report. This stage also specifies when environmental assessments are undertaken and land acquisition processes for the program occur. Stage 2 will occur over the next 12-18 months but may take up to three or four years to complete. The Commonwealth is involved in approving specific plans and strategies in this stage.
 - Stage 3 – encompasses activities that will be undertaken to implement the program such as the development of land for urban and transport infrastructure as well as establishing conservation reserves both within and outside the UGB. This will occur over the next 20 years. During this stage the Commonwealth will receive reports and review audits but involvement will be less than stage 2.
 - Stage 4 – is the operational stage where land has been developed in accordance with the plans and strategies of stage 2 and the activities to

implement the program of stage 3. In this stage the transport corridors will be operating, urban activities will be occurring within the growth areas and conservation reserves will be established and actively managed. This will occur over the next 20 years and beyond. The Commonwealth will have minimal formal involvement beyond receiving and responding to monitoring and audit reports which may require compliance activities.

3.1.3 Conservation outcomes and activities

66. Conservation outcomes are one of the main mechanisms in the program to ensure that the Victorian Government will deliver on protecting MNES.
67. Conservation activities are commitments for a range of activities to achieve the conservation outcomes.
68. The program will deliver a range of environmental outcomes to avoid, mitigate and offset impacts resulting from the program, from the establishment of large-scale reserves outside the UGB, to riparian buffer corridors and a number of smaller (i.e. 100-150 hectares) reserves within the UGB. These outcomes will be delivered over different temporal scales depending upon the timing of development and will utilise a range of different conservation activities.
69. A detailed assessment of the adequacy of the conservation activities and outcomes is in section 4 of this report.

3.1.4 Role of the Victorian and Commonwealth Governments

70. The responsibility for implementing the program lies with the Victorian Ministers including the Minister for Planning, the Minister for Environment and Climate Change, the Minister for Public Transport and the Minister for Roads and Ports.
71. Nine Victorian Government agencies will work to implement the program throughout the four program implementation stages to ensure a whole of government approach.
72. The Victorian Government will work with councils, government and non-government service providers, developers, land owners and the Commonwealth Government to implement the program.
73. The Commonwealth Government is represented by the Minister for Environment, Heritage and the Arts. If this program is endorsed, actions or classes of actions would be considered for approval by the Minister for Environment, Heritage and the Arts,
74. The Commonwealth Government will be involved in all four program implementation stages although involvement will be more intense in the first two stages. For a full summary of Commonwealth Government involvement throughout the program refer to Schedule 2.

3.1.5 Program evaluation

75. The program document describes monitoring, reporting and adaptive management commitments for the implementation of the program. Monitoring and reporting is specified by stages of implementation and by conservation outcomes. A list of reports provided to the Commonwealth Government is at schedule 2. Whilst the monitoring, reporting and adaptive management commitments appear comprehensive, the department considers that more detailed reporting, monitoring frameworks are required to ensure the timeframes are appropriate and linkages between the various elements are clear. The frameworks will be established between the Victorian and Commonwealth Governments within 12 months if the program is endorsed.
76. Further discussion on the various elements of monitoring, reporting and adaptive management and how these provide certainty for implementation of the program is in section 3.3 of this report.

3.2 Notional activities under the program

77. The formal process of approving actions or classes of actions cannot occur until the program has been endorsed. The Minister can approve actions or classes of actions taken in accordance with the endorsed program. The EPBC Act allows the Minister to apply conditions to actions or classes of actions. Defining, approving and conditioning actions and classes of actions is a separate step in the strategic assessment process. Approval of specific actions may require further analysis and negotiation with the Victorian Government.
78. Notional actions associated with implementing this program which could be considered for approval include:
 - Development of urban activities, including transport, utility and social infrastructure, residential, commercial and industrial activities, extractive industries (quarries) within the program area.
 - Development of transport infrastructure along the RRL and OMR/E6 corridors.

3.3 How the program works

3.3.1 Legislation and policy informs process and guides decision making

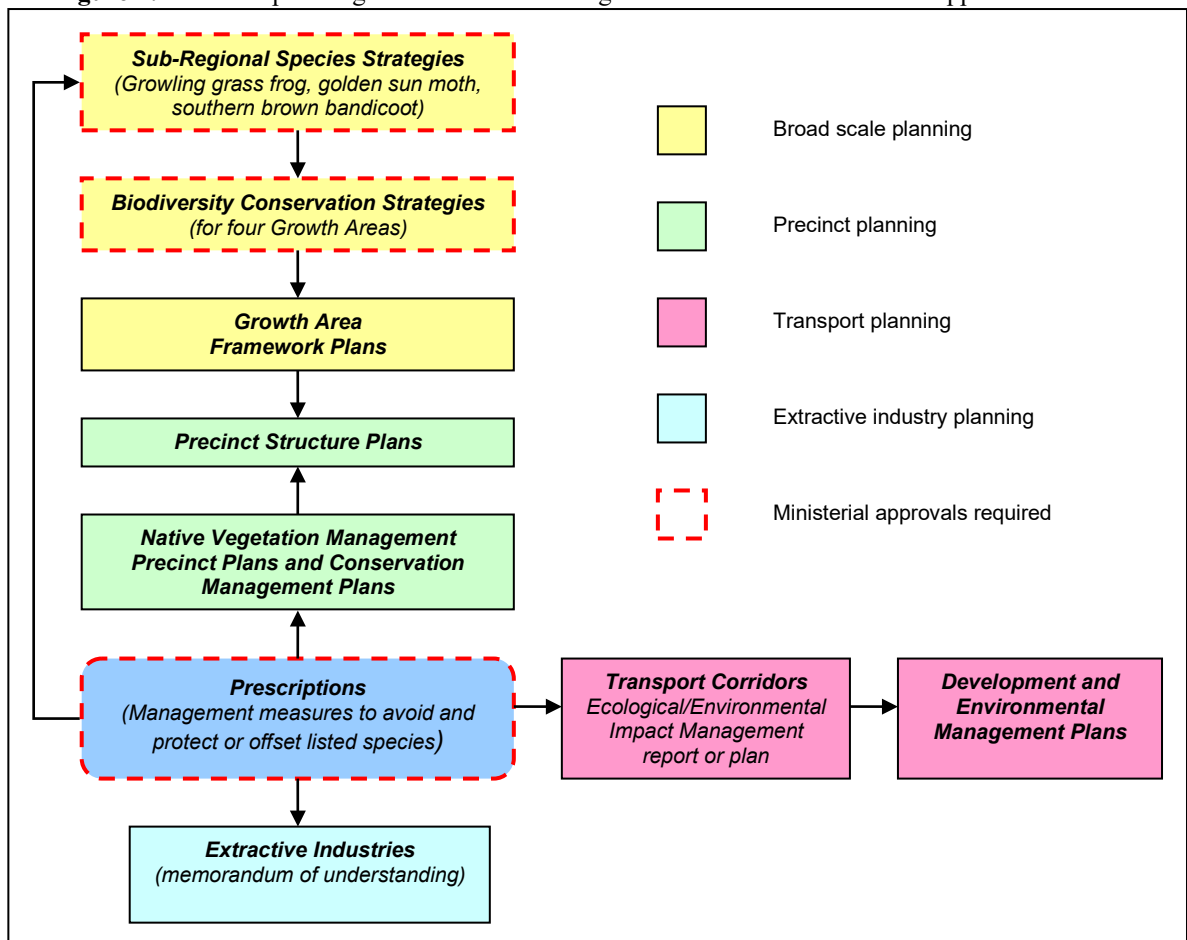
79. A key feature of the program is the linkages between Victorian legislation, policy and planning frameworks that will guide decision making and implementation of the program.
80. The planning framework in the program utilises existing Victorian Government legislation, such as the *Planning and Environment Act 1987*, for providing policies and provisions for planning schemes which regulate the use, development or conservation of land within Victoria. Other legislation and policies, such as the *Flora and Fauna Guarantee Act 1998* and Native Vegetation Management Framework 2002 are integral to the conservation of biodiversity.

- 81. Victorian legislation on water, including water quality, and greenhouse gas and energy efficiency, may also be triggered through implementation of the program.
- 82. A list of primary legislation, policies and strategies that regulate the program is provided (Victorian Government 2009b, pp. 20-22).

3.3.2 Program planning framework

- 83. The program planning framework outlines the plans and strategies that will be put in place to implement development and protect MNES.
- 84. Key plans and strategies within the framework will require Commonwealth Ministerial approval. This has been negotiated between the Commonwealth and Victorian Governments because of the importance of particular parts of the framework for providing the best possible outcomes for MNES. Figure 1 illustrates the program planning framework with the key plans, strategies and prescriptions.

Figure 1: Victorian planning framework illustrating Commonwealth Government approvals.



3.3.3 Prescriptions

85. Prescriptions are a mechanism utilised by the Victorian Government to provide “rules” or actions to manage impacts on specific MNES.
86. Draft prescriptions are provided in the IAR for each of the MNES that have been identified as likely to be impacted by the program implementation (Victorian Government 2009a, pages 147-207). The prescriptions direct retention, allowable clearing, the potential for translocation and offsetting requirements.
87. These prescriptions provide guidance about how MNES will be managed at the small-medium scales (for example suburban scale) of development. Some of the draft prescriptions specify targets (such as 80 per cent of highest priority habitats to be retained) while others specify mitigation measures (for example buffers along riparian corridors).
88. Use of prescriptions will be a requirement for the urban, transport and extractive industry planning processes. In urban development planning, the prescriptions will primarily be used by the Growth Areas Authority to design precinct structure plans (suburbs), and will also inform the broader sub-regional species strategies by identifying important populations, areas to be retained (where known) and habitat links. In transport planning, the prescriptions will be used to manage MNES found in the rail and road corridors. This will also be the case for extractive industries.
89. The content of the prescriptions is not articulated in the program. This is to allow prescriptions to change in response to certain triggers specified in the program (Victorian Government 2009b, p. 31) and hence improve conservation activities and outcomes. Triggers include:
 - new listings under the EPBC Act
 - publication of any new recovery plan or policy statement relevant to a MNES subject to a prescription, and
 - any indication that relevant conservation outcomes described in the program, conservation strategies or sub-regional strategies may become unachievable or there may be better ways to achieve the outcome.
90. These triggers aim to address risks relating to improved information availability and respond to changes over the life of the program and are an important adaptive management component of the program.
91. The prescriptions require approval by the Commonwealth Government. Approval must occur before actions are undertaken or the actions will not have approval as they will not be in accordance with the program. It is anticipated that the prescriptions would be the first element of the program planning framework to be considered for approval by the Minister if the program is endorsed.

3.3.4 Implementing urban development

92. As Figure 1 illustrates, there are two main levels of urban planning, broad scale planning for growth areas and precinct planning at a precinct and suburban scale. The two levels of planning are described below.

Broad scale planning

93. There are three main components of the broad scale planning framework; growth area framework plans; biodiversity conservation strategies; and, when required, sub-regional strategies for particular species.
94. Growth area framework plans are statutory plans which will be prepared for each of the four new expanded growth areas. These plans establish the structure for land within the growth areas based on the strategic directions of *Melbourne 2030*. They guide the creation of new communities within the growth areas and will incorporate protection mechanisms for MNES specified in the program. They show broad land use patterns (including the location of principal and major activity centres), committed and proposed transport networks, regional open space, significant waterways and areas of environmental sensitivity.
95. Maps (Victorian Government 2009b, pp. 26-33) show indicative growth area framework plans as red areas for developable land and green areas for constrained land (not for urban development). Growth area framework plans are already in place for some of the existing precincts that form part of the program. Existing growth areas framework plans will be amended to cover the extended growth areas and to take into account program requirements.
96. Growth area framework plans will be developed in a manner that is consistent with biodiversity conservation strategies and sub-regional species strategies which require approval by the Commonwealth Minister.
97. Growth area framework plans do not require Commonwealth Government approval and will inform precinct level planning. The department considers this to be acceptable as the key strategies that will guide management of MNES will be approved by the Minister.
98. The department has negotiated for sub-regional species strategies to be developed for some specific MNES such as the growling grass frog, southern brown bandicoot and the golden sun moth which generally have requirements for management in the broader landscape.
99. When developed these strategies will identify important populations and habitat links for protection within the landscape consistent with approved species prescriptions. They will influence negotiations and inform preparation of broad scale biodiversity conservation strategies and precinct structure plans. Each sub-regional species strategy must be approved by the Commonwealth Government prior to the finalisation of biodiversity conservation strategies.
100. A biodiversity conservation strategy will be prepared by the Victorian Government for each of the new expanded growth areas. They will outline how areas of high biodiversity value within the growth areas will be managed and spatially identify how outcomes for MNES will be delivered within the growth area. Each biodiversity conservation strategy will inform growth area framework planning and must be approved by the Commonwealth Government before growth area framework plans are completed. The department anticipates the

biodiversity conservation strategies will complement each other because Commonwealth requirements form the basis for each strategy.

Precinct (suburban) level planning

101. Precinct structure plans (PSPs) define the future structure of a suburb or group of suburbs, detailing the location of housing, activity centres, employment centres, community facilities, local transport networks and open space. They also identify the location of biodiversity sites and listed heritage places. These plans will be prepared in accordance with the growth area framework plans and in accordance with the Precinct Structure Planning Guidelines (PSP Guidelines). The Commonwealth Government is not required to approve PSPs under the program.
102. PSPs will also be prepared in accordance with the prescriptions, which require approval by the Commonwealth Government (see section 3.3.3).
103. The PSP Guidelines apply to the preparation of PSPs for new residential communities and new major employment areas (Growth Areas Authority 2009). The PSP Guidelines provide detailed guidance on the process that must be followed in assessing, protecting and managing biodiversity values in developing PSPs as well as guidance on best practice Water Sensitive Urban Design (WSUD) and integrated water management. The department had input into these guidelines when they were being developed during 2009. The Commonwealth Government does not approve these guidelines but they do take into account MNES through the Biodiversity Precinct Planning Kit and requirement to incorporate prescriptions.
104. The PSP Guidelines incorporate the Biodiversity Precinct Planning Kit, which specifies pre-planning surveys for biodiversity, biodiversity data inputs and templates to be used in preparing biodiversity plans.
105. The PSP Guidelines require that a native vegetation management plan and a conservation management plan be developed after surveys have been completed.
106. A native vegetation management plan sets out the requirements for the protection, removal and offsetting of native vegetation for a defined area or precinct. It must be consistent with relevant approved prescriptions.
107. After a biodiversity survey of the precinct has occurred according to the PSP Guidelines, a native vegetation management plan is developed. The plan is then incorporated into the relevant local planning scheme. It is not required to be submitted to the Commonwealth Government for approval.
108. A conservation management plan is to be prepared in accordance with any approved prescriptions for areas where there are important populations of species that require particular protection and management (e.g. golden sun moth, southern brown bandicoot, growling grass frog). The plan will then form part of the relevant local planning scheme. It is not required to be submitted to the Commonwealth Government for approval. Compliance reporting to the department by Victoria will examine whether both native vegetation

management plans and conservation management plans are implemented in accordance with the program.

3.3.5 Implementing transport

109. The program describes environmental requirements for planning the RRL and OMR/E6 transport corridors (Victorian Government 2009b, pp. 31-32).
110. Assessment of the flora, fauna and ecological values of the final alignment of the RRL and the OMR/E6 will be undertaken in accordance with the Victorian *Environment Effects Act 1978*. Planning for the final alignments for the transport infrastructure must be in accordance with approved prescriptions.

Regional Rail Link

111. The proponent for the RRL will be required to prepare an ecological impact management report which will describe the existing ecological values, assess potential effects of construction and operation and describe planned mitigation measures.
112. The proponent will also prepare an ecological impact management plan which will guide management actions as well as monitoring, evaluation and reporting procedures. The Minister will be consulted on the ecological impact management plan to ensure MNES are appropriately considered.
113. The draft prescriptions for MNES allow clearing for “state significant infrastructure”, which includes the RRL and OMR/E6 transport corridors, even if other criteria for retention of MNES are met. The department considers that the ecological impact management plan would address minor avoidance and mitigation options that could be undertaken within the RRL corridor that would minimise impacts on MNES where possible.
114. If the program is endorsed, the Minister could consider in his decision about whether to approve actions in the subsequent step attaching conditions that relate to Ministerial approval of the ecological impact management plan to ensure that all of the impacts have been fully considered and the opportunities to minimise these impacts have been undertaken.
115. The ecological impact management plan will inform the development plan and environmental management plans. According to the program, the Commonwealth Government would not be involved in these plans. The department considers this acceptable as the ecological impact management plan would be the key plan to approve.

OMR/E6 transport corridors

116. The proponent will prepare an environmental impact report on the OMR/E6 to document the likely environmental effects and project benefits of the preferred alignment. It will detail the results of field surveys, the likely impact of the project and the availability of suitable offsets.

117. The environmental impact report will guide the preparation of an environmental management plan for the projects construction and operation. This plan will include monitoring, auditing and reporting requirements. Management measures within this plan will be consistent with approved prescriptions.
118. As per the RRL, the department considers the environmental management plan would address minor avoidance and mitigation options that could be undertaken. As such, if the program is endorsed, a condition relating to Ministerial approval of the plan could be considered in the subsequent decision on whether to approve actions.

3.3.6 Implementing extractive industries

119. A Memorandum of Understanding (MoU) between the Department of Sustainability and Environment (DSE) and the Department of Primary Industries exists to endorse the Mining and Extractive Industries Work Approvals process. This approvals process does not currently account for MNES.
120. The program proposes to amend the MoU to require that approved prescriptions be applied to all future extractive industries. The department does not anticipate that extractive industries would be classified as “state significant infrastructure” and hence prescriptions would be applied as for urban development with relevant criteria for retention of MNES to be followed. As previously stated, the Commonwealth Government approves prescriptions but otherwise there is no other Commonwealth approval required for this activity.
121. There may be additional impacts from this activity on water quality and quantity in certain areas that could affect MNES (for example near Ramsar wetlands). These additional impacts may not necessarily be addressed through prescriptions (see section 4.5). If the program is endorsed, the Minister’s decision about whether to approve actions could consider attaching additional conditions, such as a submission of an environmental management plan for these types of activities.

3.3.7 Planning for reserves

122. The Victorian Government has committed in the program to the establishment of large reserves to offset the impacts from development.
123. The planning document *Melbourne @ 5 million* foreshadowed that two large grassland reserves were planned for western Melbourne. To obtain contiguous land parcels for reservation, voluntary and compulsory acquisition of private land will occur. Public consultation has occurred on this proposal, and an overview of comments is in section 8 (details of specific comments are at Victorian Government 2009c). An acquisition schedule for the grasslands reserves will be provided to the department by December 2010 (Victorian Government 2009b, p. 48).
124. A large woodland reserve to the north east of Melbourne has been negotiated by the department late in the strategic assessment process. Hence the same level of public consultation and planning has not occurred as for the grassland reserves.

The Victorian Government has committed to the establishment of the reserve but the specific mechanisms for delivery will be decided after public consultation on the location of the Public Acquisition Overlay (which identifies the land that would be compulsorily acquired) and other legal protection measures such as permanent on-title agreements (Victorian Government 2009b, p. 53).

125. Interim management plans will be developed for private property that has been designated for inclusion in the grassland reserve but is yet to be acquired. The plans will introduce a management regime to ensure the ecological communities are not degraded in the period prior to formal acquisition. Reports on the implementation of the interim management plan will be provided to the department every six months in 2010-2011 then annually until the land is acquired.
126. National Park or reserve management plans will be developed to reserve land for conservation or recreation purposes as required by Victorian legislation. Performance standards for management and monitoring methodology based on best practice adaptive management of grasslands will be provided to the department by June 2011.
127. The Victorian Government has also committed to investigating the establishment of a wetland reserve in the south east of Melbourne adjacent to the program area (Victorian Government 2009b, p. 46, 67). This wetland will be designed to restore important wetland habitats and assist achieving water quality objectives for waterways and the Western Port Ramsar site. An investigation report will be provided to the Commonwealth Government by March 2011, including identifying the funding and acquisition mechanisms.

3.3.8 Offsets

128. The minimum requirements for delivering offsets are specified within the program. The key requirement in the department's view is that offsets must be secured prior to commencement of clearing. The calculation of native vegetation losses and gains, and like for like criteria, will be in accordance with the habitat hectare system as prescribed by Victoria's Native Vegetation Management Framework as cited within the program.

The Victorian Native Vegetation Management Framework: Offsets and habitat hectare methodology

129. The Program's basis for treatment of vegetation is primarily based on the policy, *Victoria's Native Vegetation Management – A Framework for Action*. The Victorian Native Vegetation Management framework's overall aim is to achieve a reversal of the long term decline in native vegetation quality and extent across the landscape whilst subsequently providing protection and management incentives that will lead to an improvement in overall vegetation quality.
130. The Framework operates on the triage of avoiding, minimising and offsetting impacts on native vegetation, and uses the Victorian habitat hectare vegetation quality assessment model. The overall objective of the Victorian Government is to protect high quality habitat.

131. The vegetation quality assessment model considers the attributes of a parcel of land containing native vegetation by giving the parcel a quality score based on presence or absence of ecological attributes including ground, shrub and canopy cover, woody debris and weed coverage. For example, a parcel of land may be 10 hectares in total area but be scored as 1.5 habitat hectares. The 1.5 represents the area of the total that is native habitat. The remaining 8.5 hectares would be unscored due to being either severely degraded or non-native habitat.
132. The approach by the Victorian Government differs to that of the Commonwealth Government in that the focus is on habitat rather than individual species. This allows for qualities within an ecosystem to be assessed as a whole, including the ecological community and associated species.
133. Prescriptions bridge the gap between the habitat approach and impacts on individual species by requiring offsets for species impacted by development. Offsets will be obtained which contain the species in high quality habitat. Therefore there will be instances where the prescriptions will require offsets in addition to any requirements of the Native Vegetation Management Framework.
134. The department's view is that the Native Vegetation Management Framework provides a strong basis for obtaining offsets for EPBC Act listed ecological communities, and the application of prescriptions, together with the Victorian framework, will be able to obtain satisfactory offsets for other EPBC Act listed species.

Administering offsets

135. The process of creating, advertising and selling native vegetations credits for offsets will be administered by the Bush Broker program (Victorian Government 2009a, p. 129). This facilitates the requirement for developers to secure and fund the creation and ongoing management of offsets. Most offsets will be accounted for within the proposed grassland and woodland conservation reserves. However, if areas of requisite like for like habitat cannot be found in these proposed conservation reserves, then the offset will have to be secured elsewhere within the bioregion. As the developer is responsible for locating offsets prior to development, it is likely this situation would result in outcomes similar to current practice for case by case development.
136. The Commonwealth Government has also asked Victoria to report publicly on accounting for offsets. This has been included as a commitment in the modified program (Victorian Government 2009b, pp. 72-79).

3.3.9 Commonwealth Government involvement

137. The outcome of this strategic assessment will result in the Victorian Government taking primary responsibility for implementing and managing the program, including planning for protection of MNES and undertaking conservation management activities to deliver specified conservation outcomes.

138. However the Commonwealth Government will still retain significant involvement in key aspects of the program relating to the protection of MNES, including the approval of key planning strategies such as:
- the sub-regional species strategies
 - biodiversity conservation strategies and
 - prescriptions
- as well as monitoring and reporting, and adaptive management frameworks against specified conservation outcomes.
139. These key strategies and frameworks are integral to the program's success as they will establish how MNES will be protected in the landscape, what will be monitored and reported on and how new information will be used to maximise biodiversity outcomes.

3.3.10 Monitoring, reporting, compliance and adaptive management

140. The program includes monitoring, reporting, and adaptive management frameworks to manage risks and uncertainties associated with the long-term implementation of the program. Changing circumstances, procedures and/or new information relating to MNES will be introduced and accounted for when implementing the program. Adaptive management is critical to improve the outcomes delivered by the program as circumstances change.

Monitoring and Reporting

141. A monitoring and reporting framework will be developed by the Victorian Government to ensure processes and outcomes are compliant with the program. The framework will describe the roles of the Commonwealth and Victorian Governments and the independent monitor.
142. An independent monitor will be appointed to check the Victorian Government are compliant with their own legislation and planning processes. Terms of reference for an independent monitor will be agreed between the Commonwealth and Victorian Governments.
143. The Victorian Government will be responsible for delivering reports under Victorian legislative processes that the Commonwealth Government may not receive, but the Commonwealth will receive reports on whether the construction of urban areas and transport infrastructure is compliant with the program.

Compliance

144. An overarching tenet of strategic approvals is that any actions approved by the Minister must be taken in accordance with the endorsed program, otherwise the approval may not be valid. If the program is not implemented as specified or the conservation outcomes are not obtained, approvals given for any actions relating to the non-compliance would become invalid. Approval holders could be liable if they continued with actions and face compliance action under normal EPBC Act procedures. For example, actions relating to a non-compliant precinct plan may no longer benefit from approval where the precinct plan is developed in a way that does not comply with the program. Recent modifications to the program

provide for remediation by the Victorian Government to improve equity for developers acting in accordance with approved plans.

145. The Victorian Government is, for the most part, only the party responsible for the implementation of the program rather than being an approval holder for actions taken in accordance with it. There will in most cases be limitations on the ability of the Commonwealth Government to utilise existing enforcement mechanisms under the EPBC Act in instances where the Victorian Government fails to implement or comply with the program as required. It is also not possible to amend or replace an endorsed program. However, if the program is not being implemented as endorsed, there are steps outlined in the program to resolve the non-compliance (Victorian Government 2009b, pp. 85-86). For example, in the case of non-compliance with a conservation outcome, the Victorian Government must submit a remedial plan for addressing non-compliance for approval by the Commonwealth Government.
146. The Commonwealth retains all normal powers to enforce the EPBC Act against approval holders and other persons for taking an action without valid approval, or non-compliance with any conditions that may be attached to an approval of an action or class of actions under the EPBC Act, irrespective of the relationship or role such approval holders may have with the Victorian Government. The EPBC Act also provides for third party enforcement mechanisms that may also be available in the event of non-compliance.

Adaptive management

147. An adaptive management framework will be developed by the Victorian Government to guide the input of new information and procedures. The framework will set out the methodology for systematic improvement of management practices and will be submitted to the Minister for approval
148. New listings under the EPBC Act will be accounted for through development of new prescriptions as specified in the program. Note that the event of a new listing will not affect any approvals given under the EPBC Act prior to that listing.

4 Anticipated impacts from program implementation

4.1 General description of the environment

149. The total area of land identified as suitable for development within the program is approximately 24 000 hectares (Victorian Government 2009b, p. 9) although this may not include all developments in the constrained land. Most of this land is located to the west and north of Melbourne, with 3770 hectares located to Melbourne's south east.
150. The IAR states that the program will be implemented predominately within the Victorian Volcanic Plain and Gippsland Plain bioregions. Some activities in Melbourne's west will occur in the Otway Plain and small parts in Melbourne's north in the Central Victorian Uplands and Highlands-Southern Fall bioregions (Victorian Government 2009a, pp. 29-32).
151. The climate has fairly uniform temperatures across the region but with significantly varied rainfall. Rainfall increases from west to east, with the western volcanic plains having the lowest rainfall (Laverton averages 541 mm per year) and increasing to the hills to east and north east (Mt Dandenong averages 1170 mm per year).
152. The five main catchments that the program may impact on are Werribee, Maribyrnong, Yarra, Dandenong and Western Port. Many rivers and creeks in the Western Port area flow into the Western Port Ramsar site. Many of the rivers and creeks within the Werribee catchment flow into the coastal wetlands that are part of the Port Phillip Bay Ramsar site.
153. The program area includes predominately agricultural land adjacent to highly urbanised areas. There has been extensive clearing of the original native vegetation in both the Victorian Volcanic Plain (four per cent remaining) and Gippsland Plain (thirteen per cent remaining) bioregions. The Highlands-Southern Fall bioregion may have a higher percentage of native vegetation.

4.2 Likely impacts on MNES

154. Section 4.5 will discuss specific MNES impacts. This section will provide an overview of impacts that are likely to occur from implementation of the program.
155. The assessment was required to consider the impacts of the implementing the program on MNES and how the program proposed to avoid, mitigate and offset these impacts.
156. Over the life of the program, it is anticipated that major impacts will occur from clearing vegetation, barriers to species movement from development and hydrological changes from development. Other threats to these include weed invasion, loss of terrestrial climatic habitat caused by anthropogenic emissions of greenhouse gases (listed key threatening process), competition and land degradation by rabbits and predation by introduced animals particularly the

- domestic cat and the european red fox (both of which have threat abatement plans).
157. The full list of MNES likely to be impacted from implementation of the program is at Schedule 1. Generally impacts will be on two EPBC Act listed ecological communities, threatened flora and fauna, migratory birds and two Ramsar wetlands. Expert advice was sought to determine the MNES likely to be impacted.
158. Two EPBC Act listed critically endangered ecological communities will be impacted by the program: the Natural Temperate Grassland of the Victorian Volcanic Plain (the grassland) and the Grassy Eucalypt Woodland of the Victorian Volcanic Plain (the woodland). EPBC Act listed species associated with these ecological communities will therefore also be impacted. These include: the spiny rice flower, striped legless lizard, golden sun moth, grassland earless dragon and the plains wanderer (associated with the grasslands); and the swift parrot and matted flax lily (associated with the woodlands).
159. Other MNES not typically associated with these ecological communities that are likely to be impacted by the program include:
- the Port Phillip and Western Port Ramsar wetlands, migratory birds, the growling grass frog, the Australian grayling (through water quantity and quality impacts)
 - the southern brown bandicoot (through barriers to movement and vegetation clearing), and
 - other flora such as orchids.
160. The EPBC listed grassland is predominately to the west of Melbourne although it ranges to the north. The woodland community is predominately in the northern growth area. The south east growth area has been substantially modified for horticulture and hence contains fewer EPBC listed species and communities. The main impacts in this area are likely to be on the southern brown bandicoot and the growling grass frog.
161. The Temperate Lowland Plains Grassy Wetland ecological community has also been nominated to be listed under the EPBC Act and is likely to be impacted by the program.
162. As detailed survey information for all MNES is not available, the Victorian Government has used a combination of surveys, mapping and modelling to estimate the extent of, and the impacts on, MNES. More detailed information will become available about the impacts and their offsets from surveying under the Precinct Planning Structure Guidelines and for offsets. Based on expert advice on presence and absence, the department is confident that the all the MNES that could be impacted have been identified.
163. The IAR specifies MNES ecological community losses from development. These are anticipated losses based on current mapping, surveys and plans for development (Victorian Government 2009a, p. 274).

Table 2: The anticipated number of hectares of ecological communities and other native vegetation likely to be impacted by the program implementation.

Vegetation	Anticipated losses (hectares)
Natural Temperate Grassland of the Victorian Volcanic Plain	4665
Grassy Eucalypt Woodland of the Victorian Volcanic Plain	708
Plains Grassy Wetland (nominated to be listed under EPBC Act)	75
Other native vegetation	1040
TOTAL	6488

Table 3: The number of hectares of ecological communities and other native vegetation likely to be impacted by the nominal activities under the program. Differences in overall areas may be due to rounding errors.

Indicative activity	Anticipated loss of Grassy Eucalypt Woodland (hectares)	Anticipated loss of Natural Temperate Grassland (hectares)
Clearing for urban development	584	4047
Clearing for E6	83	5
Clearing for OMR transport corridor	42	520
Clearing for RRL	0	95
TOTAL	709	4667

164. It could be assumed that MNES associated with the identified ecological communities would also be impacted to the same or lesser degree as shown in Tables 2 and 3.

4.3 Minimising impacts

165. The Victorian Government was asked to address three main criteria in the strategic assessment: avoid impacts on MNES, mitigate impacts on MNES and provide offsets where impacts could not be avoided or mitigated. These three criteria are reflected in the endorsement criteria (see section 2.1.3 in this report) and the terms of reference.

166. Section 4.5 will discuss specific measures Victorian Government will implement to minimise impacts on individual MNES. This section will provide an overview of the measures that are intended to reduce impacts on MNES from implementation of the program. Note that consideration of the program's consistency with Commonwealth obligations and plans will be formally addressed in the subsequent step of whether to approve actions (EPBC Act Part 10).

4.3.1 Avoid

167. The program avoids impacts by positioning the urban growth boundary and transport corridors to avoid areas of MNES habitat. The western growth area has been designed to exclude development in some areas of grassland and the northern area has been designed to avoid areas of woodland, such that 80 per cent of all woodland within the revised UGB will be retained and managed in secure conservation reserves (Victorian Government 2009a, p. 150).
168. Areas outside the UGB that have been excluded from development may not have complete protection from future development. However the Victorian Government has committed in the program to protect other grassland remnants on the Werribee Plain (i.e. outside the UGB) through applying appropriate local statutory planning controls to remnant grasslands and improving or expanding Environmental Significance Overlays (ESOs) (Victorian Government 2009b, p.50). ESOs are planning controls that restrict certain development activities.
169. Within the UGB, other areas have been, or will be, excluded from development through a number of mechanisms.
170. The growth area framework plans identify land that is constrained for urban development (see the green areas in Victorian Government 2009b, maps 3-6 on pp. 12-15) for a range of reasons including high biodiversity values. These areas may have protection ranging from simple avoidance to commitments for ESOs, conservation zoning and protection for reserves.
171. Areas of high biodiversity already identified are given in the program (Victorian Government 2009b, p. 9). These include small grassland reserves and habitat for the southern brown bandicoot. These areas are expected to have greater protection for reserves and management as per conservation activities and outcomes identified in the program.
172. The application of prescriptions may also lead to identified areas excluded from development. It is expected that these smaller areas may gain greater protection through reserves and management as per the conservation outcomes, for example as specified in the grasslands conservation activities (Victorian Government 2009b, p. 47).

4.3.2 Mitigate

173. The program includes a number of measures for mitigating impacts on MNES. These measures include: surveys, biodiversity conservation strategies, sub-regional species strategies, PSP guidelines, native vegetation precinct plans, conservation management plans, prescriptions, conservation activities and conservation outcomes. Many of these measures interact to enhance mitigation of impacts on MNES.
174. At the broad-scale level, biodiversity conservation strategies provide the opportunity to obtain overarching biodiversity outcomes in the growth area framework plans and deliver on conservation outcomes. These can include protection and management measures for reserves within the UGB and are

required to be approved by the Commonwealth Government. The sub-regional species strategies will inform the biodiversity conservation strategies by providing information on specific species, such as identifying important populations and habitat links, that will lead to achieving the overarching biodiversity outcomes as well as conservation outcomes for these species. These strategies also require approval by the Commonwealth Government.

175. Conservation outcomes also provide broad-scale goals for mitigation measures, such as targets (for example 80 per cent of highest priority habitats to be permanently protected and managed), network of reserves and long-term sustainability and persistence for species and ecological communities.
176. At the medium and precinct (or suburban) scale, requirements such as buffers in riparian zones, best practice water sensitive design, protection and removal of native vegetation for a precinct and particular management requirements for MNES provide mitigation of impacts from development. These are identified through the application of prescriptions, PSP guidelines, native vegetation precinct plans and conservation management plans.
177. At the small-scale, discrete reserves, smaller offsets outside the main reserves and feasible translocation of species would be identified through prescriptions. Conservation activities include small-scale mitigation measures such as protection for reserves already identified, for example threatened flora species in Truganina Cemetery (Victorian Government 2009b, p. 63).
178. Mitigation measures, as well as offsets (see discussion of offsets below) are not purely based on ecological requirements but also include social and economic considerations. For example, the Victorian Government argues that reserves inside the UGB should be a certain size (for example greater than 100 hectares) even though smaller-sized reserves have shown persistence in the medium-term at least. It is proposed numerous small reserves within the UGB would fragment the desired transport-oriented urban form and impose additional management costs. Without management activities, smaller reserves would arguably be more susceptible to isolation, invasion of feral animals and weeds and possibly vandalism. More discussion about socio-economic considerations is in section 4.6 of this report.

4.3.3 Offset

179. The offsets committed in the program are large, managed reserves for grasslands and woodlands delivered through the application of prescriptions.
180. Two large grassland reserves outside the UGB totalling 15 000 hectares will provide anticipated offsets of 10 000 hectares high quality EPBC Act listed grassland community. A woodland reserve of at least 1200 hectares is also committed. The Victorian Government proposes these large reserves would have benefits in terms of resilience to climate change impacts, ability to implement management regimes such as controlled burns and cost-efficiencies compared to smaller reserves.

Table 4: The comparison of proposed clearance area to offsets.

Ecological Community	Proposed area to be cleared (hectares)	Proposed Offset (hectares)
Grassland (NTPVVP)	4 665	~10 000 within reserve
Woodland (GEWVVP)	708	At least ~1200 within reserve

181. Prescriptions may allow clearing to be permitted but require offsets to be obtained. Offsets are required to be secured before the impact occurs and inline with the requirements of Victoria's Native Vegetation Management Framework.
182. If the identified reserves do not contain the MNES values, then offsets may be obtained elsewhere. Offsets need to be like-for-like but will not be counted for multiple species (Victorian Government 2009a, p. 134). For example, the Victorian Government's analysis indicates that the proposed grassland reserves should provide sufficient offsets to meet the requirements for the EPBC Act listed grassland community. The "unallocated" areas would then be available for threatened species offsets where these are required in addition to native vegetation offsets. The two key species that would be in this category would be the golden sun moth and the spiny rice flower. If these species were not found in the unallocated areas, then offsets would have to be found elsewhere.
183. Management of offsets and reserves are a key component for long-term persistence of the species or ecological community. The program commits to management of the large reserves and Victoria will provide interim management plans, reports on implementation and identified performance standards to the department.

4.4 Anticipated program outcomes

184. The conservation outcomes in the program commit to the establishment of 15 000 hectares of grassland reserves, at least a 1200 hectares woodland reserve, the same or improved water quality to Ramsar wetlands, a series of small reserves inside UGB and no substantial negative change to known populations of particular MNES.
185. The conservation activities commit to investigating the establishment of a wetland in the south east (Casey-Cardinia growth area, possibly around 300 hectares), incorporating best practice urban water management techniques, protecting relevant habitat from point source contaminants, protecting and managing reserves and other activities.
186. The overall biodiversity outcomes are anticipated to include: reserves that are managed for all species; functioning rivers, creeks and wetlands and riparian habitat connectivity.
187. The consolidation of offsets into large, contiguous reserves which are actively managed provides additional value from scattered offsets, including the ability carry out management techniques restricted in smaller areas (such as burning), to

adaptively manage in response to management regimes, allowing fauna that have limited mobility to move across the landscape (such as the golden sun moth) and can have greater security against threats. The department considers the commitment to these reserves by the Victorian Government as very important to the representation, protection and persistence of MNES in the long term and across the bioregion.

188. Similarly, the ability of the program to address cumulative impacts affecting water quality through implementing water sensitive urban design, requiring buffers along riparian areas and setting conservation outcomes to main or improve water quality to wetlands is in the departments consideration more effective and efficient than through individual developments.

4.5 Specific MNES impacts and mitigation measures

189. Victoria has described the impacts of the program on individual MNES in the IAR (Victorian Government 2009a). Impacts will be addressed through a number of plans, strategies and prescriptions. Individual MNES impacts are mostly mitigated through specific prescriptions (see discussion on prescriptions at section 3.3.3) but also through sub-regional species strategies and biodiversity conservation strategies. The implementation of these prescriptions, in concert with other specific conservation activities, is expected to result in the achievement of conservation outcomes described in the program for each relevant MNES.

188. The program also identifies a number of species for which specific sub-regional strategies will be developed to inform landscape-scale management activities and responses (see discussion in section 3.3.4). The discussion below includes reference to these sub-regional species strategies under the relevant MNES headings.

189. As discussed at section 3.3.4, the program also requires the preparation and Commonwealth approval of biodiversity conservation strategies for the four new and expanded growth areas. The implementation of each biodiversity conservation strategy is expected to deliver additional benefits to MNES and biodiversity more generally and assist in the amelioration of some projected impacts on, or existing threats to, MNES, over and above those discussed below.

190. Discussion of mitigation measures is at section 4.3.2.

Natural Temperate Grassland of the Victorian Volcanic Plain Ecological Community – critically endangered

Current Status

191. Natural Temperate Grassland of the Victorian Volcanic Plain (the grasslands) ecological community occurs only in Victoria. Its specific pre-European and current extent is unknown, but based on similar Victorian Ecological Vegetation Classes (EVCs) it is estimated that less than 5 per cent of its pre-European extent (approximately 260,000 hectares) remains. Of that approximately 2 per cent of the remaining community is currently secured within reserve systems.

192. The community supports complex and variable structures of flora and fauna including other EBPC listed species (striped legless lizard, golden sun moth, spiny rice-flower), as well as providing important hydrological and ecological landscape functions. Losses in extent, fragmentation and degradation of floristic integrity of this community occur primarily through land clearing, grazing, weed encroachment, prolonged drought and poor management.
193. The grasslands extend westwards across Victoria from greater Melbourne toward South Australia across the basalt plains. Remnants of the community occur directly to the west of Melbourne and many of these occur within areas proposed for urban and infrastructure development under the program.

Impacts

194. Implementation of the program to the west and north of Melbourne is likely to result in the clearing of approximately 4 665 hectares (or 6per cent of the current extent) of grassland (Victorian Government 2009a, p. 132). As scored by the Victoria DSE Habitat Hectare scoring approach, this figure is composed of:
897 hectares of low quality grassland, 3696 hectares of medium quality grassland, and 72 hectares of high quality grassland.
195. It is anticipated that most of the grassland will be removed for development and the only patches remaining will be those identified for conservation through prescriptions.

Conservation outcomes

196. The program proposes that implementation of the conservation activities to mitigate and offset the impacts of the program will result in the following conservation outcomes for this ecological community (Victorian Government 2009b, p. 48):
- The creation of two conservation reserves for grassland totalling 15 000 hectares outside the UGB in Melbourne's west. Of this, approximately 10,000 hectares is representative of the critically endangered grassland community.
 - These two reserves will bring secure representation of this community up to approximately 20per cent of its current extent.
 - The reserves will also accommodate a quarry, and areas earmarked for infrastructure for management, recreation and education relating to the grasslands.
 - The reserves will be funded primarily through accounted offset losses from clearing of grasslands and some habitat for other MNES associated with urban development and transport infrastructure.
 - The creation of a number of smaller managed reserves containing this ecological community within the UGB, providing connectivity between related habitat types such as grassy woodlands, stony knolls and floodplain grasslands; Some of the smaller areas are represented on the zoning maps (Victorian Government 2009b, pp. 12-15) as rural conservation zones and public conservation and resource zones.

197. Overall projected gains from securing and managing the community within these offsets against the direct losses from clearing is calculated at:
- maximum loss: 4665 hectares (1922 habitat hectares).
 - maximum offset: 10 091 hectares (4154 habitat hectares).
198. Additional conservation outcomes will be achieved through application of the prescription for the grasslands during surveys for the growth areas (draft in Victorian Government 2009a, at p. 146) which proposes the following mitigation and offset measures:
- Patches of grasslands will be retained between the existing urban growth boundary and new urban growth boundary if the site also contains an EPBC listed endangered or critically endangered orchid species.
 - grasslands will be retained within the current UGB if they represent a manageable, contiguous, patch of 150 hectares including areas outside the precinct.
 - All permitted clearing of this ecological community will be offset in accordance with the Victorian native vegetation management framework, and offsets will be secured prior to clearing. The offsets will be sourced within the proposed western grassland reserves at ratio of approximately 2:1.
199. It is unlikely that implementation of this prescription will result in many reserves being created within the existing urban growth boundary as there are not many patches of grasslands that will meet the retention threshold of 150 hectares. The draft prescription does not propose to retain any areas of grasslands within the expanded urban growth zone (unless required by another prescription), due to the:
- specific avoidance of the grasslands particularly in defining the UGB in the western investigation areas
 - further avoidance through fine tuning the placement of the urban growth boundary, the OMR/E6 transport corridor and the Regional Rail Link exclusion areas, and
 - establishment of the grassland reserves offset.
200. Victoria has explained that the threshold of 150 hectares or more for retention of grassland is based on practical considerations regarding the ability to maintain and maximise conservation values and resource appropriate management regimes for conservation reserves, within the overall constraints imposed by the social and economic requirements for Melbourne's future growth (Victorian Government 2009a, p. 137).
201. The listing advice for this EC notes that small patches of grassland can retain their conservation values despite their size, and the department notes that smaller grassland reserves in the ACT and Melbourne appear to be viable in the medium-term, though information on their management and resource intensity is not readily available.
202. There is ongoing scientific debate over whether "larger is better". There is no doubt that the benefits of larger conserved areas better extends to the abilities of management, possibilities of landscape-scale improvement and benefits for individual species through allowing free movement and isolation from further

disturbance. Smaller patches are seen to be more at risk to invasion and degradation by exotic species, urban edge effects and management limitations. Some modelling work done by Royal Melbourne Institute of Technology (RMIT) for Victoria supports this view (Victorian Government 2009a, Appendix 6, p. 306).

203. The other side of the debate focuses on the importance of biodiversity within smaller patches; that floristic representation may be unique to the patch and that this may not necessarily be replicated or reproduced in any other area. Additionally, smaller patches may assist in conserving such diversity for future re-establishment after stochastic events in other areas, or loss through the effects of climate change.
204. The department is of the view that this is acceptable as long as all the conservation outcomes as presented in the program are achieved. The 150 hectare threshold can be amended through revision of the prescription if conservation outcomes are not being achieved to the satisfaction of the department.
205. Additional measures to avoid impacts to the ecological community within the expanded UGB proposed in the program include the rezoning of some land areas within the expanded boundary as non-developable lands. Some of this land may receive the benefit of Environmental Significance Overlays which would constrain development. The program also commits to planning arrangements and extending Environmental Significance Overlays onto the Werribee Plains outside the UGB.
206. The conservation outcomes in program for grasslands also commit to the delivering a number of smaller reserves, including some already identified and others within the urban context (Victorian Government 2009b, p. 47). The department is aware of existing small grassland reserves scattered throughout the west Melbourne area (representing most of the two per cent currently protected) and is of the view that these will enhance protection of the grasslands.
207. The IAR includes many of the department's requested changes and additional information so that it adequately describes the impacts of the program on this Ecological Community. The department continues to work with Victoria to refine the draft prescription to ensure it is comprehensive, with ability for the department to tighten aspects if necessary relating to achieving conservation outcomes of the program and that it is easily understood by those who will be directly responsible for its implementation.

Conclusion

208. The program is proposing to retain a small number of patches of Natural Temperate Grassland of the Victorian Volcanic Plain ecological community of 150 hectares in size within the current urban growth boundary, and offset the remaining areas to be cleared to within the proposed western grassland reserves.

209. There is strong agreement both within and outside of Government that if the current project-by-project approach were to be undertaken over the same timeframe as the program that the grassland community would be overwhelmed through fragmentation, weed invasion and edge effects of development in the case by case scenario.
210. The benefits of the program over the case by case scenario include a sound commitment to management and conservation of a large area of the EC as well as ensuring some diversity is maintained within other areas for the future.
211. Additionally, given that many fauna dependent on the grassland habitat have poor mobility (for example golden sun moths) larger, well managed reserves should increase resilience against edge effects and urban disturbances. Sound argument exists that large reserves will be more beneficial to biological persistence over time and more cost effective to manage in the longer term than more numerous but potentially isolated smaller reserves.
212. The measures for mitigation and offset for this ecological community demonstrate the impacts are sufficiently addressed to a level that the conservation outcomes are highly likely to be achieved.

Grassy Eucalypt Woodland of the Victorian Volcanic Plain Ecological Community – critically endangered

Current Status

213. The Grassy Eucalypt Woodland of the Victorian Volcanic Plain (the woodlands) ecological community is endemic to western Victoria. The woodland's overall distribution roughly follows that of the Natural Temperate Grassland of the Victorian Volcanic Plain (grasslands) as the two naturally merge in transition communities in many areas. The woodland has undergone a severe decline in extent (approximately 95 per cent, or 697,300 hectares) and floristic integrity since European settlement with approximately only three per cent of the remaining community currently within secure reserves.
214. Grassy Eucalypt Woodland of the Victorian Volcanic Plain is an open eucalypt woodland dominated by *E.camaldulensis* with a species rich grassy understorey, supporting a number of nationally listed flora and fauna species, including many also occurring within the grasslands. Both woodlands and grasslands communities have similar hydrological and ecological functions, with the woodlands supporting additional arboreal wildlife such as woodland dependent birds, mammals and insects.
215. The woodlands ecological community has been reduced to remnants in the west and north of greater Melbourne through clearance for agriculture and urban development. Remnants are further threatened by fragmentation, weed invasion, edge effects, inappropriate management regimes and climate change.

Impacts

216. Implementation of the program will result in the loss of approximately 709 hectares of this ecological community. Clearing of remnants will occur primarily in the Hume-Whittlesea growth area. The program initially avoids

direct impacts to the ecological community through placement of the revised UGB to avoid more than half of its known occurrence within this area.

Conservation outcomes

217. The program proposes that implementation of the conservation activities to mitigate and offset the impacts of the program will result in the following conservation outcomes for this ecological community (Victorian Government 2009b, p. 48):
- The creation of a 1200 hectare conservation reserve for the woodlands ecological community outside the UGB south-west of Whittlesea.
 - Eighty per cent of the ecological community within the UGB being retained and managed in secure conservation reserves.
 - The creation of a network of small and medium sized conservation reserves in the Sunbury Growth Area, and the Hume-Whittlesea Growth Area, particularly areas associated with the Merri Creek and Darebin Creek floodplains that have not been zoned for urban development.
218. Existing remnants of the ecological community on private land within the Hume-Whittlesea Growth and Sunbury areas, constrained land within the northern investigation area, and the proposed conservation reserve south-west of Whittlesea will be used for obtaining offsets.
219. The program is yet to finalise the status and management regime for this proposed conservation reserve. This is because the required public consultation has not been undertaken. The Victorian Government is investigating the best approach to most efficiently and effectively obtain this reserve. The reserve proposal, acquisition and management approach and schedule will be provided to the department in 2010 following community consultation. The department has worked closely with Victorian officials to ensure this commitment to a reserve is included in the program.
220. The IAR includes many of the department's requested modifications and additional information so that it adequately describes the impacts of the program on this Ecological Community. The department continues to work with Victoria to refine the draft prescription to ensure it is comprehensive, with ability for the department to tighten aspects (such as thresholds) where necessary relating to achieving conservation outcomes of the program and that it is easily understood by those directly responsible for its implementation.

Conclusion

221. Victoria calculates that achieving the program outcomes will result in improvement in the quality of remaining woodlands through implementation of the program. In addition, security and management of the proposed conservation reserve will assist to address cumulative impacts and contribute to the long term persistence of this ecological community.
222. Without this commitment from the program, over time this community will suffer further decreases and degradation with no obligation to create an aggregated area for reserve. Additionally, retained areas will be managed by

Parks Victoria to improve quality of understorey and structure, as well as protection from weed invasion and urban edge effects.

223. Therefore, the proposed measures for mitigation and offset for this ecological community demonstrate the impacts are sufficiently addressed to a level that the conservation outcomes are highly likely to be achieved.

Key species associated with the grassland and woodland ecological communities

Golden Sun Moth (*Synemon plana*) - critically endangered

Current Status

224. The golden sun moth historically occurs in native temperate grasslands across NSW, ACT, Victoria and SA. The original extent of these grasslands is estimated at two million hectares with less than one per cent now remaining. As a consequence golden sun moth populations are substantially reduced in extent and are fragmented.
225. The golden sun moth is a medium-sized day flying moth that is most often found within the grasslands ecological community. The species is also known to inhabit woodlands and non-native grassy areas. The golden sun moth is known from 125 extant sites across its range, of which 50 occur in the Melbourne region. Around half of these populations are less than 10 hectares in size, and less than ten are within secure conservation reserves.
226. Threats to the species include:
- Loss and degradation of wallaby grass-dominated native temperate grasslands across the species historical range
 - Loss and degradation of open grassy woodlands where the ground layer is dominated by wallaby grass, and
 - Soil disturbance at extant golden sun moth sites.

Impacts

227. Implementation of the program to the west and north of Melbourne is likely to result in the loss of approximately 4665 hectares of grasslands and approximately 709 hectares of woodland that constitute habitat for golden sun moth, as well as areas of degraded and non-native vegetation in which the moth inhabits. The program avoids direct impacts to these ecological communities through fine tuning the placement of the urban growth boundary, the OMR/E6 transport corridor and the Regional Rail Link exclusion areas.

Conservation outcomes

228. The program proposes that the implementation of the conservation activities to mitigate and offset the impacts of the program will result in the following conservation outcomes for the golden sun moth:
- Approximately 80per cent of high quality confirmed habitat (native grassland with confirmed presence of golden sun moth) being retained and managed in secure conservation reserves within the Victorian Volcanic Plains bioregion.
 - The creation of two conservation reserves totalling approximately 10 000 hectares of grasslands containing suitable habitat for the golden sun moth that will contribute to long-term persistence of the species.
 - The creation of a 1200 hectare conservation reserve for the woodlands containing suitable habitat for the golden sun moth that will contribute to the long-term persistence of the species.
 - The creation of a number of smaller reserves within the UGB that contain populations of the golden sun moth.

- Improved knowledge of the location and habitat attributes of the golden sun moth.
229. The Growth Areas Authority will be conducting surveys in accordance with the Biodiversity Precinct Planning Kit (Victorian Department of Sustainability and Environment 2009) for the golden sun moth and other matters of NES within the revised UGB within the next two years. Present golden sun moth distribution data across the revised UGB is not yet available and detailed site-by-site impacts cannot be assessed.
230. Conservation outcomes will be achieved through application of the prescription for the golden sun moth (in draft in Victorian Government 2009a, p. 166). The prescription is based on a modelling system to measure habitat into classes of contribution to species persistence, which is described in the IAR in Appendix 2 (Victorian Government 2009a, p. 282) and Appendix 3 (p. 294).
231. The prescription directs the size and quality of patches of confirmed golden sun moth habitat to be retained within the UGB. For example, patches of highest quality habitat with golden sun moth present that are greater than 100 hectares will be retained.
232. Similarly to the grasslands prescription, it is unlikely that the prescription criteria will facilitate retention of many patches of golden sun moth habitat within the UGB. However, three reserves have already been identified in the western growth centre (Victorian Government 2009b, p. 12).
233. Victoria has explained that the threshold of 100 hectares or more for retention of golden sun moth habitat is based on practical considerations regarding the ability to maintain and maximise conservation values and resource appropriate management regimes for conservation reserves, within the overall constraints imposed by the social and economic requirements for Melbourne's future growth (Victorian Government 2009a, p. 137).
234. It should be noted that ecological management experience in Victoria and elsewhere has demonstrated that smaller sites (half a hectare, for example) can be successfully managed for golden sun moth persistence. However, as discussed previously, information on their management and resource intensity is not readily available (see section 4.5).
235. Offsets will be secured into the proposed reserves in accordance with the prescription and the Victorian Native Vegetation Management Framework (NVMF) (Victorian Government 2009a, p. 167-168). This will include:
- Clearing of high quality confirmed habitat will be offset by treating this vegetation as very high conservation significance under the NVMF and the offset site must contain a population of golden sun moth. The department calculates this to represent an approximate offset ratio of 2:1.
 - Clearing of medium quality confirmed habitat will be offset by the proponent in exchange for securing high quality confirmed habitat, the department calculating this to represent an approximate offset ratio of 1:1.

- Clearing of low quality confirmed habitat will be offset by the proponent through survey and confirmation of an area of confirmed golden sun moth habitat outside the UGB equivalent the size proposed to be cleared.

Conclusion

236. The program is proposing to retain a small number of patches of golden sun moth habitat of approximately 100 hectares in size within the current urban growth boundary, and to offset clearing of habitat to within the proposed western grassland reserves.
237. There is an overall target of 80 per cent of confirmed sun moth habitat to be protected across the bioregion. Without such a strategy, case by case referrals would not achieve such outcomes for golden sun moth. Nor would there be any future obligation to create aggregated areas for protection.
238. Retained areas and the large reserved areas of grasslands to the west of Melbourne will be managed to protect from weed invasion and urban edge effects and contribute to the long term persistence of the golden sun moth.
239. Additionally, surveys undertaken by the Growth Areas Authority will inform the preparation of a sub-regional species strategy consistent with the prescription for the golden sun moth. This sub-regional species strategy will identify important populations, habitat, and areas to be retained as required by the prescription. The sub-regional species strategy will inform the biodiversity conservation strategy for the relevant growth area and will influence the design of precincts through the precinct structure plans. The Minister will approve the sub-regional strategy.
240. Measures for mitigation and offset for the golden sun moth ensure the impacts are sufficiently addressed to a level that the conservation outcomes are highly likely to be achieved.

Spiny Rice-flower (*Pimelea spinescens*) - critically endangered

Current status

241. The spiny rice-flower listed is endemic to Victoria. Spiny rice-flower distribution of populations is fragmented due to land clearance for settlement, industry and agriculture. The spiny rice-flower is a stunted sub-shrub of 5-30 centimetres in height that is most often found associated with the grasslands and the woodland ecological communities. Further threats include industrial and urban development, maintenance activities for road and rail reserves, weed invasion, inappropriate management and fire regimes.
242. Almost all known populations are small, and the total estimated area of occupancy of the species is between 5.7 square kilometres to 10 square kilometres. The number of mature individuals of spiny rice-flower is estimated at 55 000, occurring in over 184 sites. The majority of sites support populations of less than 100 individuals. In the Melbourne region, there are approximately 46 known populations of which 36 are estimated to support up to 100 plants.

243. The Growth Areas Authority will be conducting all surveys for the spiny rice-flower and other MNES within the revised UGB over the next two years. Current survey data across the revised UGB is not yet available, and detailed site-by-site impacts cannot be assessed.

Impacts

244. As spiny rice-flower is most often found in association with the grasslands and woodlands, clearing of these ecological communities will impact the spiny rice-flower (please also refer to sections on ecological communities above).

Conservation outcomes

245. The program proposes that the implementation of the conservation activities to mitigate and offset the impacts of the program will result in the following conservation outcomes for the spiny rice-flower:
- Approximately 80 per cent of the total area of the highest priority habitat being retained and managed in secure conservation reserves within the Victorian Volcanic Plain bioregion.
 - Creation of two conservation reserves totalling approximately 10 000 hectares of grassland containing spiny rice-flower populations will contribute to long-term persistence of the species.
 - Creation of smaller conservation reserves within the UGB containing populations of spiny rice-flower.
 - Protection of any populations of the species containing 200 plants or more.
246. Offsetting impacts on the spiny rice-flower will be in accordance with the draft prescription (Victorian Government 2009a, p. 182) and the Victorian Native Vegetation Management Framework. The proposed western grassland reserves will be used in accounting for the offsetting process.
247. The current draft prescription carries risk of legal challenge, albeit in the department's view a low risk, due to the perception it may conflict with actions in the national recovery plan for the spiny rice-flower (action 3.1 and 3.2) which state that populations of spiny rice-flower on private and public land be protected.
248. The draft prescription proposes clearing habitat in the case of state-significant infrastructure, and this may include populations that might otherwise be retained. This issue does not need to be addressed for any endorsement decision but will need to be clarified by the department in any approval of actions.
249. The department suggests the overall objective of a recovery plan is to recover species in a region, in which case the definition of population would be broader than a selected number of plants. The recovery plan for spiny rice-flower is usually applied to case by case assessments where the impacts are fewer and the benefits are smaller.
250. Under the program, securing offsets for populations identified on public and private land must be secured before clearing can occur. The department's view is that secured, managed reserves with known occurrences of spiny rice flower

will lead to medium to long term protection of this species and this will address the overall objective of the recovery plan.

251. Discussions have been held with Victorian Government officials about the benefits of preparing a sub-regional species strategy consistent with the prescription for the spiny rice-flower. The sub-regional species strategy would be developed to guide the conservation of spiny rice-flower at both growth area and precinct levels and would be approved by the Commonwealth consistent with the other sub-regional species strategies.
252. It is highly likely that the conservation outcomes for this species as stated by the program will be achieved.

Matted Flax-lily (*Dianella amoena*) - endangered

Current status

253. Matted flax-lily occurs in grassland and grassy woodlands in Tasmania and Victoria. In Victoria it occurs in four bioregions, but is concentrated around the greater Melbourne area in remnant vegetation along roadsides, railways and small reserves. It is co-dependent on the presence of specific other native flora for effective pollination.
254. Matted flax-lily is amenable to translocation and translocation has occurred at a number of sites in the Melbourne region. Threats to matted flax-lily identified in the draft national recovery plan that may be relevant to implementation of the program include weed invasion, disturbance and clearing of remnants, fragmenting habitat, inappropriate road and rail verge maintenance and inappropriate fire regimes.

Impacts

255. Implementation of the program over the next 20 years will impact some sites likely to contain small populations of matted flax-lily within degraded habitat in the north (Victorian Government 2009a, p. 174).
256. The program avoids impacts to matted flax-lily habitat through the placement of the extended UGB in locations to the north and south-east of Greater Melbourne corresponding with alignment for avoidance of both grassland and woodland ecological communities.

Conservation outcomes

257. The program proposes implementation of the conservation activities will result in the following conservation outcomes for the matted flax-lily (Victorian Government 2009b, p. 55):
- Approximately 80per cent of the total area of the highest priority habitat being retained and managed in secure conservation reserves within the Victorian Volcanic Plain bioregion.
 - Creation of a 1200 hectare conservation reserve for the woodlands community containing populations of matted flax-lily, and contributing to the long-term persistence of the species.
 - Creation of two conservation reserves totalling approximately 10 000 hectares of grasslands possibly containing matted flax-lily.

- Creation of a selection of smaller conservation reserves within the UGB possibly containing populations of matted flax-lily.
258. The draft prescription for matted flax lily (Victorian Government 2009a, p. 175) directs that no area of native vegetation supporting matted flax-lily may be cleared until protection of at least 80 per cent of the areas where “high contribution to species persistence” and its confirmed habitat intersect across the bioregion (Victorian Government 2009a, App 4, p. 298).
259. The exceptions to clearing matted flax-lily before an 80 per cent target of protection has been reached include:
- If the clearance is unavoidable for the provision of infrastructure of state significance
- or
- If the native habitat within the land parcel contains greater than 25per cent cover of high threat grassy weeds.
260. The draft prescription directs that if clearing of high contribution habitat is permitted, an offset must be found and secured prior to the development approval. These offsets will be determined by treating the vegetation to be removed as very high conservation significance as a result of its values for the matted flax-lily and the relevant like for like criteria followed including a requirement that the offset site must contain a population of the matted flax-lily.
261. The draft prescription does not give an undertaking to offset the clearing of matted flax-lily on confirmed medium or low contribution habitat. This is not consistent with the prescription for golden sun moth, which stipulates that offsets of an equivalent area must be secured when clearing confirmed medium contribution habitat.
262. The draft prescription also directs that if any matted flax-lily plants are approved for removal at a site, a fully costed translocation plan that satisfies the Victorian Department of Sustainability and Environment must be prepared.
263. Plants are to be translocated to areas of suitable habitat within secure conservation reserves (either on or off site), preferably to the proposed northern woodland reserve unless a better outcome is likely to be achieved elsewhere. The translocation must follow the *Guidelines for the Translocation of Threatened Plants in Australia*, 2nd Edition (or as updated).

Conclusion

264. There is an overall target of 80 per cent of confirmed high contribution habitat (native grassland or woodland with confirmed presence of matted flax lily) to be protected across the bioregion. Case by case referrals would be unlikely to achieve such outcomes for matted flax-lily.
265. There are also commitments to the creation of two large conservation reserves for the grassland and woodland ecological communities in which matted flax-lily are likely to occur or be translocated into, contributing to the long term persistence of the species.

266. Retained areas and the large reserved areas of grasslands to the west and woodlands to the north of Melbourne will have management to protect from weed invasion and urban edge effects which will contribute to the long term persistence of the matted flax-lily.
267. The measures for mitigation and offset for the matted flax lily demonstrate the impacts are sufficiently addressed to a level that the conservation outcomes are highly likely to be achieved.
268. Approval of the prescription and related adaptive management considerations by the Commonwealth will provide adequate conservation measures to ensure conservation outcomes for this species will be achieved.

Striped Legless Lizard (*Delma impar*) - vulnerable

Current status

269. Striped legless lizard occurs in fragmented populations within grasslands and grassy woodlands throughout ACT, NSW and Victoria. In Victoria its providence is linked to the critically-endangered grassland ecological community, and also occurs within some smaller reserves in the west of Melbourne. Populations of the species are also known within the proposed grassland reserve areas.
270. Losses in extent, fragmentation and degradation of this habitat through land clearing, grazing and weed encroachment are major threats to this species as well as predation by domestic and feral cats and foxes and limited biological knowledge.

Impacts

271. Implementation of the program over the next 20 years is likely to result in the loss of approximately 4665 hectares of grasslands community, constituting suitable habitat for striped legless lizard.
272. The program avoids direct impacts to striped legless lizard habitat through fine tuning the placement of the urban growth boundary, the OMR/E6 transport corridor and the Regional Rail Link exclusion areas. Further avoidance and mitigation measures are as described above under section 4.5 on the grasslands ecological community.
273. Specific measures to mitigate impacts to striped legless lizard are described by the draft prescription for the species (Victorian Government 2009a, p. 157). Mitigation measures for likely impacts to Striped Legless Lizard include:
- the offset of grasslands community into managed reserves
 - strategies to prevent impacts from feral and domestic animals
 - retention of striped legless lizard habitat remnants that are manageable and contain other matters of NES, and
 - translocation.

Conservation outcomes

274. Conservation outcomes for the striped legless lizard as specified by the program (Victorian Government 2009b, p. 60) include:
- a series of reserves and other managed areas to maintain viable populations
 - a program of research and monitoring to inform adaptive management, and
 - assessment of feasibility and protocols for translocation.
275. The draft prescription directs treatment of striped legless lizard and its habitat for when they are found during Growth Area Authority surveys to be carried out over the next two years. The draft prescription currently mirrors outcomes for the grassland community.
276. The draft prescription for the striped legless lizard has not been developed with reference to information now available in the draft EPBC Policy statement for the species. Specifically, the policy statement clarifies what is likely or not likely to constitute an important population and the prescription may require modification to reflect this.

Conclusion

277. If the mitigation measures are undertaken and the conservation outcomes achieved as described in the program, the department considers that the striped legless lizard should benefit from and persist in large areas of managed and protected grassland. Its persistence within smaller habitat patches over time is questionable, due to edge effects, habitat degradation and disturbance.
278. Approval of the prescription and related adaptive management considerations by the Commonwealth will provide adequate conservation measures to ensure conservation outcomes for this species will be achieved.

Swift Parrot (*Lathamus discolor*) - endangered

Current Status

279. The swift parrot was listed as endangered in 2000 due to a marked decline in distribution and abundance. The Swift Parrot is a small, fast-flying and nectivorous bird occurring in eucalypt forests in south-eastern Australia. It breeds in Tasmania migrating to the mainland in autumn. During winter the parrots are semi-nomadic, foraging in flowering eucalypts mainly in Victoria and New South Wales.
280. There are a few records each year from suburban Melbourne and suitable winter foraging habitat is present within the woodland community and red gum grassy woodland habitat in the north investigation area. Swift parrots show high site fidelity returning to sites on a cyclic basis. Site use depends on the availability of foraging resources for the species.

Impacts

281. Implementation of the program over the next 20 years is likely to cause further loss and fragmentation of suitable foraging habitat for the Swift Parrot through the clearing of approximately 709 hectares of woodland community.

Conservation outcomes

282. The program proposes conservation outcomes for the swift parrot by protecting woodland habitat through:
- creating a woodland reserve outside the UGB greater than 1200 hectares
 - retaining 80per cent of woodland within the UGB, and
 - creating a network of smaller conservation reserves in the two northern-most growth areas.
283. The swift parrot Recovery Plan 2001-2005 remains in force until revoked. A revised recovery plan is being prepared. These outcomes are not inconsistent with the current recovery plan objectives to protect and manage swift parrot habitat at a landscape scale.

Conclusion

284. There are no specific conservation outcomes for the swift parrot outlined by the program. The ability exists within the program to formulate a prescription for this species if required (Victorian Government 2009b, p. 67).
285. The overall conservation outcomes above should be sufficient to adequately mitigate impacts to an acceptable level.

Grassland Earless Dragon (*Tympanocryptis pinguicolla*) - endangered

Current status

286. Grassland earless dragon is listed as endangered and occurs in fragmented populations within grasslands throughout ACT, NSW and Victoria. In Victoria its providence is linked to the critically-endangered ecological community Natural Temperate Grasslands of the Victorian Volcanic Plains (the grassland).
287. The last potential sighting of this species in the Volcanic Plains bioregion was in 1997. Few sustained targeted surveys have been undertaken for grassland earless dragon within the last 20 years, and there is some belief it may be extinct within the study area

Impacts

288. Impacts from implementing the program over the next 20 years may contribute to the threatening processes for this species which include losses in extent, fragmentation and degradation of grassland habitat through land clearing and weed encroachment. Additionally, edge effects may increase from urban development and include predation by domestic and feral cats and foxes.

Conservation outcomes

289. The program proposes conservation outcomes for the grassland earless dragon will be achieved by:
- The creation of two conservation reserves totalling approximately 10,000 hectares of grassland possibly containing extant populations of the species.
 - The creation of a selection of smaller conservation reserves within the UGB containing suitable habitat for the species.

Conclusion

290. There are no specific conservation outcomes for grassland earless dragon as experts suggest that there is slim chance of rediscovering the species within the bioregion.
291. However, if the species persists in the area it may do so within the largest and most undisturbed areas of grassland, which includes some areas of the proposed grassland reserves in the west and Craigieburn grassland reserve.
292. If the species is rediscovered, the ability exists within the program to formulate a prescription for this species if required (Victorian Government 2009b, p. 67).
293. The overall conservation outcomes for grasslands should be sufficient to adequately mitigate impacts on this species to an acceptable level.

Plains Wanderer (*Pedionomus torquatus*) - vulnerable

Current status

294. The Plains Wanderer occurs in fragmented populations within grassland habitat central west QLD, SA, NSW and Victoria. In Victoria its occurrence is linked to the grassland ecological community.
295. An extremely mobile but cryptic species, the last record of plains wanderer in the Volcanic Plains bioregion was a road-killed individual from the Werribee district in 2008. Few sustained targeted surveys have been undertaken for the species within the last 10 years.
296. The plains wanderer is averse to built up areas, obstacles and restricted areas of habitat, and is most likely to persist within large tracts of relatively undisturbed grassland habitat.

Impacts

297. Implementation of the program over the next 20 years is likely to result in the loss of approximately 4665 hectares of grassland constituting suitable habitat for plains wanderer.
298. Habitat clearing, fragmentation and degradation may contribute as known threatening processes for this species, along with edge effects from urban development and include predation by domestic and feral cats and foxes.

Conservation outcomes

299. The program proposes conservation outcomes relevant to the plains wanderer will be achieved by the creation of two conservation reserves totalling approximately 10 000 hectares of grassland community possibly containing extant populations of the species;

Conclusion

300. There are no specific conservation outcomes for plains wanderer in the program, but if the species is rediscovered, the ability exists within the program to formulate a prescription for this species if required (Victorian Government 2009b, p. 67).

301. The areas proposed for development are not considered areas critical for the survival of the species (Baker-Gabb 2002, Draft Recovery Plan).
302. It is likely that the plains wanderer may benefit from and persist in large areas of managed and protected grassland as described in the overall conservation outcomes for grasslands.
303. The department therefore advises that the overall conservation outcomes above should be sufficient to adequately mitigate any impacts on this species to an acceptable level.

Southern Brown Bandicoot (*Isoodon obesulus*) - endangered

Current status

304. The southern brown bandicoot is a medium-sized ground-dwelling marsupial listed as endangered in 2001 due to a marked decline in distribution and abundance. The species has high fecundity, suggesting the potential to recover if the right conditions exist.
305. The species is well known in the south-east of Melbourne and has been recorded in the south-east investigation area and adjacent precincts. Bandicoots in this area likely form part of a population that ranges from the south-east Melbourne to Wilson's Promontory, which is one of five isolated populations in Victoria.
306. The largest population within the Melbourne area occurs at the Royal Botanic Gardens Cranbourne, where it is protected by a predator-proof fence.
307. A draft national recovery plan for the species is in preparation by the Victorian Department of Sustainability and Environment.

Impacts

308. Threats to southern brown bandicoot related to urban development under the program include habitat loss, fragmentation and degradation, including alteration of the vegetation structure by grazing, weeds or inappropriate fire regimes; predation by cats and foxes.
309. Implementation of the program is likely to directly impact some populations of southern brown bandicoot within the south-east investigation area through habitat removal or alteration during urban development and quarrying activities in the south-west of the investigation area.
310. Proposed strategies to minimise impacts on the southern brown bandicoot include excising some areas of likely habitat from development, securing a network of corridors and ensuring links between populations throughout the south-east.

Conservation outcomes

311. The program proposes that implementation of conservation activities to mitigate and offset the impacts of the program will achieve the following conservation outcomes for the southern brown bandicoot (Victorian Government 2009b, p. 58):

- Functioning sustainable populations of southern brown bandicoot within and adjacent to the new UGB with connectivity between populations.
 - Protection and enhancement of all populations of southern brown bandicoot including the wild population at the Royal Botanic Gardens Cranbourne.
312. The draft prescription for southern brown bandicoot (Victorian Government 2009a, p. 189) directs that conservation management plans must be prepared for the management of populations and suitable habitat, and must achieve a number of objectives. These include:
- That habitat both on and offsite will be retained, connected and managed for long-term population viability.
 - Thirty years of monitoring to determine long-term effectiveness of conservation objectives.
 - That threatening processes relating to habitat will be appropriately managed and be responsive to the results of monitoring.
313. A sub-regional species strategy consistent with the prescription will be developed by 2011 and will guide conservation of the southern brown bandicoot at both growth area and precinct levels. This strategy is to be approved by the Commonwealth.
314. The strategy will address connectivity between and within important populations over the long term. Key strategic protection and management measures, such as land acquisition and planning scheme measures, will commence prior to or in conjunction with precinct structure planning.
315. The program proposes a number of performance measures including:
- priority protection of existing habitat and future management mechanisms will be established by March 2011, and
 - monitoring to assess progress of implementing the prescription and an evaluation of whether proposed conservation outcomes are being achieved will be carried out every two years or to an agreed schedule. The monitoring reports will be provided to the Minister.

Conclusion

316. The program proposes broad conservation outcomes for southern brown bandicoot along with performance measures to ensure that outcomes are being achieved.
317. The draft prescription commits to preparation of precinct conservation management plans to be consistent with the sub-regional strategy which will be approved by the Commonwealth. Precinct conservation management plans will specify the retention, management and monitoring of suitable habitat across the landscape.
318. Both the prescription and the sub-regional species strategy are integral to the mitigation of impacts of the program upon southern brown bandicoot. Approval of the prescription, sub regional strategy and related adaptive management considerations by the Commonwealth will provide adequate conservation measures to ensure conservation outcomes for this species will be achieved.

Growling Grass Frog (*Litoria raniformis*) - vulnerable

Current status

319. The growling grass frog was listed as vulnerable in 2000 due to a marked decline in range resulting in fragmented and disjunct populations. This large frog is highly mobile and requires a mosaic of adjacent aquatic and terrestrial habitats for feeding, reproduction and over-wintering.
320. It is widely distributed within the greater Melbourne region, and Victoria is considered the stronghold of the species. It occurs in a wide range of habitat, from ephemeral wetlands and creeks in the west and north of Melbourne to the wetter areas in the south east of Melbourne.

Impacts

321. Potential threats from implementing the program include habitat loss and degradation, barriers to movement, altered flood regimes, predation from introduced fish species and introduced animals, changes to vegetation composition, disease and exposure to biocides.
322. Important populations and individual growling grass frogs have been recorded, or suitable habitat identified, in all investigation areas covered by the program.
323. Implementation of the program over the next 20 years is likely to impact some important populations of the growling grass frog within the growth areas. It is expected that important populations may be identified in growth area surveys. The main threat to the species being the loss of connectivity to suitable habitat and between sub-populations.

Conservation outcomes

324. The program proposes that the implementation of conservation activities to mitigate and offset the impacts of the program will result in the following conservation outcomes for the growling grass frog (Victorian Government 2009b, p. 58):
- Functioning sustainable populations of growling grass frog within, and adjacent to the new UGB with connectivity between populations.
 - Protection and enhancement of important populations of growling grass frog including the populations at Merri Creek, Pakenham and south-east growth area, Kororoit Creek and Darebin Creek in the north.
325. The program also proposes a number of performance measures to ensure the conservation outcomes are being achieved.
326. The draft prescription for the growling grass frog (Victorian Government 2009a, p. 194) specifies a number of objectives for the management of the species which reflect the conservation outcomes as above. They also specify:
- retention, upgrading and connection or buffering of existing habitat within proposed precincts
 - creation of new habitat within proposed precincts, and
 - careful management of hydrology and aquatic vegetation to avoid introduction of predatory fish.

327. The draft prescription also specifies that precinct conservation management plans for the growling grass frog must demonstrate how habitat and connectivity is retained, created and managed for an important or potentially important population. Additionally it must demonstrate how it will adaptively manage habitat and threatening processes.
328. A sub-regional species strategy consistent with the prescription will be developed to assist conservation of the growling grass frog at both growth area and precinct levels. The program states that this strategy requires approval by the Commonwealth.
329. The program is considered to be consistent with the draft recovery actions in the draft national recovery plan that has been developed by Victorian Department of Sustainability and the Environment.
330. The department considers the conservation activities proposed in the program will contribute to the persistence of important populations of the growling grass frog in each investigation area.

Conclusion

331. The program proposes broad conservation outcomes for growling grass frog along with performance measures to ensure that outcomes are being achieved.
332. The draft prescription commits to preparation of precinct conservation management plans to be consistent with the sub-regional strategy which requires approval by the Commonwealth. Precinct conservation management plans will specify the retention, management and monitoring of suitable habitat across the landscape.
333. The program also proposes a water management regime that commits to maintaining or improving water quality. These commitments are readily evaluated and provide clarity when assessing the impacts of the program on the growling grass frog,
334. Both the prescription and the sub-regional species strategy are integral to the mitigation of impacts of the program upon the growling grass frog. Approval of the prescription, sub regional strategy and related adaptive management considerations by the Commonwealth will provide adequate conservation measures to ensure conservation outcomes for this species will be achieved.

OTHER MNES BY LISTING:

Button Wrinklewort (*Rutidosia leptorrhynchoidea*) – endangered

Current status

335. Button Wrinklewort is a native daisy species and occurs in the ACT, NSW and Victoria. The Victorian populations represent 4 per cent of the total known populations (Briggs et al. 1998) and it historically occurs in association with the grassland.
336. Sites supporting remnant button wrinklewort populations in the Victorian Volcanic Plain occur primarily in ‘undisturbed’ railway easements and cemeteries. Three large known populations occur at Truganina cemetery, Dobie’s Bridge (Digger’s Rest) and Rokewood cemetery.
337. Losses in extent of this species have occurred through its sensitivity to land clearing, grazing, weed competition, pasture improvement and changed fire regimes.

Impacts

338. Implementation of the program over the next 20 years is unlikely to result in loss of any known button wrinklewort populations. Two known sites within the UGB will both be protected from impacts and will not be developed (Victorian Government 2009a, page 171). The site at Digger’s Rest (Dobie’s Bridge) is close to the path of the proposed Regional Rail Link but is proposed to be protected from development.

Conservation outcomes

339. The program proposes that through implementation of the protection measures and ongoing management there will be ‘no substantial negative change’ to known populations of button wrinklewort within the UGB (Victorian Government 2009b, p. 64).
340. If further button wrinklewort populations are located, a prescription specifying its treatment will be developed to the satisfaction of the Commonwealth.

Conclusion

341. The IAR concludes that impacts to button wrinklewort as a result of implementing the program are unlikely. Due to its low tolerance for grazing and other disturbance, it is unlikely extant populations will be found.
342. There is a national recovery plan in preparation for this species. The mitigation measures and conservation outcomes are consistent with recovery actions identified by DSE (2003) (SPRAT).
343. Approval of the prescription and related adaptive management considerations by the Commonwealth will provide adequate conservation measures to ensure conservation outcomes for this species will be achieved.

Small Golden Moths Orchid (*Diuris basaltica*) - endangered

Current status

344. The Small Golden Moths Orchid is a small, yellow, deciduous orchid endemic to Victoria where it is known from the basalt plains immediately to the north and west of Melbourne in the Victorian Volcanic Plain Natural Region.
345. Only two populations are currently known to exist. The largest (about 400 plants) is located within the Melbourne west investigation area on private property at Rockbank along Clarke Road near Parwan. The second site does not fall within the program area and contains just two plants.

Impacts

346. The primary threat to the orchid is disturbance. Currently, neither of the known sites are protected by law from development. However it is unlikely that either site will be affected by development under the program.

Conservation outcomes

347. The program proposes a conservation outcome whereby there will be 'no substantial negative change' to known populations (Victorian Government 2009b, p. 56).
348. The program proposes to avoid impacts from urban development to the Clarke Road population by permanently protecting and managing the areas containing Small Golden Moths Orchid. It is proposed the land will be purchased and secured by Victoria or protected by entering into a binding agreement with the landholder to provide management of the species in perpetuity.
349. If further populations of the orchid are located during surveys, a prescription will be developed by DSE and approved by the Commonwealth to guide future management actions. It is likely that any subsequent populations found will be managed on site.

Conclusion

350. Conservation outcomes specified by the program are not considered to be inconsistent with the draft recovery actions detailed in the national recovery plan currently in preparation by the DSE. Through securing and managing the Clarke Road population, the program will implement/achieve multiple proposed recovery actions.
351. Approval of the prescription and related adaptive management considerations by the Commonwealth will provide adequate conservation measures to ensure conservation outcomes for this species will be achieved.

Adamson's Blown Grass (*Lachnagrostis adamsonii*) - endangered

Current status

352. Adamson's blown grass is endemic to south central and south-western Victoria. There are currently no known populations within the program study area, although detailed surveys could discover persisting populations within the areas proposed for the grassland reserves.

Impacts

353. Implementation of the program is not considered likely to cause a significant impact to this species.

Conservation outcomes

354. There are no specific conservation outcomes for Adamson's blown grass in the program. Any new populations found within areas to be developed will be subject to a prescription for its treatment that will be developed by DSE and approved by the Commonwealth.

Conclusion

355. The known distribution of Adamson's blown grass within Victoria suggests that impacts under the program to this species area unlikely. Should the species be found in areas to be developed, a prescription for its treatment will be developed and approved by the Commonwealth to ensure adequate conservation measures and related adaptive management for this species will be achieved.

Australian Grayling (*Prototroctes maraena*) - vulnerable*Current status*

356. The Australian Grayling is a small to medium-sized slender, silvery fish that is endemic to south-eastern Australia, including Victoria, Tasmania and NSW. It is a migratory species that relies on access to coastal and freshwater habitats for its survival.

Impacts

357. The grayling has been recorded in Cardinia Creek in the south-east investigation area. Potential threats to the grayling from urban development within the south east include river regulation, barriers to movement, decreased water quality, siltation, introduced predatory fish and disease.

Conservation outcomes

358. The program proposes the following conservation outcome for the Australian Grayling (Victorian Government 2009b, p. 62):

- Management of factors, including migration routes, riparian vegetation and water quality, affecting Australian Grayling populations to promote persistence and recovery of the species in Cardinia creek.

359. The program proposes to carry out a range of conservation activities to mitigate the impacts of the program and to ensure that the conservation outcomes are achieved. These include:

- securing a 200 metre buffer within the Cardinia Creek corridor
- including the Cardinia Creek buffer within the revised Casey-Cardinia growth area framework plan
- protection of water quality through best practice urban water management entering the grayling habitat of Cardinia Creek, and
- protecting potential habitat for the species through best practice urban water management.

Conclusion

360. The department considers that the program is not inconsistent with the recovery actions in the national recovery plan for this species. The proposed conservation actions in the program indicate impacts on the grayling will be mitigated and the conservation outcomes are likely to be achieved.

Australian Painted Snipe (*Rostratula australis*) - vulnerable

Current status

361. Australian Painted Snipe was listed as vulnerable in 2003. It occurs in scattered locations over south-eastern Australia but is considered to occur in a single, contiguous breeding population.

Impacts

362. Implementation of the program is not considered likely to cause a significant impact to this species.

Conservation outcomes

363. There are no specific conservation outcomes for Australian painted snipe in the program, however three locations where painted snipe has been recorded in and near the study area have been excluded from the UGB and two of these sites are included within the proposed western grassland reserves.
364. Further habitat suitable for the species will be managed as part of the program within the Merri Creek area and large retained and recreated wetlands in the south-east investigation area.
365. If the species is detected during surveys for the precinct structure plans a prescription for treatment of its habitat on any site will be developed by DSE and approved by the Commonwealth.

Conclusion

366. The overall conservation outcomes offered by the program under the Migratory Birds section (Victorian Government 2009b, p. 68) should be sufficient to adequately mitigate impacts on this species to an acceptable level.

Clover Glycine (*Glycine latrobeana*) -vulnerable

Current status

367. Clover Glycine (Purple Clover) was listed as vulnerable in 2001. It is widely but sporadically distributed across south-eastern Australia. In Victoria it is widespread and records exist from the volcanic plains.
368. There are no recent records of clover glycine in the program study areas. Surveys for Precinct Structure Plans may discover extent populations of this species.

Impacts

369. Current data suggest that any impacts associated with implementing the program to this species are unlikely.

Conservation outcomes

370. There are no specific conservation outcomes for clover glycine in the program, however any new populations found will be subject to a prescription that will be developed by DSE and approved by the Commonwealth.

Conclusion

371. Should clover glycine be found in areas to be developed, a prescription for its treatment and related adaptive management will be developed and approved by the Commonwealth to ensure conservation measures for this species will be achieved

Dwarf Galaxias (*Galaxiella pusilla*) - vulnerable

Current status

372. The Dwarf Galaxia is a small transparent olive-amber freshwater fish occurring in Tasmania and Victoria. Populations have declined as a result of destruction, degradation and fragmentation of wetland habitat.
373. The galaxia has not been recorded in the study areas, although there is expectation it may be found in surveys of the south-east.

Impacts

374. Implementation of the program over the next 20 years has the potential to impact this species through changes to wetland habitats resulting from river regulation, barriers, water quality, runoff, siltation, introduced predatory fish and disease.

Conservation outcomes

375. There are no specific conservation outcomes for Dwarf Galaxias in the program, however conservation outcomes relevant to the Australian Grayling (Victorian Government 2009b, p. 62) and Migratory species, wetlands and waterways (Victorian Government 2009b, p. 68) apply similarly to this species.
376. The program proposes that impacts associated with its implementation will be mitigated through the protection and management of the Cardinia Creek corridor with an aim to maintain high conservation values.
377. This will include securing a buffer up to 200 metres wide, revegetation and woody weed removal activities in degraded areas. The program proposes to ensure best quality stormwater management which is designed to mitigate potential water quality issues.

Conclusion

378. Potential exists for impacts on extant populations of this species in the south-east. However, mitigation of impacts through conservation activities for other matters of NES should be sufficient to ensure ongoing protection of this species.
379. Additionally, any populations of galaxias found during surveys will be subject to a prescription that will be developed by DSE and approved by the Commonwealth.

Grey-headed Flying Fox (*Pteropus poliocephalus*) - vulnerable

Current status

380. Grey-headed Flying Fox was listed as vulnerable in 2001. Concentrated colonies of this species are distributed along the coastal belt of south-eastern Australia. The grey-headed flying fox services ecosystem functions such as pollination and seed dispersal for a range of native and commercial forestry trees.
381. There are several colonies in the Melbourne area, the most concentrated being the colony at the Royal Botanic gardens. Populations are highly mobile and commute considerable distances on a daily basis between food sources and roosting sites.
382. There are scant records of grey-headed flying fox within the investigation areas for the program, but they may occur in the woodlands in times of flowering.

Impacts

383. Current data suggest that impacts under the program to this species are unlikely.
384. The areas within focus of the program do not include the major known roosting sites or any satellite colonies.

Conservation outcomes

385. There are no specific conservation outcomes for the grey-headed flying fox in the program, however conservation outcomes relevant to the swift parrot may apply similarly to this species.

Conclusion

386. The department considers that it is unlikely that implementation of the program will cause any direct impact to this species.

Large-fruit Groundsel (*Senecio macrocarpus*) - vulnerable

Current status

387. Large-fruit groundsel was listed as a vulnerable species in 2000 and occurs in SA and Victoria. In Victoria it occurs in eleven locations primarily in wetter depressions within grassy woodlands and grasslands. Several of these occur in Public Transport Corporation lands (rail reserves) and private lands around Melbourne's west.
388. Losses in extent through land clearing and changes in hydrological regime within grassland habitat including increased siltation, salinity and flooding events threaten the large-fruit groundsel.

Impacts

389. Implementation of the program over the next 20 years is likely to result in the loss of known and extant habitat of the large-fruit groundsel. For example, the species is known at a site at Rockbank in the western investigation area and this site is not proposed to be excluded from development (Victorian Government 2009a, p. 173).
390. Mitigation measures for offsetting likely impacts to large-fruit groundsel include:
- the offset of grassland habitat into managed grassland reserves for potential natural recolonisation

- a prescription yet to be developed by the DSE in agreement with the Commonwealth
- enhanced protection of the Truganina cemetery grasslands, and
- replanting of nursery grown stock from salvaged sites.

391. Mitigation measures are inconsistent with an action outlined in the Victorian Flora and Fauna Guarantee statement for the species, that action being “Protection of existing sites” (FFG Action Statement, no.68, p. 4).

Conservation outcomes

392. A recovery plan is currently being prepared for this species. Advice on the conservation for this species is provided on the species profile and threat database.
393. The program proposes that through implementation of the protection measures and ongoing management there will be ‘no substantial negative change’ to known populations of large-fruit groundsel within the UGB (Victorian Government 2009b, p. 64).
394. There are some results from propagation and planting experiments but generally the results demonstrate limited applicability based on current knowledge.

Conclusion

395. Conservation outcomes for large-fruit groundsel to be achieved by Victoria reflect the mitigation measures in that they focus on protection and management of currently known populations.
396. Any new populations found will be subject to a prescription that will be developed by DSE and approved by the Commonwealth.

Swamp Everlasting (*Xerochrysum palustre*) - vulnerable

Current status

397. Swamp everlasting is a small native everlasting daisy and was listed as vulnerable in 1999. It occurs in about 23 sites across Victoria, mostly within road or rail reserves. It occurs within the rail reserve on the south-east edge of the south-east investigation area.

Impacts

398. Current data suggest that impacts under the program to this species are unlikely, but there is potential for the species to be found in surveys.

Conservation outcomes

399. The program proposes (Victorian Government 2009b, p. 66) that through implementation of the protection measures and ongoing management, there will be no substantial negative change to known populations of the Swamp Everlasting within the UGB.
400. The known population in the south east will be protected from urban development through development of a precinct conservation management plan that will inform the precinct structure plan.

Conclusion

401. The known population in the south east will be protected from development.

402. Any new populations found will be subject to a prescription developed by DSE for approval by the Commonwealth, indicating the overall conservation outcome for this species will be achieved.

River Swamp Wallaby Grass (*Amphibromus fluitans*) - vulnerable*Current status*

403. River swamp wallaby grass occurs in NSW, Victoria and Tasmania. In Victoria, it occurs mostly in the central north, with fewer records from southern Victoria. There are records of this species from Cranbourne, near the south-east investigation area and one record in the west.

Impacts

404. Current data suggest that impacts under the program to this species are unlikely, but there is potential for the species to be found in surveys within the areas proposed as grassland reserves, and other wetter areas within the north and south-east.

405. Expert advice to the department suggests that any populations in the Melbourne region would not meet the criteria as important populations.

Conservation Outcomes

406. There are no specific conservation outcomes for river swamp wallaby grass in the program however conservation outcomes for listed species without current prescriptions apply (Victorian Government 2009b, p. 67). They include:

- identification and assessment prior to planning and construction, and
- no substantial negative change to known populations within the UGB or other outcomes as agreed with the Commonwealth.

Conclusion

407. Potential exists for impacts on extant populations of this species in the west. Any new populations found will be subject to a prescription developed by DSE for approval by the Commonwealth, indicating the overall conservation outcome for this species will be achieved.

Maroon Leek-Orchid (*Prasophyllum frenchii*) - endangered*Current status*

408. The Maroon leek-orchid is a tall, slender, deciduous terrestrial orchid endemic to south-eastern Australia. Grasslands and grassy woodlands are important habitats for the species.

409. The current known population of maroon leek orchid in a railway corridor in the south-east is well known and managed, but faces a range of threats.

Impacts

410. It is not expected that the program will have a direct impact on this species.

Conservation outcomes

411. The program proposes the following conservation outcomes for the maroon leek orchid (Victorian Government 2009b, p. 66):

- no substantial negative change to known populations of the maroon leek orchid within the UGB, and
- an increase in the ability of each population to become self sustaining in the long term.

412. The program has proposed a range of conservation activities to ensure that the proposed conservation outcomes are met, including the potential establishment of a conservation reserve along the disused railway easement.

Conclusion

413. The program has proposed to exclude development from the disused railway, and implement a conservation management plan for the ongoing maintenance of the existing population.

414. There is also potential to develop a prescription for maroon leek orchid if required. The prescription would be developed by DSE for approval by the Commonwealth, indicating the overall conservation outcome for this species will be achieved.

Other Orchid and Herb Species

415. Other orchid species may also potentially occur within the program area, although considered very unlikely. They include:

- cream spider-orchid (*Arachnorchis orientalis* (syn. *Caladenia fragrantissima* ssp. *orientalis*))
- green-striped greenhood (*Pterostylis chlorogramma*)
- metallic sun-orchid (*Thelymitra epipactoides*), and
- sunshine diuris (*Sunshine Diuris*)

416. The following three herbs of grassland and grassy wetlands have historically occurred within parts of Melbourne west and Melbourne north investigation areas, although expert advice to the department suggests that their present potential for occurrence is very unlikely:

- austral toadflax (*Thesium australe*)
- basalt peppercress (*Lepidium hyssopifolium*), and
- swamp fireweed (*Senecio psilocarpus*)

Conservation outcomes

417. The program proposes that searches for all seven of these species will be undertaken as part of the precinct structure planning investigations. The program has also given the undertaking to ensure that suitably qualified botanists will conduct surveys for the orchid species at the appropriate time of year.

418. The program proposes that if any of these species are found during surveys, a prescription will be developed by the Victorian Government and submitted to the Commonwealth for approval. In the interim, any orchids listed under the

EPBC Act as endangered or critically endangered will be retained and managed on site unless the Commonwealth Government advises otherwise.

Conclusion

419. These seven species of orchids and herbs are unlikely to occur within the program area. The program has undertaken to survey for their presence appropriately and retain any orchids listed under the EPBC Act as endangered or critically endangered until a relevant prescription is approved by the Commonwealth Government. Therefore, given the low likelihood of occurrence of these species within the program area, and the program commitments regarding surveying and retention of extant plants, the program is likely to have an acceptable impact on these seven orchid and herb species.

Latham's Snipe (*Gallinago hardwickii*) - marine/migratory

Current status

420. Latham's Snipe is one of many shorebirds that are a non-breeding visitor to wetlands in the Melbourne area during migration (between August and March). This snipe will readily move locations as conditions become more or less favourable. They are cryptic and difficult to survey due to their physical similarities to other snipes.

421. Records indicate shorebirds occur in the west and north investigation areas and they are considered likely to occur in the south-east. Victorian Government (2009a, p. 199) suggests nationally significant numbers of shorebirds use some of the wetlands in and adjacent to the investigation areas including those associated with Merri Creek and within the western grassland reserves. Victorian Government (2009a), suggests that Latham's snipe is the most likely shorebird to use such areas.

Impacts

422. The implementation of the program has the potential to affect populations of Latham's snipe through habitat (wetland) loss or modification, disturbance and predation from introduced species/domestic pets such as cats, dogs and foxes.

423. The IAR suggests impacts of the program on shorebirds, including Latham's snipe, will not be significant. However, 670 hectares of wetland habitat occurs within the study area including some large artificial impoundments, and up to 89 per cent of this may potentially be lost through implementation of the program.

Conservation outcomes

424. Sixty hectares of wetland are proposed to be protected from urban development. The mitigation strategy suggests that wetlands may be incorporated in the precinct planning structure.

425. There are no specific conservation outcomes for Latham's snipe in the program, however conservation outcomes for migratory species, waterways, wetlands and Ramsar sites apply (Victorian Government 2009b, p. 68). They include:

- A network of conservation reserves including wetlands managed for migratory species and other wetland values
- Improved management and design of retained and constructed wetlands to maximise habitat opportunities

426. The draft prescription regarding wetlands (Victorian Government 2009a, p. 201) includes:

- Avoiding loss of wetlands where possible
- Providing 100 metre buffers around key wetlands
- Limiting indirect disturbances
- Re-creating new wetlands

Conclusion

427. The program does not specifically address the requirements for this species in the IAR. The draft prescription for migratory species applies.

428. The prescription will be integral to mitigating impacts of the program on Latham's snipe. Approval of the prescription and related adaptive management considerations by the Commonwealth will provide adequate conservation measures to ensure conservation outcomes for this species will be achieved.

Migratory Birds

Current status

429. There are a large number of migratory bird species that inhabit the Melbourne bioregion on a regular basis. These include marine, shorebird and wetland species as well as some terrestrial species.

430. Some species are of international importance, such as Latham's snipe, which can be present as a single migratory population distributed amongst wetlands over a wide area.

431. Terrestrial species include a suite of forest/woodland-dependant birds, such as the satin flycatcher, black-faced monarch and the endangered regent honeyeater and swift parrot.

Impacts

432. 670 hectares of wetland habitat is estimated to occur within the program area including some large artificial impoundments. Implementation of the program over the next 20 years may result in the loss of up to ~600 hectares (~ 89per cent) of both natural and artificial wetland habitat throughout the program area.

433. Additionally, 709 hectares of woodland habitat will be cleared as a result of the program (see section from paragraph 216).

434. The program initially avoids direct impacts to wetland and woodland habitat through the placement of the extended UGB.

435. The program also avoids direct impacts through the rezoning of some land areas within the extended boundary as non-developable lands. Additional measures to

avoid impacts on migratory bird habitat within the extended UGB are included in the draft prescription and associated mitigation measures.

Conservation outcomes

436. The program proposes that implementation of the conservation activities to mitigate and offset the impacts of the program will result in conservation outcomes for migratory birds, wetlands and Ramsar sites (Victorian Government 2009b, p. 68) including:
- a network of conservation reserves including wetlands managed for migratory species and other wetland values
 - improved management and design of retained and constructed wetlands to maximise habitat opportunities
 - major new area of re-established wetlands managed for water quality mitigation and biodiversity conservation
 - improved water quality entering Western Port Ramsar site
 - same or improved water quality entering Port Phillip Bay Ramsar site, and
 - limited indirect disturbances to identified wetlands.
437. Sixty hectares of wetland are proposed to be protected from urban development. The mitigation strategy suggests that wetlands may be incorporated in the precinct planning structure.
438. Surveys will be conducted on a site by site basis and if nationally significant species use the site or are likely to use the site, then the site will be retained and managed under a conservation management plan. It is therefore possible that more wetland habitat may be retained within the UGB than the current estimate of 60 hectares.
439. The draft prescription and other associated mitigation measures include:
- Important wetlands and other migratory species habitat to be included in biodiversity conservation strategies to be approved by the Commonwealth;
 - Sites that are used or are likely to be used by nationally significant migratory species will be protected with a 200 metre buffer as part of the precinct structure plan, and will be managed under a conservation management plan.

Conclusion

440. The migratory birds taskforce contributed the following advice:
- The expanded UGB is adjacent or nearby to protected wetlands that support significant numbers of listed migratory shorebirds virtually year-round.
 - From the available evidence, the program is unlikely to have a direct significant impact on these listed species or protected wetlands.
441. The program commits to retaining wetlands that provide, or are likely to provide habitat for nationally listed migratory species. These sites will be protected with a 200 metre buffer and managed under a conservation management plan. The migratory birds taskforce has advised that the program is unlikely to have a direct significant impact on listed species or protected wetlands.

442. The program proposes to address indirect impacts by achieving conservation outcomes whereby water quality entering Ramsar sites is either maintained or improved.
443. The measures for mitigation and offset for migratory birds demonstrate the impacts are sufficiently addressed to a level that the conservation outcomes are likely to be achieved.
444. Approval of the prescription for the treatment of migratory birds and related adaptive management considerations by the Commonwealth will provide adequate conservation measures to ensure conservation outcomes for these matters will be achieved.

Ramsar Wetlands

Known sites and status

445. There are three Ramsar sites within the Melbourne region. These are the Port Phillip Bay (western shoreline) and Bellarine Peninsula, Edithvale-Seaford Wetlands, and Western Port sites.
446. Threats to these sites include hydrological changes in flow, quality and quantity of water passing into and through the wetlands. Other threats include pest plants and animals, livestock grazing, vegetation clearance for agriculture and visitor impacts.

Impacts

447. Implementation of the program is likely to have impacts on these Ramsar sites. The Outer Metropolitan Ring/E6 transport corridor (OMR/E6) traverses a northern section of the Port Phillip Bay Ramsar site near its junction with the Princes freeway south-west of Werribee. This section of the Ramsar site forms the property boundary of the Western Treatment Plant contained within the Port Phillip Bay Ramsar site. The proposed route of the OMR/E6 through the Port Phillip Bay Ramsar site includes substantial areas of exotic pasture and some native grassland. The nearest major wetland is 500 metres south of the Princes freeway and there is a small seasonal cane grass swamp just west of the Princes freeway junction.
448. The program proposes to mitigate impacts of the OMR/E6 traversing this section of the Port Phillip Bay Ramsar site by adopting best practice conservation methods to prevent accidental disturbance and/or runoff reaching nearby wetlands. The IAR states that further investigations will be carried out prior to planning the OMR/E6 so that management practices will be put in place before construction begins (Victorian Government 2009a, p. 214).
449. Implementation of the program is unlikely to directly impact the other Ramsar sites of Western Port and Edithvale-Seaford given they are of a sufficient distance from the proposed areas of development.

450. There is the potential for the program to have indirect impacts to the ecological character of Ramsar sites through changes in water quality and hydrology. Notably, there could be extractive industries (e.g. quarries) located near Ramsar wetlands that may impact water entering the wetlands through ground water diversion and other quality impacts through runoff from spoil.
451. Urban stormwater runoff flowing into the Ramsar wetlands has the potential to reduce benthic fauna communities and subsequently affect the food supply of shorebirds.
452. Closer proximity of urban development will increase levels of human visitation posing a risk of disturbance to important shorebird sites. This is particularly relevant to the Port Phillip Bay Ramsar site.

Mitigation measures

453. Downstream hydrological impacts as a result of implementing the program will be addressed through the precinct structure planning process with an integrated water management plan forming a prerequisite for any precinct structure plan. Integrated water management plans will:
- include water sensitive urban design
 - restrict downstream flows from subdivision sites to pre-development levels, unless increased flows are approved by the relevant drainage authority
 - implement stormwater harvesting and management options that meet Best practice Environmental Management Guidelines (CSIRO 1999), and
 - set design standards for flood capacity and conveyance.
454. Precinct Structure Planning guidelines will ensure that:
- urban run-off systems are designed and managed in accordance with requirements of the relevant water authority
 - existing natural waterways, wetlands and riparian vegetation are incorporated into urban runoff systems
 - there are constructed lakes, ponds and other water bodies that protect and enhance natural systems, and
 - urban runoff is not discharged into native vegetation, unless it cannot be avoided and will be managed and be beneficial to the areas discharged
455. Other downstream water quality management processes include:
- monitoring of water quality entering Ramsar sites, and preparing adaptive management measures in response. Water quality must be consistent with relevant state environmental protection policy, and
 - a remedial management plan to deal with potential water quality breaches submitted to DEWHA by 2010.
456. Increased visitor pressure will be managed through the implementation of a 200 metre buffer to exclude dogs and pedestrians from significant shorebird sites within two kilometres of new urban areas. There will also be increased monitoring for foxes and domestic predators in the Port Phillip Bay Ramsar site

area within two kilometres of urban areas, and adaptive management measures as required.

Conservation outcomes

457. The program proposes to mitigate the likelihood and severity of indirect impacts, by implementing measures to achieve the following conservation outcomes:

- A network of small and large conservation reserves including diverse wetland areas managed for migratory species and other wetland values, particularly in areas distant from urban development.
- Improved management and design of retained and constructed wetlands to maximise habitat opportunities for migratory species.
- New wetland areas established in the Melbourne south-east investigation area in order to contribute to water quality mitigation and biodiversity conservation.
- Improved water quality entering Western Port Ramsar site.
- Improved or maintained water quality entering Port Phillip Bay Ramsar site.
- Limited indirect disturbances to identified wetlands.

458. The proposed new wetlands in the Melbourne south-east investigation area are situated on the site of the former Koo Wee Rup swampland, and will be designed to improve the water quality flowing into Western Port. The Growth Areas Authority and Melbourne Water will carry out an investigation, that will identify funding and the practical requirements necessary to create the proposed new wetlands. The outcomes of the investigation will be submitted to the department in March 2011, and will inform the Biodiversity Conservation Strategy for the south-east and the Casey-Cardinia Growth area framework plan. Melbourne Water will be responsible for creating the wetlands and implementing the management plan. Monitoring will be undertaken by DSE, and these results submitted to the department.

459. Issues of concern were raised with the Victorian Government. As a result, subsequent versions of the program propose to address these concerns with the following commitments:

- A management plan for the section of the proposed OMR/E6 that traverses the Port Phillip Bay Ramsar site will be submitted to the department for approval.
- Results of the investigation into the proposed new wetland will be submitted to the department by March 2011.
- Works and subsequent management plan for the proposed new wetlands near Western Port will be completed within an earlier timeframe, by 2019.
- Improved commitments to monitoring water quality entering Ramsar sites, and remedial management plans if standards are not met, including a remedial management plan for potential water quality breaches submitted to DEWHA by 2010.

Conclusion

460. The proposed conservation outcomes state that the water quality of waterways entering Ramsar sites will either be maintained or improved. Any other outcome

will result in actions not gaining EPBC approval. There are a range of measures to mitigate the impacts of the program on water quality and Ramsar sites.

461. The program will implement a regime of monitoring, evaluation and remediation as necessary, the results of which will be reported to DEWHA on an ongoing basis. The Victorian Government has also increased its level of commitment to maintaining and improving water quality in order to address concerns over uncertainty.
462. Additionally, if the program is endorsed there is the ability to condition certain activities or actions, such as quarries and the OMR/E6. This would strengthen commitments in the program and further address risks of impact associated with these activities.
463. Therefore, taking all mitigation factors into consideration and that the proposed conservation outcomes must be met or else actions under the program would no longer be approved, the department is of the view that impacts to Ramsar sites and wetlands will be acceptable.

Heritage

Known sites

464. The officer's mess at the RAAF Laverton Airbase within the current UGB is listed as a Commonwealth Heritage Place and is not within the study area. The Point Cook Air Base is the closest National Heritage Place to the current UGB and is not included within an investigation area. Neither of these sites will suffer any impact through the program.
465. There are twelve sites listed on the Register of the National Estate within the UGB, and an additional eight "indicative" places.

Impacts

466. It is not expected that implementation of the program will have a direct impact on any Heritage sites or areas.

Conservation outcomes

467. The conservation outcomes proposed by the program will ensure that all known sites on the RNE, and sites of Aboriginal cultural heritage are protected and managed (Victorian Government 2009b, p. 71). This will be achieved through the following commitments:
- All known sites on the Register of the National Estate will be referenced in planning schemes with appropriate controls in place by 2010;
 - Cultural heritage management plans will be prepared and implemented through the precinct structure planning process; and
 - Monitoring and enforcement of land management obligations to ensure compliance with statutory planning controls and cultural heritage management plans.

Conclusion

468. It is unlikely that there will be any direct impacts on Heritage as a result of the program. Conservation outcomes have been included to ensure that the program

undertakes a series of activities to protect and maintain National and Commonwealth Heritage places or sites listed on the Register of the National Estate.

4.6 Climate change impacts

445. The IAR states that the future climate of the Port Phillip and Westernport region is expected to be hotter and drier than it is today (Victorian Government 2009a, pp. 137-138). Average annual temperatures are expected to be around 0.8 °C warmer in 2030 compared to 1990 figures, particularly in summer. The number of days over 30 °C are also expected to increase.
446. The average annual rainfall is expected to decrease by around four per cent, with the greatest percentage reductions occurring in spring (seven per cent).
447. It is likely that current threats impacting on MNES will be exacerbated, although the extent is difficult to predict. The most susceptible species will be those with restricted or specialised habitat requirements, poor dispersal abilities or small populations.
448. The western grasslands occupy a rain shadow area cast by the You Yangs/Brisbane Ranges that largely limits tree growth in the area. Historically the grasslands receive 500-550 mm annual rainfall. The grasslands share strong floristic, structural and faunal assemblage affinities with grasslands north of the Great Dividing Range in Victoria that occupy areas receiving between 450-550 mm annual rainfall. If the rainfall is reduced by the expected order of magnitude, then Victoria postulates that this would be within the climate envelope of the western grasslands vegetation community based on the northern grasslands.
449. Similarly the woodlands shares close affinities with grassy woodlands north of the Great Dividing Range including the Victorian Riverina, hence the same logic applies for resilience of the woodlands reserve in the face of warmer and drier conditions.
450. Minimising impacts from climate change on MNES within the UGB are anticipated to be resolved through the biodiversity conservation strategies that are prepared for the urban development areas and the adaptive management strategy required by the program. Both are required to be approved by the Commonwealth Government.
451. The department considers that the scale of reserves, opportunity to provide adaptive management measures and logic of similar communities in drier conditions succeeding as adequately addressing the impacts of climate change for communities in these reserves. The department considers that impacts of climate change within the UGB will be addressed through other mechanisms as previously described.

4.7 Conclusion on impacts from program

452. The department considers that the IAR has adequately addressed the impacts to which the agreement relates. The likely impacts on MNES have been identified and sufficient information has been provided to address avoidance, mitigation and offset measures to reduce these impacts.
453. The department also considers the conservation outcomes are adequate to protect MNES, containing enough rigour to be accountable but also flexible to enable the program to respond to changing conditions and information. Similarly, the planning frameworks are likely to deliver these conservation outcomes through the security of existing legislation and policies combined with the requirement for key plans and strategies to be approved by the Commonwealth Government.
454. In comparison to business-as-usual scenario of individual projects being assessed under Part 9 of the EPBC Act, the program commits to managed, consolidated reserves instead of scattered offsets due to broad-scale implementation of the program. Offsets can also be obtained for all losses and not just those deemed significant on a case-by case basis.
455. Socio-economic considerations are included in the mitigation measures, so that reserve size or targets for example incorporate considerations such as resources for management and maximising development. This can give confidence that conservation outcomes are achievable and sustainable since the Victorian Government has considered the costs when designed the mitigation measures.
456. The department notes that some proposed activities may require additional conditions to meet conservation outcomes. For example extractive industries and sewage treatment plants will need to provide additional information on the impacts of these activities on the quantity and quality of receiving waters and Ramsar wetlands before any specific approvals will be granted. This is considered by the department to be manageable in the future and consequently the report adequately addresses impacts associated with implementation of the program.
457. The department also considers that program will minimise impacts on heritage, including the Register of the National Estate sites.

5 Risks and Compliance

458. A risk analysis undertaken by the department identified three types of risks which could result in the program not delivering on the conservation outcomes or leading to non-compliant actions. These risks are: process, outcome and science risks. The risk analysis examined the program to identify mechanisms to reduce these risks. If the risk was not adequately minimised, modifications to the program were recommended (see section 7). A summary of the risks and compliance measures is discussed here but also see section 3.3.9.

5.1 Process risks

459. Process risk describes when the process for implementing development as specified in the program is not followed. This can occur two ways:

- The program is not implemented as specified by Victorian Government.
- or
- Actions are not taken in accordance with program by approval holders.

460. Examples of process risks occurring could be:

- MNES cleared without offsets secured.
- Mechanisms within the program are unclear, leading to uncertainty for approving plans, strategies etc and reporting and remedial actions to occur.
- Victorian legislation and/or policies change.

461. Mechanisms identified in the program to trigger awareness of process non-compliance occurring, through monitoring and reporting for example, include:

- Independent reporting on all projects that are part of the program for compliance with implementation of planning mechanisms (Victorian Government 2009b, p. 75).
- Independent report on construction works compliance (Victorian Government 2009b, p. 78).
- Breaches reported to Commonwealth of clearing that is not in accordance with the requirements of the native vegetation precinct plan or conservation management plan, or relevant approval document for transport infrastructure or other land use (Victorian Government 2009b, pp. 55, 57, 60).
- Independent review (Victorian Government 2009b, p. 74).
- Community groups notify the department.

462. Mechanisms in the program to rectify identified process non-compliance include:

- Approvals are not valid if program not followed; approval holders may not have benefit of approval if they continue with actions.
- Independent monitor of the program to be established with the terms of reference to be agreed between the Commonwealth and Victorian Governments (Victorian Government 2009b, p84).
- The program states that references to legislation are provided for context.

463. Modifications were recommended where it was identified the program did not minimise some process risks. These modifications included:

- Require public reporting of activities and outcomes, particularly accounting for offsets.
- Require five-yearly review with actions arising from review to be agreed between Commonwealth and Victorian Governments.
- Program to state that Commonwealth approved remedial actions be undertaken if program not being implemented as endorsed.
- Include a dispute resolution mechanism in the program to define the process for handling a disagreement in the application of the program and define an outcome if the dispute is not resolved.

464. As these modifications have been made to the program, the department considers that the process risks are adequately managed.

5.2 Outcome risks

465. Outcome risks relate to the achievement of the conservation outcomes specified in the program. There major risks are that outcomes are not achieved even though program is implemented as specified.

466. Examples of outcome risk occurring include:

- Biodiversity conservation strategies and sub-regional species strategies do not deliver conservation outcomes.
- Prescriptions as specified in the IAR do not deliver on the outcomes.
- MNES not managed well in reserves.
- Impacts from certain activities (e.g. extractive industries, OMR in Ramsar area etc) greater than anticipated due to lack of information and lack of participation in future processes.

467. Mechanisms identified in the program to trigger awareness of outcomes non-compliance occurring include:

- specific MNES reporting on outcomes
- independent review (Victorian Government 2009b, p. 74), and
- community groups notify the department

468. Mechanisms in the program to rectify identified outcome non-compliance include:

- Commonwealth Government approves prescriptions
- Commonwealth Government approval of biodiversity conservation strategies and sub-regional species strategies
- revision of prescriptions under certain circumstances, and
- monitoring and adaptive management strategy for reserve management (Victorian Government 2009b, pp. 98-100).

469. Modifications were recommended where it was identified the program did not minimise some outcome risks. These modifications included:

- require public reporting of activities and outcomes, particularly accounting for offsets
- a statement in the program that non-compliance with conservation outcomes means approvals are not valid and this triggers compliance actions. For example, Victorian Government is required to submit a plan for addressing

non-compliance which must be approved by Commonwealth Government prior to actions continuing.

- a dispute resolution mechanism in the program to define the process for handling a disagreement in the application of the program and define an outcome if the dispute is not resolved, and
- critical offset requirements in the program.

470. As these modifications have been made to the program, the department considers that the outcome risks are adequately managed.

5.3 Science risks

471. Science risks occur when the program is not able to adapt to new information that could improve the protection of MNES. Examples of these risks include:

- In the future it is found that the grassland floristics inside the UGB are more resilient to climate change impacts than the reserves outside the UGB.
- A catastrophe occurs that changes the protection measures for MNES, for example a bushfire in the reserves.

472. New information sources could include:

- the revision of a recovery plan
- new listings under the EPBC Act occur, noting that the event of a new listing will not affect any approvals given under the EPBC Act prior to that listing, and
- community groups or the Victorian Government notify the department of new information.

473. The program contains the following mechanisms to address these risks:

- Commonwealth Government approves prescriptions
- Commonwealth Government approves biodiversity conservation strategies and sub-regional species strategies
- prescriptions are revised under certain circumstances, and
- there is a monitoring and adaptive management strategy for reserve management (Victorian Government 2009b, pp. 98-100).

474. Modifications were recommended to improve some of these mechanisms to respond to new information, such as clarifying what new information will trigger the revision of prescriptions (see section 7.2). As these modifications have been made, the department considers that the science risks are adequately managed.

5.4 Conclusion

475. Overall the program manages the uncertainty of not having all information about MNES impacts upfront through the use of planning frameworks, policies, plans and strategies and conservation outcomes.

476. There are risks that the program may not deliver on the protection of MNES through the failure of the processes, conservation outcomes or new information. The department considers that these risks have been adequately minimised through the use of monitoring, reporting, adaptive management and the requirement for the Commonwealth to approve key plans, strategies and

prescriptions. The additional recommended modifications to further limit risks have been incorporated into the final revised program.

6 Principles of Ecologically Sustainable Development

477. The EPBC Act identifies the principles of ecologically sustainable development (ESD) in section 3A. The endorsement criteria for the strategic assessment (see section 2) also reference the principles of ecologically sustainable development as relevant to determining whether or not to endorse the program. Each principle of ESD is discussed individually below.

3A (a) decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations.

478. Through consideration of the program the associated impact assessment report and this document, the statutory decision on whether to endorse the program under assessment will include consideration of the short and long term environmental impacts, benefits and risks of the program. Further information on economic, environmental, social and equitable matters is provided below.

479. *Melbourne @ 5 Million* (Department of Planning, Community Development 2008) and the program both describe how the Victorian Government has integrated both short and long-term economic, environmental, social and equitable considerations into the strategic planning process for the long term development of Melbourne, of which the expansion of the UGB, being the subject of the program, is one element.

480. The Victorian Government's economic considerations include the ongoing provision of land and housing supplies to meet projected demand resulting from Melbourne's rapidly increasing population. The demand for affordable housing is a key driver behind the expansion of the UGB. The majority of the housing will be provided within the current UGB, minimising the extent of expansion required. The Victorian Government also intends to use the expanded UGB to establish new employment and industry centres, stimulating job creation and associated economic activity. The construction of the OMR/E6 road and rail arterials will enable freight movement more efficiently between major freight terminals located within Melbourne and Geelong.

481. Social considerations for the long and short term are aligned with land and housing availability for Melbourne's growing population. The Victorian Government have committed to developing an integrated transport network across the state in *The Victorian Transport Plan*, which will assist with movement within the expanded UGB. The development of transport projects associated with this program, including the regional rail link, will provide a diversity of options for commuters as well as increasing the capacity of metropolitan rail lines to accommodate an increase in public transport users.

482. In relation to the planning of new precincts, the stated overarching goal of the Victorian Government Growth Areas Authority is to "...create diverse, compact and well connected communities that are affordable and rich in local jobs, transport access, services and culture" (Growth Areas Authority 2009, p. 2). The PSP Guidelines set out how a sense of place and community will be established in vibrant communities with greater access to housing choice,

transport and employment areas while increasing environmental sustainability. Housing densities of 15 dwellings per hectare will be supported by multi-node settlement patterns with greater housing densities concentrated around transport corridors. This is expected to provide the framework for more integrated sustainable communities through transport-oriented development.

483. The environmental impacts, benefits and risks of the program are addressed in the impact assessment report and discussed elsewhere in this document (see section 4 and section 5).

484. Consideration of the environment is further demonstrated in the program by the exclusion of some areas of high conservation value, native vegetation and species habitat, for example the grasslands west of Melbourne and woodlands to the east of the northern growth area. Within the UGB the planning framework will take into account areas of high ecological value and important or threatened species, including MNES. At a finer scale the requirement of plans to manage flora and fauna during the construction phase through to ongoing day to day management is well described.

485. Where impacts cannot be avoided or mitigated the program establishes how environmental values lost through the implementation process can be offset elsewhere in the landscape. The creation of large grassland and woodland reserves and the protection of riparian corridors through legal mechanisms offering ongoing security and management will allow natural ecosystem functions to persist across the landscape.

3A (b) if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation (the Precautionary Principle).

486. The expansion of Melbourne's UGB is expected to lead to substantial impacts on MNES. Due to the long duration of the UGB expansion, the program adopts a process for identifying and protecting MNES and other biodiversity values, within the context of specific conservation outcomes. This necessarily involves some uncertainty regarding the extent of actual impacts at the time of making a decision on endorsement.

487. To address this uncertainty, the process the program adopts includes mandatory mitigation and offset requirements. The program also contains monitoring, auditing and reporting commitments and requirements designed to lower the risk of environmental damage. These processes and commitments are described in greater detail in section 3.3.10 of this report.

488. A number of the formally recommended modifications to the program sought to improve the processes established in the program (see section 7 for modifications). The modifications aimed to improve the level of certainty regarding the protection of the environment and the manner in which environmental degradation would be prevented.

489. In many cases the areas likely to be impacted contain substantial native vegetation and species habitat and facilitate ecological processes. However the

majority of areas are substantially modified from their pre-European condition and extent. Broadly, losses will be addressed through offsetting with a focus on protection through large contiguous reserves legally protected from development and managed for conservation in a consistent manner. The IAR concludes that focusing on achieving environmental gains in the targeted areas will lead to improved long-term outcomes compared with the existing approach of ad-hoc offsetting requirements generated by individual development actions.

490. The Victorian planning system allows for the consideration of biodiversity assets from a landscape scale to a local level. For example, biodiversity surveys within precincts will identify MNES, and then approved prescriptions are applied that outline how the matters are to be managed before any impacts can occur. The draft prescriptions in the IAR (which are yet to be approved) include protection and removal protocols and ongoing requirements for management. Additionally, species or ecological communities listed in the future are accounted for within the program planning framework which requires survey methodologies and prescriptions to be developed for those species or communities. These processes will manage future uncertainties and ensure all impacts are appropriately addressed.

491. The program requires the Victorian Government to develop a monitoring and reporting framework for approval by the Commonwealth Government. An independent monitor will be appointed to ensure the program is being properly implemented by all relevant parties, and commitments identified in the program are being met. Additionally, Victoria's own monitoring will indicate whether on-ground works are being undertaken in accordance with the program.

492. Results of reporting will be utilised in the adaptive management framework to be agreed upon by the Commonwealth and Victorian Governments. The framework will allow new information and listings to be accommodated within the scope of the program. These two frameworks will significantly reduce the risk of environmental degradation or damage, increase the likelihood of achieving good biodiversity outcomes and to protect and enhance MNES.

3A (c) the principle of inter-generational equity – that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.

493. To ensure the maintenance and enhancement of the environment, the Victorian Government aims to manage native vegetation to achieve a net gain in vegetation quality and extent across the landscape. The temporal scale of this program and the application of the adaptive management framework provides the opportunity to increase the security provided to broader biodiversity across the Victorian landscape over time.

494. The program proposes the reservation of a series of integrated conservation reserves across the greater Melbourne region. Reserves include two large (totalling 15 000 hectares) and three small grassland reserves (totalling 300 hectares) and a network of woodland reserves to protect the two critically endangered ecological communities. In addition, riparian corridors, Ramsar sites

and habitat for EPBC listed species that contributes to their long term persistence will be protected and managed.

495. The program provides for the management of large areas of land set aside for conservation purposes which will include targeted management measures to maximise biodiversity outcomes both now and into the future. Environmental significance overlays and targeted conservation zoning will be placed on land to protect ecological values.
496. High quality grasslands or any species occurring within the grasslands ecological community in areas of less than 100 hectares are unlikely to be retained in situ, based on the current formulation of the draft prescriptions. It is arguable that the clearing of areas within the UGB and offsetting elsewhere will lead to a decline in overall diversity and quality of grasslands across the Victorian Volcanic Plain. The basis of the draft prescriptions taking this approach is described further in section 4.
497. As discussed in section 4, large well managed reserves provide landscape-scale improvement and benefits for individual species through allowing free movement and preventing isolation from further disturbance. Smaller patches are considered to be more at risk to invasion and degradation by exotic species, urban edge effects and management limitations (paragraph 202). However areas providing high ecological function services will be protected and managed to maintain the health and diversity of specific MNES across the landscape. Combined with integrated management these areas will facilitate optimal outcomes for MNES in the long term.
498. The program establishes statutory and policy mechanisms and committed funding under which the majority of conservation activities will be carried out. Monitoring, reporting and adaptive management will provide an opportunity for improved environmental outcomes to be achieved as ecological systems are better understood over time.
499. Policy mechanisms such as the PSP Guidelines include requirements for integrated water management including water sensitive urban design as well as biodiversity planning requirements to ensure urban environments accommodate and enhance natural systems.

3A (d) *the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making;*

500. The program proposes large scale avoidance, mitigation and offsetting mechanisms together with a planning framework of legislation and integrated biodiversity strategies as the basis for the conservation of biodiversity and ecological integrity in planning for Melbourne's urban expansion.
501. *Melbourne @ 5 Million* (Department of Planning, Community Development 2008) plans for development to focus on existing urban areas and predominantly modified landscapes. This will reduce the extent of impacts on the environment than would otherwise occur if 1.8 million people needed to be housed in new growth areas alone. Almost 316 000 dwellings are anticipated to be in

Melbourne's established areas and over 284 000 dwellings are anticipated for Melbourne's growth areas.

502. A strategic assessment allows the Commonwealth Government to have a role in the planning for the expanded UGB, which it normally would not have. Strategic assessments also offer the opportunity to influence landscape outcomes, consolidate conservation measures such as offsets and reduce perception of additional bureaucracy by engaging in the planning stage. It is arguable that a strategic assessment may be the only way to deliver large, secure and managed reserves for critically endangered ecological communities.
503. The location of the UGB expansion and the development of the program clearly reflect the avoidance of large areas of grasslands, woodlands, Ramsar and other areas with high biodiversity values in the initial planning phases of the Melbourne's expansion (Department of Planning and Community Development, 2008).
504. The development and application of sub-regional species strategies and biodiversity conservation strategies at a landscape level will assist the conservation of biological diversity and maintenance of ecological integrity. This will be achieved through ensuring the needs of MNES are considered at a scale that spans precincts and development footprints and reflects the ecological function of the landscape.
505. Mitigation measures will be carried out as the planning framework is implemented. At a precinct level, surveying for species, the use of prescriptions to identify how species should be managed in the landscape and the subsequent development and application of native vegetation precinct plans and conservation management plans are mandatory processes in the planning process established by the program. These structured processes will facilitate improved conservation outcomes, and retain flexibility to adapt and evolve with the advance of relevant scientific knowledge and incorporating feedback from monitoring and auditing processes.

3A (e) *Improved valuation, pricing and incentive mechanisms should be promoted.*

506. The Victorian Government uses Victoria's Native Vegetation Management Framework (otherwise known as the habitat hectares approach) to quantify offsets. The approach is a metric based environmental valuation method that provides detailed information on the gains or losses of ecological characteristics. By knowing the values of the environment prior to impacts, the Victorian Government can calculate the expected loss to occur as a result the program and establish an area with commensurate gain (refer to section 3.3.8).
507. The program identifies the Bush Broker system as a way of accounting the clearing and offsetting that occurs as a result of the program. Bush Broker creates, advertises and sells native vegetation credits (offsets) generated by environmental improvements made elsewhere. The calculation of losses and gains in native vegetation and required offsets will be in accordance with Victoria's Native Vegetation Management Framework. Through the Bush Broker system the Victorian Government will offer native vegetation credits for

sale to developers, with the proceeds progressively funding the establishment and ongoing management of the western grassland reserves.

508. The program requirements for offsetting incorporate the valuation and pricing of environmental impacts and creates an incentive for developers to minimise the extent of impacts due to the cost associated with securing and managing suitable offsets. The requirement to secure necessary offset values before impacts are authorised also provides an incentive to retain higher value environmental assets rather than offset them, if they would prove difficult, time consuming or expensive to locate or secure.
509. The Victorian Government has committed to commencing the acquisition of the grassland reserves, with a view to being able to establish a “bank” of offsets from which developers can more efficiently secure the necessary offset values. This approach represents an innovative method to simultaneously deliver on conservation outcomes and improve the efficiency of development approval processes.

Conclusion

510. Melbourne’s growing population has increased the demand for land supply, more affordable housing, employment areas and access to transport. Establishing a multi-node settlement pattern, using existing urban areas and adopting sustainable community design principles demonstrates the Victorian Government has considered economic and social matters. The program considers protection of MNES within this context.
511. The program proposes broad conservation activities and outcomes supported by planning frameworks, strategies, policies, plans and mechanisms to ensure the long term protection of MNES for future generations.
512. The program will facilitate development of large grassland and woodland reserves to protect critically endangered ecological communities, a series of smaller reserves protecting threatened species, riparian corridors and broader biodiversity, and will ensure water quality inflows into Ramsar wetlands remain the same or improve.
513. A lack of full scientific certainty is managed by the program through requirements for species surveying, management strategies and monitoring, reporting and adaptive management frameworks.
514. The program adequately addresses the principals of ecologically sustainable development within the endorsement criteria.

7 Recommended Modifications

7.1 First recommended modifications

515. As stated in section 2.1.2 of this report, there have been two occasions where modifications have been recommended. The first recommended modifications were sent to the Victorian Government on 2 October 2009. The program was resubmitted by the Victorian Government on 23 October 2009.

516. The recommended modifications and Victoria's response are as follows.

1. The inclusion of a map indicating the general location of the proposed smaller reserves inside the UGB. This will illustrate Victoria's commitment to retaining areas of high biodiversity across the urban landscape and protecting matters of national environmental significance (NES).

517. Victoria have included four maps at the very back of the program report that broadly show where the reserves are likely to be within the expanded UGB. The maps do not detail exactly where these reserves will be located but give an indication of Victoria's intention to secure these areas for conservation purposes. Therefore the department therefore considers that this recommended modification has been addressed.

2. Clarification be provided of the actions to which the Program is intended to relate. Additionally, if any of these actions will impact on matters of NES in a manner not addressed in the impact assessment report, including through indirect consequential impacts, please provide further details.

518. The program report now includes a summary of activities (Victorian Government 2009b, p. 18). The summary should not be read as exhaustive. The department therefore considers that this recommended modification has been addressed.

3. The Program commit to submitting a "Grassy Eucalypt Woodland of the Victorian Volcanic Plain Strategy" to the Minister for approval, following endorsement. This strategy would be expected to provide a commensurate level of integrated and contiguous protection to that established within the Program for the Natural Temperate Grassland of the Victorian Volcanic Plain, which is also listed as critically endangered under the EPBC Act. It is expected that the approval of this strategy would be necessary before actions impacting on the woodlands could be approved.

519. The department considered that this recommendation was not sufficiently addressed. The program report as resubmitted did not address the following issues:

- no commitment or mention of a woodlands strategy
- did not state that an interim management plan will be implemented as for the grassland reserves
- did not state that a management plan will be established as it does for the grassland reserves, and
- did not state that any management reports or monitoring requirements need to be provided to the department as it does for the grasslands.

520. The program did state that a reserve will be established and that 80 per cent of all woodlands within the program area will be retained and managed in secure conservation reserves and an additional reserve will be established outside the UGB.
521. The approach to achieving conservation outcomes for woodlands included the application of an Environmental Significance Overlay to land identified for conservation of the woodlands, the development of a biodiversity conservation strategy and the develop of a proposal for a woodland reserve.
522. In summary the resubmitted program did not provide a commensurate level of protection for the woodlands that is established for the grasslands. It lacked clarity about how the woodlands will be dealt with by Victoria.
523. However, the department considers this was addressed in the second recommended modifications – see paragraph 536- 537.

4. The Program should clearly describe the commitment of the Victorian Government to involve the Australian Government and/or the department in the review or approval of specified key documents, strategies and plans, for example the biodiversity strategy and species prescriptions, that will inform and influence actions taken in the Program area. This will provide a foundation for robust adaptive management processes and clarify roles, responsibilities and expectations for future decision-making processes.

524. The Commonwealth Government, as represented by the Minister and the department, have a role in most of the planning processes. The roles vary from approval to comment with most aspects are adequately addressed.
525. However, there is less involvement and oversight in the OMR/E6 and the extractive industries planning processes in particular (the Commonwealth Government is at least consulted in the RRL). This carries the risk that the Commonwealth Government will not be able to adequately ensure that avoidance and mitigation measures are implemented, especially given that the draft prescriptions allow clearance for state significant infrastructure (such as the transport corridors).
526. The department considers that this risk can be adequately managed through conditioning approvals for these actions to require Commonwealth Government approval for environmental management plans if the program is endorsed. Therefore the department considers that this recommended modification is addressed.

5. Describe the method(s) used to determine the size or percentage thresholds for retention of specific species or populations, as contained in the proposed prescriptions within the impact assessment report. It is important that the basis of these settings be transparent, particularly where social and economic considerations are relevant factors, noting that there is a high degree of public interest in this issue.

527. In the IAR (Victorian Government 2009a, pp.135-137) the Victorian Government described why particular sizes and thresholds for protection within the prescriptions were chosen. A number of reasons are provided, including ecological principals and ease of management, and state that socio-economic reasons have "acted as constraints on widespread retention of conservation reserves over the urban area" (p. 137).

528. Therefore the department considers that this recommended modification is addressed.

7.2 Second recommended modifications

529. The second recommended modifications were sent to the Victorian Government on 16 December 2009. The Victorian Government submitted the final program on 29 December 2009.

530. The recommended modifications and Victoria's response are as follows.

1. To clarify the process for identifying, reporting and rectifying non-compliance with the program, I recommend the following requirements be included:

i. The public reporting of activities and outcomes of the program to improve transparency and accountability. In particular, the reporting should clearly account for offsets obtained in relation to matters of national environmental significance (NES) impacted through implementation of the program.

531. This modification has been made to the table 21 of monitoring and reporting commitments (Victorian Government 2009b, pp. 73-74). In this table, the Victorian Government has committed to public reporting of activities and outcomes. Hence the department considers that this recommended modification is addressed.

ii. The inclusion of a commitment to a 5-yearly independent review of the program, with a scope to be determined by agreement between the parties within 18 months of endorsement, to report on all aspects of the program's operation, with any further actions arising from this review to be agreed between the Commonwealth and the Victorian Government.

532. This modification has also been made to the table 21 of monitoring and reporting commitments (Victorian Government 2009b, pp. 73-74). In this table, the Victorian Government has committed to an independent review with the scope to be agreed between the Commonwealth and Victorian Governments. Hence the department considers that this recommended modification is addressed.

iii. A dispute resolution mechanism in the program to minimise potential conflict in relation to the operation of the program. This mechanism should define the process for handling a disagreement in the application of the program.

533. A dispute resolution clause has been included in the compliance and enforcement section of the program (Victorian Government 2009b, p. 86). Hence the department considers that this recommended modification is addressed.

- iv. *A clear articulation of the continuing compliance relationship between approval holders and the Australian Government, including the ability to pursue compliance action for a failure to comply with requirements of approval or for taking actions that are not covered by a valid approval*

534. A statement to this effect has been included in the compliance and enforcement section of the program (Victorian Government 2009b, pp. 85-86). Hence the department considers that this recommended modification is addressed.

- v. *Further clarification that a failure to deliver a conservation outcome or to comply with a procedural requirement specified in the program may result in any approval under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) no longer being valid for any related and subsequent actions. The process to be followed if such a non-conformance is detected should also be documented in the program, including a statement that I (the Minister) will be required to approve any remedial actions and these actions must be undertaken to my satisfaction.*

535. A statement to this effect has been included in the compliance and enforcement section of the program (Victorian Government 2009b, pp. 85-86). Hence the department considers that this recommended modification is addressed.

2. To provide more certainty regarding to the proposed Woodland Reserve:

- i. *The identification of the funding, acquisition and other legal protection mechanisms that will be used to secure the protection of the woodland reserve.*

536. The Victorian Government has identified that a public consultation process is required to be undertaken to establish the woodlands reserve, and this process will assist in identifying the appropriate funding, acquisition and other legal protection mechanisms, as more cost efficient but secure arrangements may be established. Additional wording to this effect is included in the woodlands conservation activities table (Victorian Government 2009b, pp. 51-54). The department considers that this approach to securing a woodland reserve is acceptable and hence the recommended modification is addressed.

- ii. *The development of an adaptive management, monitoring and reporting plan.*
- iii. *Progress reports on the establishment of the woodland reserve and the interim management activities undertaken therein, at a similar frequency to that of the progress reports for the grassland reserves in the program.*
- iv. *The preparation and implementation of arrangements for the long term protection and management of the proposed reserve after the term of the interim management plan has concluded, for example the preparation of a National Park or Reserve Management Plan.*

537. Additional requirements have been added to the woodlands conservation activities table (Victorian Government 2009b, pp. 51-54). Noting that arrangements for establishing the reserve may not be the same as the grassland reserves, the protection for the community should be similar and hence the department considers that these recommended modifications have been addressed.

3. To provide assurance regarding offsetting requirements

- i. The provision of further details regarding the timing, security and deliver mechanisms that all offsets proposed under the program must comply with, to ensure that minimum standards and consistent requirements are maintained.*

538. Additional wording has been provided in the offsets section of the program (Victorian Government 2009b, p. 32-33). Hence the department considers that this recommended modification is addressed.

4. To improve the program's ability to respond to new information and activities in relation to matters of national environmental significance:

- i. A statement clarifying the triggers for revising prescriptions, which could include:*
- *Any new recovery plan or policy statement relevant to any matter of national environmental significance (NES) subject to a prescription,*
 - *Any new substantial scientific information relating to a relevant matter of NES brought up by either party and as agreed;*
 - *Any indication that relevant conservation outcomes described in the program, conservation strategies or sub-regional species strategies may become unachievable.*

539. These additional triggers for revising prescriptions have been included in the program in the prescriptions section (Victorian Government 2009b, pp. 30-31). Hence the department considers that this recommended modification is addressed.

- ii. *A process describing how the revision of prescriptions would be conducted, including a statement that Australian Government approval of revised prescriptions is required within a specified period following the revision being agreed to, or the prescription will lapse and no further authorisation of impacts on the relevant matter of NES would be permitted under the program until an approved prescription is in place.*

540. The process for revising prescriptions is included in the program in the prescriptions section (Victorian Government 2009b, p. 31). Hence the department considers that this recommended modification is addressed.

7.3 Conclusion on recommended modifications

541. All the recommended modifications, or modifications having the same effect, have been made to the program.

8 Public Consultation

542. As discussed in section 2.1.5 of this report, public consultation on the IAR was undertaken for a period of 31 days from 17 June to 17 July 2009 (Victorian Government 2009c).

543. The Victorian Government published the IAR on the internet, sent approximately 15 000 letters to landholders directly affected by the program (for example their land was identified for compulsory acquisition) and conducted public meetings in affected areas.

544. Approximately 1500 submissions were received on Melbourne's proposals for urban and transport development. Of these, 246 related to the program and IAR and included specific comments on the proposed grassland reserves. The other submissions related to matters not covered by the strategic assessment (such as the growth areas infrastructure charge).

545. A summary of the issues and Victoria's response is in the following table.

Table 5: Summary of issues raised in public consultation and the response by the Victorian Government.

Issue	Description of issue	Response by Victorian Government
Consultation period	The public comment period was too short to provide effective feedback on the program and there was a general lack of understanding about what the program actually involved.	<ul style="list-style-type: none"> ○ Further targeted consultation with land holders, NGOs and the general public has occurred since the program was released for public comment. ○ Revised IAR and program published on internet in early/mid November 2009.
Survey, data and mapping inadequate	The number of surveys conducted and the quality of data used to produce species/vegetation mapping was inadequate.	<ul style="list-style-type: none"> ○ Addressed through better explanation of the planning process. Further surveys will be conducted at various scales during the planning process and in appropriate seasons for targeted species e.g. the golden sun moth, spiny rice flower and matted flax lily.
Avoiding, minimising and offsetting native vegetation	More grasslands and woodlands should be reserved. More native vegetation should be protected within the expanded urban growth boundary.	<ul style="list-style-type: none"> ○ It is not possible to protect all native vegetation within the new urban growth boundary, however Victoria are increasing the protection of grasslands from 2 to 20 per cent. ○ Significant areas of woodland have been avoided in the expansion of the urban growth boundary with a number of small reserves proposed.

Issue	Description of issue	Response by Victorian Government
Grasslands reserves issues	<p>The process of acquisition of land for reserves needs clarification.</p> <p>Extent of the grassland reserves should exclude homes and land with no native vegetation.</p> <p>Management of grasslands (weed, pest and fire management) is poorly described.</p>	<ul style="list-style-type: none"> ○ Clearing of native vegetation will not occur until an offset has been permanently established. The grassland reserves will be acquired within 10 years. ○ An acquisition schedule will allow people to remain on their properties for as long as practicable. ○ Consideration will be given to excluding land with lower-value biodiversity from the reserves. ○ A DEWHA approved interim management plan will be developed to ensure the quality of grassland is maximised in the future. A full management plan will eventually be developed by the reserve manager.
Policy tools inadequate	The policies will not protect MNES or are poorly described.	<ul style="list-style-type: none"> ○ Planning framework processes are being guided by Commonwealth Government approved biodiversity conservation strategies, specific species sub-regional management strategies and prescriptions.
Monitoring and auditing	How will actions be monitored, audited and reviewed in unclear.	<ul style="list-style-type: none"> ○ An auditor will be appointed to assess how well the planning processes are being implemented.

546. The department considers that the Victorian Government abided by the terms of the agreement for public consultation and that based on the issues raised and Victoria's response, the program and IAR has adequately addressed the comments received.

9 Overall conclusions

547. The department concludes that the program *Delivering Melbourne's Newest Sustainable Communities Program Report 2009* contains conservation outcomes and implementation measures that will protect MNES in the long term.
548. The department also considers that the impact assessment report, *Delivering Melbourne's Newest Sustainable Communities Strategic Impact Assessment Report October 2009*, adequately addresses the impact to which the strategic assessment agreement signed 4 March 2009 and revised 16 June 2009 relates. This is demonstrated by addressing the terms of reference and providing measures to avoid, mitigate and offset these impacts. The department's view is that the IAR sufficiently addressed the terms of reference as discussed in section 4 (impacts), section 5 (risks and compliance) and section 6 (ESD).
549. Modifications to the program were recommended by the Minister and his delegate and the department considers the recommended modifications have been made.
550. The Victorian Government undertook public consultation on the draft impact assessment report and the department concludes that the IAR and program has adequately addressed the comments received.

Schedule 1: MNES that could be impacted by the program

Table 6: MNES that could be impacted by the program

Name	Status	Presence	Paragraph no
Ecological Community			
Natural temperate Grassland of the Victorian Volcanic Plain	CE	Known to occur	
Grassy Eucalypt Woodland of the Victorian Volcanic Plain	CE	Known to occur	
Fauna - Mammals			
Southern Brown Bandicoot <i>Isoodon obesulus obesulus</i>	E	Known to occur and breeding likely within area	
Grey-headed Flying Fox <i>Pteropus poliocephalus</i>	V	Known to occur	
Fauna – Birds (non-migratory)			
Plains Wanderer <i>Pedionums torquatus</i>	V	Likely to occur	
Fauna - reptiles			
Grassland Earless Dragon, <i>Tympanocryptis Pinguicolla</i>	E	Likely to occur	
Striped Legless Lizard <i>Delma impar</i>	V	Known to occur	
Fauna - amphibians			
Growling grass frog	V	Known to occur	
Fauna - fish			
Australian Grayling <i>Prototroctes maraena</i>	V	Likely to occur	
Eastern Dwarf Galaxia <i>Galaxiella pusilla</i>	V	Likely to occur	
Fauna - insects			
Golden Sun Moth <i>Synemon plana</i>	CE	Known to occur	
Fauna – Migratory birds			
Cattle Egret <i>Ardea ibis</i>		Likely to occur	
Great/White Egret <i>Ardea alba</i>		Likely to occur	
Swift Parrot <i>Lathamus discolor</i>	E	Likely to occur	
Double-banded Plover <i>Charadrius bicinctus</i>		May occur	
Pacific Golden Plover <i>Pluvialis fulva</i>		May occur	
Red-necked stint <i>Calidrus ruficollis</i>		May occur	
Common Greenshank		May occur	
White-throated Needletail <i>Hirundapus caudacutus</i>		Likely to occur	
Fork-tailed Swift <i>Apus pacificus</i>		Likely to occur	
Sharp-tailed Sandpiper <i>Calidris acuminata</i>		May occur	
Curlew Sandpiper <i>Calidris ferruginea</i>		May occur	
Latham's Snipe <i>Gallinago hardwickii</i>		Likely to occur	
Painted Snipe <i>Rostratula benghalensis</i>	V	Likely to occur	
Rainbow Bee eater <i>Merops ornatus</i>		Likely to occur	
Satin Flycatcher <i>Myiagra cyanoleuca</i>		Likely to occur	
Rufous Fantail <i>Rhipudura rufifrons</i>		Likely to occur	
Black-faced Monarch <i>Monarcha melanopsis</i>		Likely to occur	
Flora - Asteraceae			
Button Wrinklewort <i>Rutidosis leptorrhynchoides</i>	E	Known to occur	
Swamp Everlasting <i>Xerochrysum palustre</i>	V	Known to occur	

Name	Status	Presence	Paragraph no
Large-fruit Groundsel/Fireweed <i>Senecio macrocarpus</i>	V	Known to occur	
Flora – Fabaceae			
Purple Clover <i>Glycine latrobeana</i>	V	Likely to occur	
Flora – Orchidaceae			
Small/Early Golden Moths <i>Diuris basaltica</i>	E	Likely to occur	
Maroon Leek Orchid *	E	Known to occur	
Cream Spider Orchid *	E	May occur	
Green-striped Greenhood *	V	May occur	
Metallic Sun-orchid *	E	Unlikely to occur	
Sunshine Diuris *	E	Unlikely to occur	
Flora – Phormaceae			
Matted Flax-lily <i>Dianella amoena</i>	E	Known to occur	
Flora – Poaceae			
Adamson's Blown Grass <i>Lachnagrostis adamsonii</i>	E	May occur	
River Swamp Wallaby Grass <i>Amphibromus fluitans</i>	V	Known to occur	
Flora – Thymelaeaceae			
Spiny Rice-Flower <i>Pimelea spinescens spinescens</i>	CE	Known to occur	

STATUS = V – Vulnerable; E – Endangered; CE – Critically Endangered

Table 7: Register of National Heritage List as of October 2009

NAME	CLASS	STATUS
Summerhill Homestead and Outbuildings	Historic	Indicative Place
The Mount Alexander - Murray Valley Railway Line	Historic	Indicative Place
John Batmans Pastoral Run Outstation Sites	Historic	Indicative Place
Camoola	Historic	Indicative Place
O'Herns Road Farming Complex & Ford	Historic	Indicative Place
Catholic Church (former)	Historic	Registered
St Johns Presbyterian Church (former)	Historic	Registered
Victoria Bridge	Historic	Registered
Deanside Group	Historic	Registered
John Kelly House (former)	Historic	Registered
Jacksons Creek Rail Bridge	Historic	Registered
Jacksons Creek Road Bridge	Historic	Registered
Sunbury Rings	Indigenous	Registered
Mount Fraser	Natural	Indicative Place
Truganina Cemetery Grasslands	Natural	Indicative Place
Craigieburn to Cooper Street Grasslands	Natural	Registered

Schedule 2: Commonwealth Government involvement in the Program to Revise the Melbourne Urban Growth Boundary

Table 8: Commonwealth Government approval of plans, strategies, etc. as stated in the program

References in the Program to Commonwealth Government approval of the following plans, strategies, documents etc.:	Page reference	Timeframe, if specified
Definition of the Program: Overarching statement about Commonwealth Government involvement in plans, policies and documents	5	If the Program specifies that a policy, plan or other document requires approval, then the Victorian Government must submit to the Minister a draft or variation of plan, policy or document for approval or modifications
If there are additional relevant recovery plans, future listed matters of NES, or new information affecting actions of the prescriptions, then the prescriptions are to be revised and resubmitted to the Minister for approval	26	
Prescriptions for management of matters of NES	40	Submitted to the Minister for approval, following endorsement of the Program
Actions or classes of actions	40	Submitted to the Minister for approval, following endorsement of the Program
Reporting and Monitoring framework for the Program.	40	Submitted to Minister for approval within 12 months of giving approval of actions or classes of actions taken in accordance with the Program
Sub-regional species strategies for the Golden Sun Moth, Growling Grass Frog, Southern Brown Bandicoot	40	Submitted to the Minister for approval between 2010 - 2011 and prior to finalisation of the relevant biodiversity conservation strategy
Biodiversity conservation strategies for each of the growth areas	40	Submitted to the Minister for approval between 2010 - 2011 and prior to the finalisation of the relevant growth area framework plans
A standard monitoring protocol for detecting environmental changes arising from site based interventions, including specific monitoring requirements for the proposed western grassland reserves	40	Submitted to the Minister for approval in 2011
Sub-regional species strategy for Golden Sun Moth	50	Submitted to the Minister for approval by June 2011

Schedule 2

References in the Program to Commonwealth Government approval of the following plans, strategies, documents etc.:	Page reference	Timeframe, if specified
Sub-regional species strategy for Growling Grass Frog and Southern Brown Bandicoot	53	Submitted to the Minister for approval by February 2011
Prescription for Large Fruit Groundsel based on occurrence at Rockbank site	60	Prescription is prepared and submitted to Minister for approval following surveys at Rockbank site
Prescription for Button Wrinklewort if new populations are located, to inform planning process	60	Prescription is prepared and submitted to Minister for approval following surveys for this species
Biodiversity conservation strategy for south-east investigation area that reflects values of disused railway line, and particularly focuses on the protection and management of the Maroon Leek-Orchid and Swamp Everlasting	61	Submitted to the Minister for approval by March 2011
All new prescriptions for matters of NES	62	<ul style="list-style-type: none"> • New prescriptions must be provided to Minister for approval before they are applied • Prescriptions must be “in place” prior to construction
Adaptive management framework prepared to support processes established in the Program	77 - 78	Submitted to the Minister for approval in 2011. Incorporate monitoring data every 3-5 years or otherwise agreed

Table 9: Commonwealth Government consultation on plans, strategies, etc as stated in the program

References in the Program to Commonwealth Government consultation on the following plans, strategies, documents etc	Page reference	Timeframe, if specified
Development of Regional Rail Link and Outer Metropolitan Ring/E6 Transport Corridor infrastructure: Any requirements for further environmental assessment that may be required under <i>Environmental Effects Act 1978</i> or other applicable Victorian Legislation will be conducted in consultation with the department to inform final decision on alignments, design and environmental management of infrastructure	13	
Growth Area framework draft plans will be submitted to the department for comment before finalisation	23	
Precinct Structure Plans: The Victorian Government will provide the department an opportunity to comment on changes to precinct structure plan guidelines, precinct structure planning notes, and the biodiversity precinct structure planning kit	24	
Following consultation with the Minister the ecological impact management plan for the Regional Rail Link is to be approved by the Victorian Minister for the Environment and Climate Change	27	
Victorian Minister for the Environment and Climate Change to consult with the Minister to ensure that matters of NES are appropriately considered and addressed in the ecological impact management plan for the Regional Rail Link	40	Consultation will take place when ecological impact management plan for the Regional Rail Link is submitted by to the Victorian Government
An adaptive management response to any species not specifically addressed in the Program will be developed if and when required in consultation with the Commonwealth Government	42	In response to any new information arising from detailed ecological surveys that are be undertaken in the initial stages of implementing the Program
Victorian Government reporting on transport corridor (Regional Rail Link-west of Werribee to Deer Park): Victorian Minister for the Environment and Climate Change will consult with the Minister on preparation of environmental management plan including measures for managing construction impacts	71	Ongoing

Table 10: Reporting to the Commonwealth Government as stated in the program

Program references to reporting to the Commonwealth Government on the following plans, strategies, documents etc	Page Reference	Timeframe, if specified
<i>Process reporting</i>		
Reporting and Monitoring Reports of the implementation of the Program	40	During stages 2 and 3 (Implementation and construction) consistent with the approved reporting and monitoring framework
Interim Management Reports on the Western Grassland Reserves	40	Every six-months during 2010 - 2011, then annually until land is acquired
<i>Stage 1 Program Approval (monitoring and reporting requirements):</i> Report outlining how, where and when the planning scheme amendment and amendment to <i>Planning and Environment Act 1987</i> has given effect to the Program	69	Report submitted within 3 months of the Victorian Government's approval of the amendment
<i>Stage 1 Program Approval (monitoring and reporting requirements):</i> Reporting and monitoring framework with schedules is established between the Victorian Government and the Commonwealth Government	69	Framework established within 12 months of the Victorian Government's approval of the framework
<i>Stage 2 Process Implementation</i> Independent party report on all projects defined by the program. Including: growth area framework plans, sub-regional species strategies, bio-diversity conservation strategies, conservation management plans, native vegetation precinct management plans, national park or reserve management plans, framework for transport Infrastructure, transport planning mechanisms, other activities within the Program such as quarry approvals, sewage treatment facilities.	70	Independent reporting will occur every 2 years for the first 4 years unless otherwise agreed OR To be determined within the agreed monitoring and reporting framework To ensure that planning mechanisms (urban planning frameworks, & reservations) are occurring as set out by the program.
<i>Stage 3 Construction and Works (monitoring and reporting requirements):</i> Independent party report on construction works compliance with Program	72	Every 5 years or as agreed under reporting & monitoring framework
<i>Stage 3 Construction and Works (monitoring and reporting requirements):</i> Victorian Government reporting on construction of Regional Rail Link infrastructure	73	Ongoing

Schedule 2

Program references to reporting to the Commonwealth Government on the following plans, strategies, documents etc	Page Reference	Timeframe, if specified
<i>Stage 3 Construction and Works (monitoring and reporting requirements):</i> Victorian Government reporting on construction of Outer Metropolitan Ring/E6 Transport Corridor infrastructure	74	Ongoing
<i>Grasslands</i>		
Grasslands Acquisition schedule	44	By December 2010 or following gazettal of the Planning scheme amendment
Grasslands Interim Mgmt Plan	44	by December 2010
Grasslands 'reports' (Interim Management reports as above??)	44	6 monthly in 2010-2011 then annually until land acquired
Grasslands Performance standards for management and monitoring methodology	45	by June 2011
Results of mapping for Environmental Significance Overlays (ESOs)	46	by June 2013
Report any breaches of planning permits, clearing not in accordance with NVPP or CMP	46	as agreed
<i>Grassy Woodlands</i>		
Report any breaches of planning permits, clearing not in accordance with NVPP or CMP	48	as agreed
Reserve proposal, acquisition, management approach and schedule	48	by June 2010
Reports on progress of reserve establishment through the acquisition schedule	49	by 2012 and 2015, or as determined by approved monitoring and reporting framework
<i>Golden Sun Moth, Spiny Rice-flower and Matted Flax Lily</i>		
Survey Data (for Recovery Planning processes)	50	annually
Sub-regional species strategy for GSM	50	by June 2011
Report any breaches of planning permits, clearing not in accordance with NVPP or CMP	50	as agreed
<i>Small Golden Moth Orchid</i>		
Provide Clarke's road reserve proposal, acquisition and management approach (as part of the BCS for the growth area)	51	by March 2011
Performance standards for management and monitoring	52	by June 2011
<i>Southern Brown Bandicoot (SBB) and Growling Grass Frog (GGF)</i>		
Sub-Regional-Species Strategies for SBB & GGF	53	by Feb 2011
Monitoring reports	54	at least every 2 years according to agreed schedule

Schedule 2

Program references to reporting to the Commonwealth Government on the following plans, strategies, documents etc	Page Reference	Timeframe, if specified
Performance report planning permits and land mgmt obligations NVPP and CMP or other	54	as agreed
<i>Striped Legless Lizard</i>		
Protocol for translocation	55	by 2010
Monitoring results as per park management plan	56	
<i>Button Wrinklewort/ Large-Fruit Groundsel</i>		
Monitoring results	59	
<i>Migratory, water, wetlands and Ramsar</i>		
Outcome of wetland investigation (to establish wetland area along with Biodiversity Conservation strategy for South East)	63	by March 2011
Monitoring results of the MIG spp, mgmt activities and compliance with Mgmt plan	63	2 x 4 yearly then 1 x 5 yearly
Breaches of any land mgmt obligations of planning approvals	64	as agreed
Breaches of any land mgmt obligations of planning permits	64	as agreed
Results of water quality testing, compliance with proposed conservation outcomes	65	
Report including mechanism for protecting Ramsar site values	65	as agreed

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DELIVERING MELBOURNE'S NEWEST SUSTAINABLE COMMUNITIES



STRATEGIC IMPACT ASSESSMENT REPORT

FOR THE ENVIRONMENT PROTECTION AND
BIODIVERSITY CONSERVATION ACT 1999

OCTOBER 2009





DELIVERING MELBOURNE'S NEWEST SUSTAINABLE COMMUNITIES



STRATEGIC IMPACT ASSESSMENT REPORT

FOR THE ENVIRONMENT PROTECTION AND
BIODIVERSITY CONSERVATION ACT 1999

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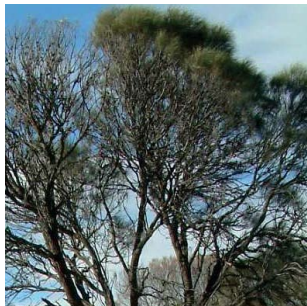
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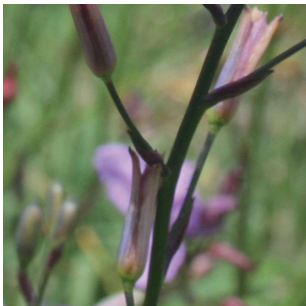
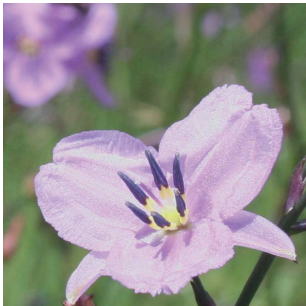
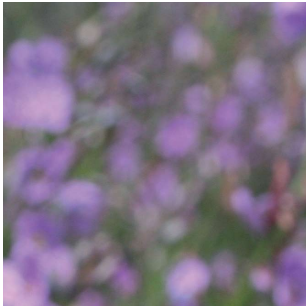
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FOREWORD



The historical development of Melbourne has caused significant impacts on the environment. Its massive footprint has resulted in the removal of most native vegetation, and retained habitat areas only support flora and fauna that can survive in a highly fragmented and urbanised landscape. The overall biodiversity of Melbourne is a fraction of what it was 200 years ago. These impacts have been costly to the environment but necessary in order to establish Melbourne as a world class city with the high degree of social and economic benefits expected by its residents.

On the positive side we are now much better at recognising, describing and managing these impacts. Victoria has a strong base of environmental legislation and policies that require us to be more explicit about the trade-offs and choices we make. For example the arrangements for offsetting native vegetation clearing as described in *Victoria's Native Vegetation Management – A Framework for Action* ensure that losses and gains are documented and the offset area is protected in perpetuity.

These sorts of tools make Victoria well placed to adopt a strategic approach to impact assessment. The benefits to the environment of a strategic approach are potentially significant. It enables us to account for the long-term and cumulative impacts of a series of “small” site-based actions over time. It enables us to avoid short-sighted decisions and forces us to consider their context. It enables us to develop mitigation strategies early, prior to impacts occurring. It enables us to develop a large, consolidated offset with much greater overall benefits than a series of smaller, separate offsets. By describing up front all the impacts that are likely to occur over time, we can take coordinated and pre-emptive action at a far greater spatial and temporal scale than would otherwise be achieved by a case-by-case approach.

The approach agreed with the Commonwealth Government to undertake a strategic assessment of matters of national environmental significance as provided for by Part 10 of the *Environment Protection and Biodiversity Conservation Act 1999* is anticipated to deliver these benefits to the environment. It also offers significant benefits for planners, developers and decision makers by reducing red-tape and providing certainty for local communities.

The use of a strategic assessment approach to describing and addressing national environmental impacts makes the next phase of *Melbourne 2030* different. It will put Victoria at the forefront of strategic environmental impact assessment and provide lasting benefits for all Victorians.

Comments on the draft Strategic Impact Assessment Report were received from many interested individuals and organisations. All comments received have been considered prior to finalising the report and submitting it to the Commonwealth Minister for the Environment, Heritage and the Arts for consideration.

Greg Wilson

Secretary

Department of Sustainability and Environment



1 EXECUTIVE SUMMARY



The Victorian Government has entered into an agreement with the Commonwealth Government, under section 146 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), to conduct a strategic assessment of the potential impact of the Program '*Delivering Melbourne's newest sustainable communities*' on matters of national environmental significance.

This impact assessment report provides a strategic assessment of impacts arising from the Program on matters covered by the EPBC Act. It considers:

- > The designation of areas for future urban development within an expanded Urban Growth Boundary;
- > Areas inside the existing Urban Growth Boundary that are to be subject to the Victorian Government's Precinct Structure Planning process and for which plans are exhibited after 26 May 2009;
- > The proposed Outer Metropolitan Ring (OMR) / E6 Transport Corridor; and
- > The Tarneit section of the proposed Regional Rail Link project.

The four projects or areas included in this impact assessment report are collectively referred to as the Program.

The report has two companion documents:

- > the Program Report, which outlines how the Victorian Government intends to manage the impacts of implementing the Program on matters of national environmental significance. It identifies the processes that will be used to implement the Program; and how mitigation activities that are required to minimise, and where possible, reverse net environmental impacts will be incorporated into those processes; and
- > the Submissions Report, which summarises the submissions received during the public consultation conducted between 17 June and 17 July and 21 August and 21 September 2009 and outlines the Victorian Government response to these.

As required by the Terms of Reference for the strategic assessment, this impact assessment report addresses all relevant matters of national environmental significance under the EPBC Act. These are threatened species and ecological communities, Ramsar wetlands, migratory species and sites of national heritage.

Any proposal to undertake action that could have a significant impact on matters of national environmental significance requires approval from the Commonwealth Minister administering the EPBC Act, hereafter referred to as the Commonwealth Minister for the Environment.

The EPBC Act outlines how potential impacts of an action on matters of national environmental significance must be assessed. Generally this assessment process is undertaken for defined projects, such as an infrastructure project, where the parameters are well defined. However, section 10 of the EPBC Act provides for the strategic assessment of a plan, policy or program.

A strategic assessment under the EPBC Act enables the early consideration of matters of national environmental significance in the development of a plan, policy or program. Undertaking a strategic assessment early in the process gives greater certainty to local communities and proponents over future development and enables the Commonwealth Minister for the Environment to endorse and approve actions under the policy, plan or program.

The outcomes sought from the strategic assessment are:

- > To consider matters of national environmental significance as part of the strategic planning for Melbourne to achieve environmental, social and economic benefits;
- > To deliver improved biodiversity outcomes through early consideration and mitigation of the cumulative impacts of Melbourne's development;
- > To provide greater certainty to the community and to developers of land over the next 10–20 years; and
- > To streamline planning approvals processes to reduce the administrative burden for individuals, industry, and governments.

While the EPBC Act focuses on national matters, the Victorian *Environment Effects Act 1978* (EE Act) and *Planning and Environment Act 1987* (P&E Act) relate to Victorian state and regional matters and assessments under this legislation will still be required.

METHODOLOGY

The assessment has benefited from planning commenced by the Victorian government early in 2008. Issues and objectives were then initially scoped. Options for land-use were considered within Government by a multi-agency working group, governed by a task force composed of high level officials. Preliminary analysis of different land-use scenarios included biodiversity benefits and impacts.

Participatory processes involving key non-government stakeholders were commenced as early as practicable. This included the establishment and regular meetings of an Environmental Reference Group. Major public consultation was conducted between 17 June and 17 July 2009. Letters were sent to 15,000 landowners and occupiers directly affected by the Program, advertisements were placed in state and national newspapers outlining the Program and inviting participation in eight public information sessions.

Information was also provided on the websites of the Victorian Government agencies involved. Over 2,000 people participated in these information sessions, hundreds of calls were made to the call centre established for the Program and calls were logged for follow-up by agency staff. A web-portal was also established to receive formal submissions on the Program. Over 1,700 submissions were received on the changes to the Urban Growth Boundary, the transport projects and the Strategic Impact Assessment. Two hundred and thirty eight (238) of these were directly related to the strategic assessment and proposed grassland reserves.

A preliminary review of submissions led the Victorian Government to consider potential minor refinements to the alignments of the transport corridors and boundary of the grassland reserves. A further round of consultation was conducted between 21 August and 21 September targeting landholders potentially affected by these options. The process involved mailouts and information sessions consistent with the initial consultation. A further eight submissions relating to the proposed grassland reserves were received from this second consultation.

The study area for the Strategic Assessment consists of:

- > the *Melbourne @ 5 Million* Investigation Areas;
- > proposed Precinct Structure Planning areas within the existing Urban Growth Boundary; and
- > the proposed OMR/E6 Transport Corridor and the proposed Regional Rail Link.

All listed threatened species and ecological communities that could potentially occur within the study area and surrounds were considered, based on the Commonwealth's 'Protected matters search tool' and similar large geographical scale databases. Although it was apparent that many of the items on the lists were not or were highly unlikely to be present within the study area, they were listed and considered. Specialist advice, including from State and Commonwealth government staff, consultants and local naturalists, was used to determine likely presence now and in the future.

Birds Australia undertook analysis of potential impacts on migratory birds and Ramsar sites. Information on heritage sites to be assessed was provided by the Commonwealth Department of the Environment, Water, Heritage and the Arts.

Field surveys were also undertaken by flora and fauna consultants throughout the study area, including targeted surveys for threatened species and detailed mapping of native vegetation in proposed Precinct Structure Planning areas within the current Urban Growth Boundary. Where detailed property assessment was not possible, such as where Department of Sustainability and Environment modelling indicated that native grassland was likely but permission to access property was not obtained, other

methods of data collection were utilised to confirm the presence of native grassland and other vegetation. Additional rapid surveys were conducted during July and August 2009 to further inform the assessment regarding biodiversity at key locations and clarify technical issues raised in submissions. Summary data from these sources have been provided in the report.

Additional detailed surveys will be undertaken progressively over the next few years in all areas designated urban as part of the Precinct Structure Planning process, and within the transport corridors as part of Victorian EE Act requirements, to fill important information gaps at a property scale.

ASSESSMENT OVERVIEW

Impacts are defined in the EPBC Act. Criteria set out in the Department of Environment, Water, Heritage and the Arts (2006) and supplemented by any specific guidelines available from Department of the Environment, Water, Heritage and the Arts were used to guide interpretation of scale and importance of impacts.

Mitigation of impacts is based on a mitigation hierarchy of avoidance, minimisation, rehabilitation, re-establishment, and offset. This is similar to international approaches to mitigation (see for example Business and Biodiversity Offsets Program 2009) and mirrors the key steps set out in Victoria's *Native Vegetation Management – A Framework for Action* (Native Vegetation Framework).

Avoidance has been manifested through excluding larger areas of high conservation value native vegetation from the proposed new Urban Growth Boundary. An example of avoidance is the decision to locate the boundary of the Melbourne West Investigation Area to exclude extensive areas of native grassland to the immediate west.

Minimisation included setting the proposed new Urban Growth Boundary within the Melbourne West Investigation Area and designating areas to be excluded from urban development. Minimisation is still to be considered in other Investigation Areas and as part of the Precinct Structure Planning process. As minimisation will occur in the future, this strategic assessment takes a conservative, worst case scenario view when considering the likely scale of clearing.

Rehabilitation and on-site management of particular assets will result from the minimisation process once retained areas are defined. Retained areas will be managed to ensure that they are protected and enhanced in the long term.

Reestablishment will occur where it is not practical or desirable to retain and manage an asset on-site. This may involve translocation in some cases.

Offsetting is the primary way to mitigate impacts after avoidance and minimisation is complete. Victoria has a well established and robust offsetting approach to ensure

that offset gains are in line with the type and scale of losses. Offsets are permanently protected by legal agreement.

Victoria has committed publicly to protecting two significant areas of native grassland to the west of Melbourne. The proposed Western Grassland Reserves will total approximately 15,000ha. Much of this area will be used as an offset for any unavoidable clearing of native vegetation and habitat within the urban area. Additional areas other than the proposed Western Grassland Reserves will be required for offsets, particularly for vegetation types or threatened species habitats that cannot be offset to the grassland reserves. A good example of such vegetation is Grassy Eucalypt Woodland for which a separate conservation reserve of at least 1,200ha will be created to the north of Melbourne. This reserve will provide a source of offsets for permitted clearing of grassy woodland within the urban area.

MIGRATORY SPECIES

Data held by the Department of Sustainability and Environment, supplemented by information held by Birds Australia, was used to determine the likely impacts of the Program on listed migratory species.

Actions associated with the Program may impact on migratory bird species either through direct loss of wetland habitat or through indirect processes such as disturbance caused by noise or greater visitation, hydrological modification or degradation of some wetlands. However, current knowledge of bird usage and habitats within the study area indicate that it is not likely that impacts on migratory species will be significant.

Mitigating potential impacts will involve protecting and improving the management of existing wetlands within new conservation reserves and open space networks, and creating new wetlands that include specific design parameters for wetland birds and other species. Additional detailed surveys will be undertaken as part of the Precinct Structure Planning and transport infrastructure planning processes and all wetlands that support a nationally significant number of migratory species will be protected from urban development and managed appropriately.

RAMSAR WETLANDS

Approval under the EPBC Act is required for an action occurring within or outside a declared Ramsar wetland if the action has, will have, or is likely to have a significant impact on the ecological character of the Ramsar wetland (Commonwealth of Australia 2006).

Declared Ramsar wetlands of relevance to Melbourne are: Port Phillip Bay (Western Shoreline) and Bellarine Peninsula; Western Port; and Edithvale-Seaford Wetlands.

The proposed Program, specifically the OMR/E6 Transport corridor component, will have direct impact on one area of low Ramsar value in the Port Phillip Bay (Western

Shoreline) and Bellarine Peninsula Ramsar Site (Figure 33). The Program will not have any direct impact on any other part of the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar Site or the Edithvale-Seaford Wetlands or Western Port Ramsar sites. For these areas, the assessment focuses on any likely indirect impacts. Birds Australia assisted with this assessment and proposed mitigation measures that have been included within the report.

HERITAGE AND COMMONWEALTH PROPERTIES

The register of the National Estate records seven historic sites within the Melbourne North Investigation Area and three historic sites in the Melbourne West Investigation Area. All are built structures and all will be sympathetically retained and protected as part of the Precinct Structure Planning process. These sites will be specifically referenced and protected within the relevant planning scheme as a consequence of the Program. In addition the Craigieburn to Cooper Street Grasslands is registered as a site of natural significance. The majority of this site is within the strategic assessment study area and will be protected from development and managed for its conservation values.

It is not considered likely that future urban development will result in significant impacts on Heritage sites or Commonwealth properties.

LISTED SPECIES AND ECOLOGICAL COMMUNITIES

Ecological communities

Actions associated with the Program are likely to have significant impact on the Natural Temperate Grasslands of the Victorian Volcanic Plain, particularly in Melbourne's west. Loss of extent resulting from direct clearing for housing, roads and other infrastructure will be the primary impact. It is likely that up to 3,278ha of this native grassland will be cleared over the next 20 to 30 years as a result of the revised Urban Growth Boundary and associated infrastructure projects. Of this proposed grassland removal, around 525ha would be cleared for the proposed OMR/E6 Transport Corridor and 95ha for the proposed Regional Rail Link. A further 769ha of this Natural Temperate Grassland occurs within proposed precincts adjoining the Melbourne West and Melbourne North Investigation Areas and much of this is also likely to be removed, subject to the outcomes of the Precinct Structure Planning process. Hence up to 4,667ha of Natural Temperate Grassland may be impacted as a result of actions under the Program.

Considerable effort has already been made to fine-tune the proposed locations of the Urban Growth Boundary, Outer Metropolitan Ring/E6 Transport Corridor, Regional Rail Link and exclusion areas to minimise native grassland clearing in the Melbourne West Investigation Area. Approximately 1,136ha of Natural Temperate Grassland will be included within the non-urban areas of the western (Wyndham and Melton-

Caroline Springs) growth area. A further 661ha of Natural Temperate Grassland will be retained and excluded from urban development in the Melbourne North (Hume and Whittlesea) Growth Area. These retention figures exclude grassland that occurs within active quarry areas within the Program area, within which grasslands totalling 724ha in the Wyndham and Melton-Caroline Springs Growth Areas and 59ha in the Hume and Whittlesea Growth Area are likely to be progressively cleared under separate State and Commonwealth approval arrangements. These quarries with existing approvals are not subject to this Strategic Impact Assessment.

Unavoidable clearing of grassland will be offset by the proposed new Western Grassland Reserves. These grassland reserves will be formally established outside the Urban Growth Boundary and a Public Acquisition Overlay will be gazetted at the same time as new Urban Growth Boundary. This will trigger commencement of a formal acquisition process. These reserves are in two core areas and total more than 15,000ha in size. They contain the largest consolidated area of Natural Temperate Grassland remaining on the Victorian Volcanic Plain, support several nationally threatened plant and animal species and provide potential habitat for a range of other nationally threatened species. The grassland reserves will be acquired within ten years.

Conservation reserves currently account for only two per cent of the current extent of Natural Temperate Grassland. Adding this proposed 15,000ha reserve will increase the level of reservation of this critically endangered ecological community to at least 20 per cent.

Grassy Eucalypt Woodland of the Victorian Volcanic Plain is an ecological community that was recently listed as critically endangered under the EPBC Act. This community is scattered through the Melbourne North Investigation Area (Hume and Whittlesea) and Sunbury and adjoining precincts inside the existing Urban Growth Boundary, with very minor occurrences in the Wyndham and Melton-Caroline Springs Growth Areas. Approximately 773ha will be protected from development within the growth areas (not including 69ha likely to be cleared within existing quarries), virtually all of it within the Melbourne North Investigation Area. An area of around 314ha of Grassy Eucalypt Woodland within the Melbourne North Investigation Area has been excluded from the Urban Growth Boundary altogether. However, up to 709ha of this woodland will be impacted by the Program, consisting of 449ha within the new growth area and around 135ha within proposed precincts in the existing urban area. The proposed OMR/E6 Transport Corridor will result in the removal of up to a further 125ha of this vegetation type.

The Precinct Structure Planning process will ensure that vegetation removal is minimised within the context of the precinct. A Grassy Eucalypt Woodland reserve of at least 1,200ha will be established south-west of Whittlesea following community

consultation. The reserve will provide offsets for unavoidable clearing of Grassy Eucalypt Woodland, in a similar manner to that of the proposed Western Grasslands Reserve. Clearing of Grassy Eucalypt Woodland will not be permitted until this reserve has been established.

Offsets for clearing of ecological communities will be consistent with Victoria's Native Vegetation Framework and any additional requirements imposed by prescriptions for particular ecological communities or threatened species.

Threatened species

A total of 25 fauna species and 32 flora species, listed or nominated for listing under the EPBC Act have been identified as potentially occurring within the Program area. However, most of these (15 fauna and 21 flora species) are considered to have a low or negligible likelihood of occurrence within the study area. When assessed against the Commonwealth significant impact criteria, actions under the Program are not likely to cause a significant impact on many of the species. However, for the following species (Table A), significant impact is considered likely.

TABLE A. THREATENED SPECIES LIKELY TO BE SIGNIFICANTLY IMPACTED AS A RESULT OF THE PROGRAM.

Species	Status	Likely impacts		
		Geographical area	Growth area	Nature of impact
Golden Sun Moth	Critically endangered	North and West	Hume Melton-Caroline Springs, Wyndham, Whittlesea	Removal of native and non-native habitat. Direct impact on extant populations in short to medium term. Commitment to long term protection targets for the bioregion likely to avoid long-term impacts.
Spiny Rice-flower	Critically endangered	North and West	Melton-Caroline Springs, Wyndham	Removal of some plants within small to medium sized populations. Commitment to long term protection targets for the bioregion likely to avoid long-term impacts.
Matted Flax-lily	Endangered	North and South-East	Casey-Cardinia, Hume Whittlesea	Removal of some plants within small to medium sized populations. Impact unlikely in the west although the species does occur there. Commitment to long term protection targets for the bioregion likely to avoid long-term impacts.

Species	Status	Likely impacts		
		Geographical area	Growth area	Nature of impact
Southern Brown Bandicoot	Endangered	South-East	Casey-Cardinia	Removal of habitat resulting in short to medium term impacts at some sites. Major effort on sub-regional and precinct scale planning designed to improve connectivity and population function, and avoid long-term impacts.
Striped Legless Lizard	Vulnerable	North and West	Hume Melton-Caroline Springs Wyndham Whittlesea	Removal of habitat. Direct impact on extant populations. Offsets required, possibly in conjunction with translocation.
Growling Grass frog	Vulnerable	North, West and South-East	All	Short to medium term impacts on some important populations and localized impacts on some sites. Major effort on sub-regional and precinct scale planning designed to improve connectivity and population function, and avoid long-term impacts.

Prescriptions have been developed for these species to guide decision makers on whether to retain the species on site or remove and offset during the development planning process, in a manner that minimises net impacts. For some species long-term protection targets have been established as part of the strategic approach, with opportunity for adaptive management and increased data gathering. Sub-regional strategies will be prepared for species such as Growling Grass Frog and Southern Brown Bandicoot within the next eighteen months to identify and secure the necessary habitat and landscape connectivity that enables long-term sustainability of populations. These strategies will guide Precinct Structure Planning.

There are twenty-five fauna and flora species that are identified in this report as being currently listed under the EPBC Act and potentially present within the study area but for which it is uncertain whether an impact will occur. Surveys for all these species will be undertaken prior to precinct design or transport planning where relevant, and if the species is detected a prescription will be developed in consultation with the Commonwealth.

MONITORING, REPORTING AND ADAPTIVE MANAGEMENT

Establishment of strong monitoring and reporting will be critical to ensure that the prescriptions and other management measures are being followed to and gather information to assess the achievement of stated outcomes.

A Monitoring and Reporting Framework will be developed for Commonwealth approval within the first year and this will detail reporting and monitoring requirements for the Program and its various implementation processes.

An independent monitor will be appointed to check compliance and provide assurance to the Commonwealth Government that the Victorian Government is effectively implementing the endorsed Program. For example, this will assess how the Precinct Structure Planning guidelines are helping to protect matters of national environmental significance under EPBC Act. Audit reports will initially be provided to the State and Commonwealth Governments every two years, and will be used to inform the review of the *Precinct Structure Planning Guidelines*.

The Monitoring and Reporting Framework will include the adaptive management approach for managing and reporting on Matters of National Environmental Significance, elements of which are identified in this report. This will require the design, collection and analysis of baseline and monitoring data that will both be able to quantify progress towards desired outcomes and enable changes in strategy and management over time in response to monitoring data, new information and/or emerging issues.

Key areas retained for conservation purposes, such as the Merri Creek corridor, proposed Grassy Eucalypt Woodland and Western Grassland Reserves will be assessed and monitored according to a standard protocol for vegetation condition and threatened species being developed by Department of Sustainability and Environment. This monitoring protocol and methodology will be developed to the satisfaction of the Commonwealth. Responsibility for ensuring this monitoring occurs will rest with Department of Sustainability and Environment for public land, and the Growth Areas Authority and councils for private land. Audit reports on outcomes of vegetation condition and threatened species monitoring will be provided to the State and Commonwealth Governments every five years. An approach to adaptive management and monitoring of ecological components is set out in the report.

Arrangements and legal mechanisms for delivery of management responses to Matters of National Environmental Significance as a result of the Program are set out in detail in the accompanying Program Report.

2 INTRODUCTION

2.1 OBJECTIVES

This impact assessment report presents the findings of the strategic assessment undertaken for the Program. The Program (defined in Section 3.1) includes:

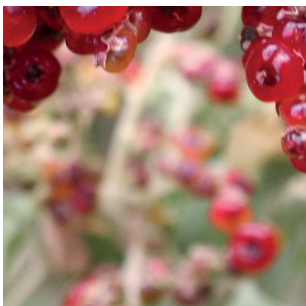
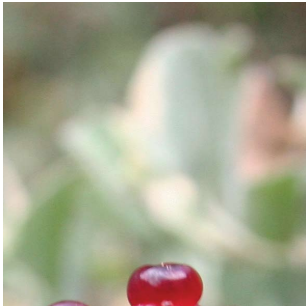
- > The designation of areas for future urban development within an expanded Urban Growth Boundary (see the Urban Growth Boundary Review report for public exhibition, 2009);
- > Areas inside the existing Urban Growth Boundary that are to be subject to the Victorian Government's Precinct Structure Planning process where plans are exhibited after 26 May 2009;
- > The proposed Outer Metropolitan Ring (OMR) / E6 Transport Corridor (see the Planning Assessment Report, OMR/E6 Transport Corridor, 2009); and
- > The Tarneit section of the proposed Regional Rail Link project (see the Regional Rail Link – West Werribee to Deer Park – Strategic Assessment, 2009).

The objectives of the strategic assessment are:

- > To undertake a strategic assessment of matters of national environmental significance within the Program;
- > To ensure the impacts of the Program on matters of national environmental significance are considered;
- > To identify appropriate mitigation measures for any impacts on matters of national environmental significance considered; and
- > To ensure the Urban Growth Boundary Review Program incorporates mitigation measures.

The outcomes sought from the strategic assessment are:

- > To consider matters of national environmental significance as part of the strategic planning for Melbourne to achieve environmental, social and economic benefits;
- > To deliver improved biodiversity outcomes through early consideration and mitigation of the cumulative impacts of Melbourne's development;
- > To provide greater certainty to the community and to developers of land over the next 10–20 years; and
- > To streamline planning approvals processes to reduce the administrative burden for individuals, industry, and governments.



This report follows a draft report released for public consultation (State Government of Victoria 2009a) under Section 146 (2) (b) of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This revised report should be read in conjunction with the Program Report for this assessment, which is the definitive and overarching document describing the Program and its implementation.

2.2 WHAT IS A STRATEGIC ASSESSMENT UNDER THE EPBC ACT?

The EPBC Act is the Commonwealth Government's key environmental legislation. Its key objectives are to protect the environment, particularly matters of national environmental significance, and to promote ecologically sustainable development.

Seven matters of national environmental significance are identified under the EPBC Act, including listed threatened species and ecological communities, migratory species and World Heritage properties.

Any proposal to undertake action that could have a significant impact on matters of national environmental significance requires approval from the Commonwealth Minister for the Environment under the EPBC Act.

The EPBC Act defines how potential impacts of an action on matters of national environmental significance must be assessed. Generally this assessment process is undertaken for defined projects, such as an infrastructure project where the parameters are well defined. However, the implementation of a plan, policy or program could also result in impacts on matters of national environmental significance at a strategic level. Accordingly, section 10 of the EPBC Act provides for the strategic assessment of a plan, policy or program.

A strategic assessment would usually apply to a plan, policy or program relating to region-wide development or areas of high population growth. Usually the proponent of the plan would be a government body or agency.

A strategic assessment under the EPBC Act enables the early consideration of matters of national environmental significance. Undertaking an assessment early in the process provides greater certainty to local communities and proponents about future development, and enables the Commonwealth Minister for the Environment (The Minister) to endorse and approve actions under the policy, plan or program.

Ultimately, the strategic assessment process can reduce administrative burden because approval removes the need for individual project assessments for every action that results from the approved plan, policy or program.

The strategic assessment process involves the following stages:

1. The Minister enters into an agreement with another person/party to undertake a strategic assessment of the impacts of actions under a policy, plan or program;
2. Terms of Reference are prepared for a report on the impacts relating to the agreement;
3. A draft report is prepared;
4. The draft report is made available for public comment for at least 28 days;
5. The Minister may recommend modifying the policy, plan or program;
6. The Minister may endorse the policy, plan or program if appropriate; and
7. The Minister may approve actions under the policy, plan or program if appropriate. Approval may be subject to conditions.

Under section 146 of the EPBC Act, the Minister for the Environment on behalf of the Commonwealth of Australia, has entered into an agreement with the State of Victoria to undertake a strategic assessment of the Program outlined in Section 2.1. The strategic assessment process is intended to enable the Minister to endorse the proposed Program and approve actions that may occur under the Program. This will remove the need for later individual referrals and approvals under the EPBC Act relating to various precincts and stages of the expansion of the Urban Growth Boundary.



3 PROJECT PURPOSE AND DESCRIPTION

3.1 PROGRAM SUMMARY

The Agreement between the Commonwealth of Australia and the State of Victoria is in line with section 146(1) of the EPBC Act. The Program that is the subject of this strategic assessment is defined at Section 2.2 of the Agreement, as follows:

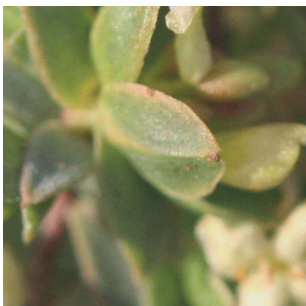
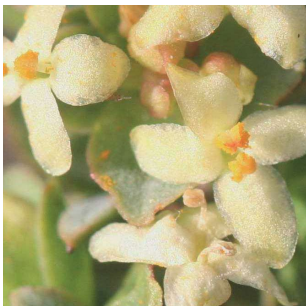
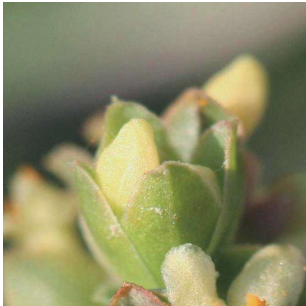
The Program means the Urban Growth Boundary (UGB) Review for Melbourne being undertaken by the State of Victoria and announced on 2 December 2008, for the development of land, including transport infrastructure, within:

- i. the investigation areas shown in the *Melbourne @ 5 Million* Report (published by the State of Victoria in December 2008) including the subsequent extension to these areas as shown on the map at Attachment A; and
- ii. areas inside the existing UGB for which a planning scheme amendment to introduce a Precinct Structure Plan has not commenced to be exhibited or does not remain on exhibition under sections 17–19 of the *Planning and Environment Act 1987* (Vic) as at 26 May 2009, as indicated on the map at Attachment A, and as definitively shown on the Growth Areas Authority map no. 3356/6, dated 26 May 2009;
- iii. areas in the Outer Metropolitan Ring Transport Corridor, the E6 Transport Corridor and the Regional Rail Link Corridor between West Werribee and Deer Park discussed in the Victorian Transport Plan (published by the State of Victoria on 8 December 2008) as shown on the Map at Attachment A.

The proposed detailed components of the Program were set out in the *Delivering Melbourne's Newest Sustainable Communities* Report published in 2009 and other relevant documents, as they relate to the above areas. The final detailed components of the Program are set out in a companion document (the "Program Report"), which the State of Victoria will provide to the Minister for his consideration.

The Program Report referred to in the Agreement above has been finalised in conjunction with this Impact Assessment Report. It sets out the definitive statement of the Program and its components and has been used to assess impacts in this report.

Due to the Cabinet in Confidence nature of the material being discussed, the maps in this Impact Assessment Report have not yet been updated to show Victoria's final proposals for the Program. The maps included in this report show an earlier version (August 2009) of Victoria's proposals, prior to boundaries being finalized at some locations; they are accurate in every other respect. It is important to note however that the analysis undertaken in this Impact Assessment Report is based on the final



proposals as set out in the Program Report. Maps showing final proposed alignments, boundaries and zones are included within the accompanying Program Report.

Subsequent to Victorian Cabinet's endorsement of the final proposals put forward in the Program, the maps in the Impact Assessment Report will be updated.

Melbourne @ 5 million is a policy initiative that responds to growth projections in *Victoria in Future 2008*. One of the projects contained in *Melbourne @ 5 Million* involved reviewing and revising Melbourne's Urban Growth Boundary.

The document identified four designated Investigation Areas in which options for future urban growth would be explored. The Investigation Areas are larger than the areas of land required for accommodating the projected population, to provide for a meaningful consideration of constraints such as flood prone areas and significant biodiversity sites.

The proposed OMR/E6 Transport Corridor and the Regional Rail Link Corridor between West Werribee and Deer Park were identified in the Victorian Transport Plan, released by the Minister for Public Transport and the Minister for Roads and Ports in December 2008. They have been included in the overall strategic assessment because they form part of the package of strategic transport links that will facilitate urban development in line with the principles of *Melbourne @ 5 million*.

A Plan for Melbourne's Growth Areas (2005) describes how growth will be managed in Casey-Cardinia, Hume, Melton-Caroline Springs, Whittlesea and Wyndham to meet the directions outlined in *Melbourne 2030* (DPCD 2008a). The document established a new 'Urban Growth Zone', which applies to undeveloped land inside the current Urban Growth Boundary in the five growth areas.

The Precinct Structure Planning process is progressively being applied to areas that are within the existing Urban Growth Boundary and are zoned for urban growth as designated in the Urban Growth Zone. The Program for this strategic assessment includes proposed precincts that have not yet been started or finalised – that is, where a planning scheme amendment that facilitates the Precinct Structure Plan has not yet been exhibited for public comment.

Precinct Structure Plans are the primary plans guiding the development of an area, removing the need for other plans, such as development plans, before planning permits can be issued. They are the key tool to plan, prioritise and coordinate infrastructure and service provision, acting as the master plans for 37 new communities.

Precinct Structure Planning Guidelines have been released by the Minister for Planning after several months of public comment. These provide a consistent approach to planning for employment, transport and sustainability in the growth areas. Biodiversity and heritage protection are important considerations in the Precinct Structure Planning process and are addressed in the *Precinct Structure Planning Guidelines*.

3.2 LEGAL STANDING

The Urban Growth Boundary Review is a current policy initiative of the Victorian Government.

When finalised, the Program will be implemented into the relevant Victorian planning schemes under the *Planning and Environment Act 1987* (P&E Act). A planning scheme is the statutory instrument in Victoria regulating the use and development of the land to which it applies.

3.3 BACKGROUND

Before this Program was developed, several key government initiatives influenced the development of the policy objectives and principles contained in *Melbourne @ 5 million* and the related OMR/E6 Transport Corridor and Regional Rail Link proposals: *Melbourne 2030*, *Victoria in Future* and the *Victorian Transport Plan*.

The assessment has benefited from this planning, which was commenced by the Victorian Government early in 2008. Issues and objectives were initially scoped at this stage. Options for land-use were considered within Government by a multi-agency working group governed by a task force composed of high level officials. Preliminary analysis of different land-use scenarios included biodiversity benefits and impacts.

3.4 ACTIONS TO BE INCLUDED

Relevant actions under the EPBC Act that are proposed to be implemented on the basis of the Program were identified in the overall Program Report *Delivering Melbourne's Newest Sustainable Communities* (State Government of Victoria 2009b). These have been refined and further defined in the companion document to this assessment report (the "Program Report").

3.5 VICTORIAN APPROVALS PROCESS

The Victorian government has a range of statutory responsibilities relating to the approval, implementation and management of the Program. This section outlines:

- > The relevant statutory frameworks and how they might be used to implement the Program;
- > A summary of the overall assessment processes; and
- > A summary of the relevant decision makers and their responsibilities.

A more detailed description of the Program stages and implementation processes is provided in the Program Report.

3.5.1 STATUTORY FRAMEWORK AND IMPLEMENTATION

ASSESSMENT UNDER THE *PLANNING AND ENVIRONMENT ACT 1987*

To be given effect, the policy objectives of the Program must be incorporated into the Planning Scheme in line with the P&E Act. A planning scheme is a statutory document which sets out objectives, policies and provisions relating to the use, development, protection and conservation of land in the area to which it applies. A planning scheme regulates the use and development of land through planning provisions to achieve those objectives and policies. Potential environmental effects associated with urban development projects are usually considered against the requirements of the P&E Act.

The P&E Act provides for the Minister of Planning to prepare a set of standard provisions for planning schemes, called the Victoria Planning Provisions. These provide a standard format for all Victorian planning schemes, including standard provisions and State planning policy.

The Act distinguishes between the Victoria Planning Provisions and a planning scheme. The provisions are a State-wide reference used, as required, to construct planning schemes, and a statutory device to ensure that consistent provisions for various matters are maintained across Victoria and that the construction and layout of planning schemes is always the same.

Assessments for native vegetation removal occur under the P&E Act and the Victoria Planning Provisions. In the area covered by the Program, most assessments will occur under a Precinct Structure Plan and Native Vegetation Precinct Plan. Assessments would previously have been triggered by individual planning permit applications. Clause 52.16 of the Victoria Planning Provisions enables approval of Native Vegetation Precinct Plans. These provide for the protection, management and removal of native vegetation. These are described in detail below.

Direction No. 12, issued by the Victorian Minister for Planning on 10 June 2008, requires that in preparing a Precinct Structure Plan for incorporation into a planning scheme, the relevant planning authority must demonstrate that the Precinct Structure Plan, or any changes to it, are in line with any applicable *Precinct Structure Planning Guidelines* approved by the Minister. In October 2008, the Minister for Planning released draft *Precinct Structure Planning Guidelines*. Following consideration of submissions received during the comment period the Minister for Planning released the final *Precinct Structure Planning Guidelines* in October 2009.

The *Precinct Structure Planning Guidelines* set out what should be addressed in preparing or assessing a Precinct Structure Plan. They apply to new residential communities and new major employment areas in the growth areas. They include the

Government's objectives for growth area planning and describe a process to achieve an integrated precinct structure plan.

The *Precinct Structure Planning Guidelines* require consideration of open space and natural systems, and provide guidance on dealing with Victoria's *Native Vegetation Management Framework* and the *National Strategy for the Conservation of Biological Diversity*. The guidelines describe the outputs required in Precinct Structure Planning, including:

A Native Vegetation Precinct Plan, which specifies the native vegetation to be protected, removed, destroyed or lopped in line with clause 52.16 of all Victorian planning schemes. It sets out the works, payments or other actions necessary to offset any proposed removals.

A Conservation Management Plan, which sets out how flora and fauna protected by the EPBC Act will be protected and managed.

The *Precinct Structure Planning Guidelines* are accompanied by a Biodiversity Precinct Planning Kit. This provides a structured format for proponents to prepare the information needed to meet State and Commonwealth requirements. The Biodiversity Precinct Planning Kit and the notes accompanying the Precinct Structure Planning Guidelines remind proponents that any prescriptions approved by the Commonwealth Minister for Environment for managing matters of national environmental significance must be complied with.

Within the State Planning Policy Framework, clause 15.09 (conservation of native flora and fauna) requires planning and responsible authorities to have regard to Victoria's Native Vegetation Framework and states that they should follow a three-step approach if a permit is required to remove native vegetation, or if an amendment to the planning scheme or an application for subdivision could result in the removal of native vegetation. The three steps are:

1. To avoid adverse impacts, particularly through vegetation clearance;
2. If impacts cannot be avoided, to minimise impacts through appropriate consideration in planning processes and expert input to project design or management; and
3. To identify appropriate offset options.

ASSESSMENT UNDER THE EXTRACTIVE INDUSTRIES DEVELOPMENT ACT 1995 AND THE MINERAL RESOURCES (SUSTAINABLE DEVELOPMENT) ACT 1990

Native vegetation removal associated with the Earth Resources Industry (Quarries and Mines) is exempt from the requirements of the *Planning and Environment Act 1987* and the planning scheme. The exploration, licensing and development of the Earth resources

industries is regulated under the *Extractive Industries Development Act 1995* and the *Mineral Resources (Sustainable Development) Act 1990*.

A Memorandum of Understanding (MoU) between the Department of Sustainability and Environment (DSE) and the Department of Primary Industries (DPI) was signed in 2003. The purpose of the MoU is to endorse the Mining and Extractive Industries Work Approvals (MEIWA) process.

The MoU recognises that DPI is responsible for the regulation and administration of mining and Extractive Industries. It also recognises that all relevant land use issues, which are the responsibility of DSE, must be integrated into the approvals process. Approval conditions, including compliance with the Native Vegetation Framework and mitigation measures are contained in work plan approvals. The *Native vegetation management guide for the earth resources industries* (2009) provides guidance to proponents on the assessment and management of native vegetation and habitat consistent with Victorian policy.

ASSESSMENT UNDER THE ENVIRONMENT EFFECTS ACT 1978

The *Environment Effects Act 1978* (EE Act) provides for the assessment of proposed projects (works) that are capable of having a significant effect on the environment. Specifically, it applies to effects of regional or state significance, whereas the EPBC Act deals with effects on matters of national environmental significance.

The EE Act gives the Minister for Planning the authority to decide whether an environmental effects statement should be prepared. An environmental effects statement may be required where there is a likelihood of a significant regional or State-wide effect on the environment, a need to integrate the assessment of potential environmental effects and where normal statutory processes would not provide a sufficient assessment.

It is important to note that the EE Act does not involve approval of a project: it is a tool designed to inform statutory decision makers of likely environmental effects.

The EE Act does not make provision for projects to be assessed at a strategic level. As a result, any assessment under the EE Act would relate to specific projects, such as the OMR/E6 Transport Corridor and Regional Rail Link proposals.

The proponents (i.e. the Department of Transport for the Regional Rail Link and VicRoads for the OMR/E6 Transport Corridor) submitted referrals to the Minister for Planning to determine if an environmental effects statement may be required. The Minister for Planning determined that neither project will require the preparation of an Environment Effects Statement, however the respective proponents will need to comply with the conditions set under the EE Act.

The detailed planning of the transport corridors will be undertaken in accordance with relevant prescriptions approved by the Commonwealth Minister for Environment.

Outer Metropolitan ring/E6 Transport Corridor

The proponent will be required to prepare an Ecological Impact Management Report to the satisfaction of the Secretary of DSE. The report will describe the existing ecological values, assess potential effects of construction and operation and describe planned mitigation measures. This will include the nature, amount and source of native vegetation offsets

The proponent will also prepare an Ecological Impact Management Plan to be approved by the Victorian Minister for Environment and Climate Change following consultation with the Commonwealth Minister for the Environment to ensure MNES are appropriately considered and addressed.

The Ecological Impact Management Plan will inform the Development Plan, Environmental Management Plans; and integration of the project with the wider growth area and Matters of National Environmental Significance. Management actions will be consistent with prescriptions approved by the Commonwealth Minister for Environment.

Regional Rail Link

The proponent will prepare an Environmental Impact Report to the satisfaction of the Department of Planning and Community Development in consultation with DSE. The Environmental Impact Report must detail specified information including the results of field surveys of native flora and fauna, the likely impact of the project, the likely availability of suitable ecological offsets and meet the requirements of prescriptions approved by the Commonwealth Minister for Environment.

The Environment Impact Report must also include the preparation of an overarching environmental protection strategy, or equivalent. This strategy will guide the preparation of Environmental Management Plans for project's construction and operation.

This Environment Impact Report will be publicly exhibited and the Minister may decide to appoint an advisory committee.

3.5.2 SUMMARY OF THE PROPOSED VICTORIAN STATUTORY PROCESSES AFFECTING THE PROGRAM

PLANNING PROCESSES

MELBOURNE @ 5 MILLION

It is intended that Melbourne @ 5 million objectives will be incorporated into Victorian Planning Provisions, through a planning scheme amendment to clause 12 (Metropolitan Development of the State Planning Policy Framework).

Incorporating the objectives of Melbourne @ 5 million will then have legal standing, as clause 12 must be considered for any metropolitan development in the areas affected by the planning scheme.

The objectives of clause 12 will be translated in the municipal strategic statements of each of the planning schemes affected by the changes. The municipalities affected by these changes most directly will be those that lie within the designated growth areas.

The stages envisaged are:

- > Public consultation as part of the exhibition of strategic assessment process and exhibition of the Program;
- > Amendment to Victoria Planning Provisions (clause 12) and relevant planning schemes in the Program area, including incorporation of the new Urban Growth Boundary;
- > Parliamentary ratification of the revised Urban Growth Boundary;
- > Preparation of amendments to existing Growth Area Framework Plans to reflect expanded growth areas;
- > Precinct Structure Planning process for areas within the urban growth zone; and
- > Any future development (including urban, rural, conservation etc) undertaken in line with the Precinct Structure Plan for the area.

In the case of the two transport projects, as well as the stages described above, the process will involve:

- > Environmental Effects Statement referral for each project;
- > Transport corridor strategic justification and definition through a process of consultation with all affected landholders;
- > On consideration of submissions made during community consultation, the Government to determine the appropriate course of action to protect the proposed reservations, for example by a Public Acquisition Overlay within relevant council planning schemes;

- > Transport project development and the authorisation of development plans for the project; and
- > Development to proceed in line with plans and any associated conditions.

PRECINCT STRUCTURE PLANS

The Precinct Structure Planning Guidelines and their accompanying notes describe an approach to integrating biodiversity considerations into the preparation of a Precinct Structure Plan, which involves:

- > Providing advance notice of the preparation of a Precinct Structure Plan to agencies including the Department of Sustainability and Environment and the Department of the Environment, Water, Heritage and the Arts;
- > Undertaking surveys consistent with the list of species and survey methodologies outlined in the Biodiversity Precinct Planning Kit;
- > Producing a flora and fauna assessment (including habitat hectare assessment) to identify native vegetation and threatened species of flora and fauna in the precinct;
- > Adhering to any relevant prescriptions approved by the Commonwealth Minister for Environment for managing matters of national environmental significance located within the precinct;
- > Involving the Department of Sustainability and Environment in producing and assessing urban structure options; and
- > Preparing a Native Vegetation Precinct Plan and a Conservation Management Plan and implementation provisions in the Precinct Structure Plan to protect biodiversity assets.

The Precinct Structure Plan, Native Vegetation Precinct Plan and Conservation Management Plan are then incorporated into the local planning scheme through an amendment process. The Victorian Minister for Environment and Climate Change must approve a Native Vegetation Precinct Plan before it is implemented.

3.5.3 SUMMARY OF RESPONSIBILITIES

STATUTORY APPROVALS

The Parliament of Victoria must ratify revisions to the Urban Growth Boundary.

Growth Area Framework Plans will be prepared once the new Urban Growth Boundary has been confirmed. The process will be led by the Growth Areas Authority in conjunction with the Department of Planning and Community Development and with involvement by Victorian Government departments and agencies and growth area

councils. There will be an opportunity for the public to comment on the draft plans, which will also be submitted to the Department of Environment, Water, Heritage and the Arts for comment before finalisation. The plans will be submitted to the Victorian Minister for Planning for approval and incorporated into relevant planning schemes.

The Victorian Minister for Planning is responsible for any referral and assessment under the EE Act, and is also responsible for approving any Planning Scheme amendment. The Victorian Minister for Planning is bound to consider P & E Act, any Ministerial Directions, and any advice or assessment under the EE Act. It should be noted that Ministerial Direction No. 11 requires the preparation of a strategic assessment of a planning scheme amendment.

The Victorian Minister for Planning is responsible for the approval of Precinct Structure Plans before they are incorporated into the Planning Scheme.

The Victorian Minister for Environment and Climate Change is responsible for the approval of Native Vegetation Precinct Plans before they are incorporated into the Planning Scheme.

The Victorian Minister for Roads and Ports and the Minister for Public Transport are the 'relevant ministers' under the EE Act for decision-making purposes on the OMR/E6 Transport Corridor and Regional Rail Link proposals respectively. They are required to consider any assessment by the Victorian Minister for Planning under the *Environment Effects Act 1978*, including any conditions set by the Victorian Minister for Planning, before authorising construction.

VicRoads is the proponent for the OMR/E6 Transport Corridor proposal. The Department of Transport is the proponent for the Regional Rail Link proposal.

The Growth Areas Authority or relevant Local Government authority is responsible for preparing the Precinct Structure Plans in line with the *Precinct Structure Planning Guidelines*, and the Native Vegetation Precinct Plans.

Mining and extractive industries is regulated by the Department of Primary Industries under the *Extractive Industries Development Act 1995* and the *Mineral Resources (Sustainable Development) Act 1990*. Under the Memorandum of Understanding between the Department of Sustainability and Environment and DPI all relevant land use issues, which are the responsibility of DSE, must be integrated into the approvals process, and appropriate management measures contained in work plan approvals.

ONGOING MANAGEMENT OF THE ELEMENTS OF THE PROGRAM

It is intended that the Program (including the transport project corridors) would be incorporated into the relevant Victorian Planning Schemes.

Accordingly, the responsibility for ongoing management of most of the Program will lie with the responsible authority. This would usually be local councils: however, in some instances this responsibility could fall to the Victorian Minister for Planning or the Growth Areas Authority.

The Department of Transport and VicRoads will have ongoing responsibility for final planning and construction of the transport infrastructure projects.

Enforcement of Precinct Structure Plans and Native Vegetation Precinct Plans is the responsibility of local council under the planning scheme.

Enforcement of Work Plans for mining and extractive industries is the responsibility of the Department of Primary Industries.

The acquisition of the proposed Western Grassland Reserves will be the responsibility of Department of Sustainability and Environment, with management responsibility eventually handed over to Parks Victoria following acquisition of the land. The Department of Sustainability and Environment will also be responsible for monitoring biodiversity measures within the grassland reserves.

3.6 STUDY AREA

The study area for this Strategic Assessment consists of:

- > the *Melbourne @ 5 Million* Investigation Areas (Section 3.6.1),
- > proposed Precinct Structure Planning areas within the existing Urban Growth Boundary (Section 3.6.2), and
- > the proposed OMR/E6 Transport Corridor and the proposed Regional Rail Link (section 3.6.3).

The study area is shown in Figure 1.

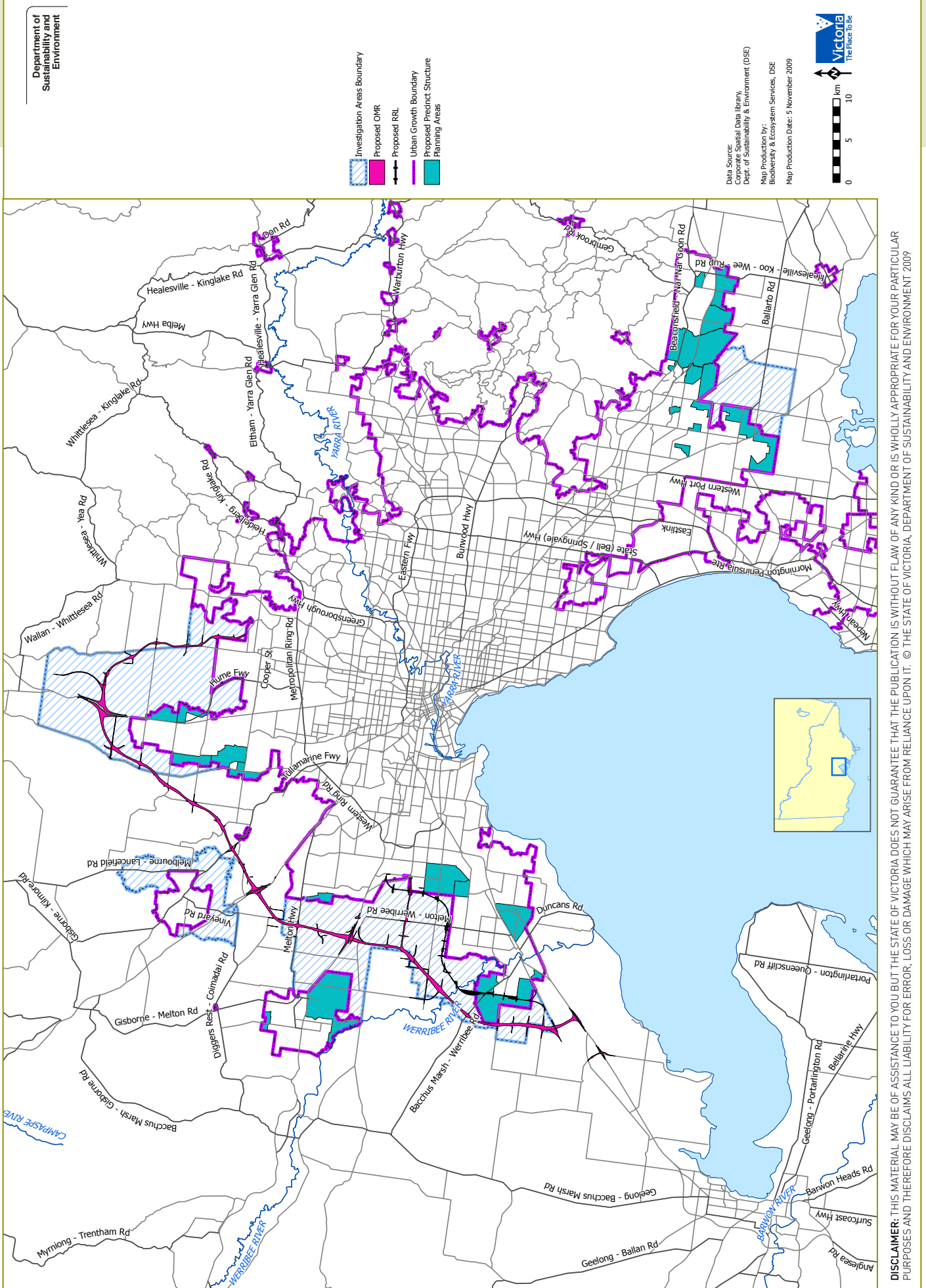
3.6.1 INVESTIGATION AREAS

The *Melbourne @ 5 Million* Report identified four Investigation Areas: Melbourne West (Melton-Caroline Springs Growth Area); Melbourne West (Wyndham Growth Area); Melbourne North (Hume-Mitchell-Whittlesea Growth Area); and Melbourne South-East (Casey-Cardinia Growth Area).

MELBOURNE WEST

The Melbourne West (Wyndham) Investigation Area includes land to the west and south-west of the existing Werribee-Wyndham Vale urban area, extending north to Boundary Road, taking in the areas of Truganina, Tarneit and Mount Cottrell. The

FIGURE 1. STUDY AREA



land within it is predominantly used for rural, industrial and public purposes. The Investigation Area lies wholly within the City of Wyndham.

The Melbourne West (Melton-Caroline Springs) Investigation Area lies between the suburbs of Caroline Springs and Melton and is bounded by Boundary Road to the south and Melton Highway to the north. The land within it is predominantly used for rural, industrial and public purposes with some tourism-based uses. The Investigation Area lies wholly within Melton Shire.

For the purposes of the Strategic Assessment, these two Investigation Areas are considered together under the designation “Melbourne West Investigation Area”. This recognises the biogeographical similarities of the two areas, their physical continuity and the connection that each has to the two proposed grassland reserves.

MELBOURNE NORTH

The Melbourne North Investigation Area includes land to the east and south of the existing Sunbury urban area as well as land along the Hume Freeway from the outer areas of Craigieburn through Donnybrook to the township of Beveridge in the north. The land within the Investigation Area, including both the Sunbury and Craigieburn-Beveridge areas, is predominantly used for rural, industrial and public purposes. The Sunbury section of the Investigation Area lies within the Melton Shire and City of Hume and the Craigieburn-Beveridge section of the Investigation Area lies within Cities of Hume and Whittlesea, and Mitchell Shire.

MELBOURNE SOUTH EAST

The Melbourne South East Investigation Area extends east from the existing urban areas of Cranbourne and Langwarrin, including the areas of Cranbourne East, Clyde North and Clyde. The topography is generally flat to gently undulating with some low lying areas particularly in the creek and swamp environs. Land use in the area is predominantly rural, industrial and public use. The Investigation Area lies wholly within the City of Casey.

3.6.2 PROPOSED PRECINCT STRUCTURE PLANNING AREAS

The Growth Areas Authority is introducing Precinct Structure Plans in areas to be developed within the existing Urban Growth Boundary. There are 40 Precinct Structure Plans proposed, of which 12 have been completed or are awaiting a planning scheme amendment. The remaining 28 Precinct Structure Plans are included within this strategic assessment (Figure 1).

These areas are situated within the existing growth areas of Melbourne and adjoin, or are very close to the Investigation Areas.

3.6.3 TRANSPORT CORRIDORS

The proposed OMR/E6 Transport Corridor is described in detail in State Government of Victoria (2009c). The final boundaries of the corridor for the purposes of the strategic assessment and following public consultation are set out in the accompanying Program Report. Maps in this Impact Assessment Report will be updated accordingly following Victorian Cabinet approval. In summary it would start at the Princes Freeway, west of Werribee. It would head north-west then north past Rockbank, then north and north-east near Bulla and west of Craigieburn. North of Donnybrook Road Mickleham, the corridor would swing east, crossing the Hume Highway between Kalkallo and Beveridge. The corridor would cross the Melbourne-Sydney railway and then swing south east before heading broadly south to meet the existing E6 reservation at Findon Road. The corridor would then follow the existing public acquisition overlay reservation to the Metropolitan Ring Road at Thomastown.

The proposal also includes an east-west link between the Deer Park Bypass and the OMR/E6 Transport Corridor, broadly following a line just south of Middle Road, Truganina. VicRoads has also defined a study area for a possible high standard connection between the OMR/E6 Transport Corridor and Melbourne Airport, with potential for this connection to pass either to the east or to the west of Bulla. Investigations for this corridor will be undertaken in the future.

The proposal for the OMR/E6 Transport Corridor provides for freeway to freeway and freeway to arterial access points, and connections with existing railways, west of Werribee, near Caroline Springs and around Beveridge.

The proposal includes treatments to replace the habitat and vegetation cleared as part of the construction process, or manage it better, within the framework provided by the habitat management approach associated with the review of Melbourne's Urban Growth Boundary. VicRoads will provide noise reduction measures in line with its noise policies and undertake measures to protect the water quality of rivers and creeks. The proposal will also incorporate extensive landscaping measures.

The Regional Rail Link is described in detail in State Government of Victoria (2009d). In summary it is a 50km railway connection from west of Werribee to Southern Cross Station via the Melbourne-Ballarat railway, connecting at Deer Park. The Program is concerned with the west of Werribee to Deer Park section of the Corridor, which is approximately 30km long. The alignment (west of Werribee to Deer Park) will generally be located as shown on Figure 1. The final alignment of the Regional Rail Link, following public consultation, is set out in the accompanying Program Report. Maps in this Impact Assessment Report will be updated accordingly following Victorian Cabinet approval.

3.6.4 REGIONAL CONTEXT

BIOREGIONS

Biogeographic regions (bioregions) capture the patterns of ecological characteristics in the landscape or seascape, providing a natural framework for recognising and responding to biodiversity values (DNRE 1997). They are used in Victoria as the basic geographical area for biodiversity planning and native vegetation mapping.

Three bioregions cover more than 80 per cent of the Port Phillip and Westernport region within which the study area is located: the Victorian Volcanic Plain, Highlands-Southern Fall and Gippsland Plain (Port Phillip and Westernport Catchment Management Authority 2006). The remaining bioregions include the Central Victorian Uplands, Strzelecki Ranges, Victorian Alps, Otway Plain and Highlands-Northern Fall (Port Phillip and Westernport Catchment Management Authority 2004, Port Phillip and Westernport Catchment Management Authority 2006).

The *Melbourne @ 5 million* study area lies predominantly within the Victorian Volcanic Plain and Gippsland Plain bioregions. However, some of the area in the Melbourne West Investigation Area around Werribee is located within the Otway Plain, and very small parts of the Melbourne North Investigation Area near Kalkallo intersect with the Central Victorian Uplands and Highlands-Southern Fall bioregions.

GEOMORPHOLOGY

The predominant geological formations within the Port Phillip and Westernport region reflect the three main bioregions: the Tertiary and Quaternary volcanics on the flat and undulating plains of the Victorian Volcanic Plain to the west and north; the Silurian-derived sedimentary hills of the Highlands-Southern Fall to the east and north east; and the Tertiary sediments of the Gippsland Plain to the south east (Australian Plants Society Maroondah 2001, Oates and Taranto 2001). Several other geoformations occupy smaller parts of the study area, including: Ordovician marine sediments in the north-west and Mornington Peninsula; Cambrian volcanics and marine sediments predominantly in the north-east and east; and Cretaceous sediments in the south-east (Oates and Taranto 2001).

CLIMATE

The Port Phillip and Westernport region has a Mediterranean climate (Oates and Taranto 2001). While temperatures are fairly uniform across the region (Australian Plants Society Maroondah 2001, Oates and Taranto 2001), rainfall varies significantly, increasing from west to east (Oates and Taranto 2001). The volcanic plains to the west of Melbourne have the lowest rainfall (Oates and Taranto 2001), with Laverton averaging 541 mm per year (BOM 2009). The hills to the east and north-east have the highest rainfall (Oates and Taranto 2001), with Mt Dandenong averaging 1170 mm per year (BOM 2009).

WATERWAYS AND WETLANDS

The Port Phillip and Westernport region includes five main catchments – Werribee, Maribyrnong, Yarra, Dandenong and Westernport (Melbourne Water and Port Phillip and Westernport Catchment Management Authority 2006). Significant rivers within the catchments include:

- > The Werribee River, Kororoit Creek and Skeleton Creek in the Werribee catchment;
- > Maribyrnong River, Deep Creek and Jacksons Creek in the Maribyrnong catchment;
- > Yarra River, Plenty River and Merri Creek within the Yarra catchment;
- > Dandenong Creek and Eumemmering Creek within the Dandenong catchment; and
- > Bunyip River, Cardinia Creek and Deep Creek within the Westernport catchment (Melbourne Water and Port Phillip and Westernport Catchment Management Authority 2006).

Within the study area, the Werribee River and Kororoit Creek flow through the Wyndham and Melton section of the Melbourne West Investigation Area, respectively. Jacksons Creek runs through the Sunbury section of the Melbourne North Investigation Area, and Emu Creek forms part of its eastern boundary. Merri Creek and Kalkallo Creek transect the Cragieburn-Beveridge section of the Melbourne North Investigation Area. Clyde Creek runs through middle of the Melbourne South East Investigation Area.

Many rivers and creeks in the Westernport area flow into the shores of the Western Port Ramsar site, and many of the rivers and creeks within the Werribee Catchment flow through coastal wetlands that are part of the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar Sites (Melbourne Water and Port Phillip and Westernport Catchment Management Authority 2006). The Edithvale-Seaford Wetlands Ramsar site is located within the Dandenong Catchment. Other important wetlands in the Port Phillip and Westernport region include the Point Cook and Laverton Saltworks and the Werribee Avalon Area.

LAND USE

The study area for the strategic assessment includes the Investigation Areas which have been identified in *Melbourne @ 5 million*. These Investigation Areas and the corridors for the related transport project proposals (the OMR/E6 Transport Corridor and Regional Rail Link) lie in the broader regional context of metropolitan Melbourne and surrounding region (DPCD 2008b).

Melbourne is the capital of Victoria and is the major residential, commercial and manufacturing centre for the State. It is second largest city in Australia and has more than 73 per cent of the State's population.

The statistical division of Melbourne has an area of 8,831 square kilometres with a population density of 424 people per square kilometre. In 2006, the average household size was 2.5 people per dwelling.

Melbourne is projected to grow by almost 1.8 million persons between 2006 and 2036. Overseas migration will ensure that the population retains a youthful profile relative to regional Victoria, but at the same time the ageing of the population will result in the number of person aged 60 years and over doubling by 2036 (Department of Sustainability and Environment 2006).

Compared with most other cities in developed countries, Melbourne is a very dispersed, low density city. From its first growth spurt after the 1850s gold rush to the present, Melbourne has grown to accommodate 3.6 million people over nearly 2,000 square kilometres (compared to Paris which has over six million people over half of the area).

In terms of its physical extent, Melbourne has trebled in size since 1945. Rising affluence since that time has been expressed in greater consumption of space, larger houses, more area devoted to shopping, more and wider roads, more parks, and more schools with larger buildings and playgrounds. With rising demand for goods and services and new modes of production, industry and commerce have also been hungry for space, and factories and warehouses have largely moved from inner Melbourne to the spacious industrial estates of middle and outer Melbourne.

The pace and scale of this post-war development eventually led to greater recognition of the past and its value. Melbourne now has a number of recognised Aboriginal cultural, heritage and archaeological sites, and natural and built heritage sites created since European settlement.

In this growing city, conservation of natural resources and landscapes is also taking on added significance, with legislated protection in some council areas.

Managing Melbourne's growth and development while sustaining its liveability is a challenge that successive metropolitan planning strategies have sought to address. Low density cities like Melbourne have many lifestyle advantages, but may not achieve the same overall level of accessibility to employment and amenities as higher density cities. They also tend to use more resources. The momentum of Melbourne's growth and development presents a major challenge for achieving a sustainable metropolis.

VEGETATION EXTENT

Around 70 per cent of the Port Phillip and Westernport region has been cleared of its original native vegetation (Port Phillip and Westernport Catchment Management Authority 2006). The remaining native vegetation is not evenly distributed across bioregions.

Most of the native vegetation remaining in the region is found in the Highlands-Southern Fall, Highlands-Northern Fall, Victorian Alps and Central Victorian Uplands bioregions (Port Phillip and Westernport Catchment Management Authority 2006). Within the Port Phillip and Westernport region, both the Victorian Volcanic Plain and Gippsland Plain bioregions have been extensively cleared: only four and 13 per cent of the original native vegetation extent remains, respectively (Port Phillip and Westernport Catchment Management Authority 2006).

Of the remaining native vegetation in the region, around 126,000ha (33 per cent) is on private land and around 256,000ha (66 per cent) on public land (Port Phillip and Westernport Catchment Management Authority 2006).

SIGNIFICANT PUBLIC LAND

The Port Phillip and Westernport region contains approximately 340,000ha of Crown land including: eight National Parks; six State Parks; and eight Marine Protected Areas, as well as a wide range of regional, metropolitan and local parks and conservation reserves (Port Phillip and Westernport Catchment Management Authority 2004). Parks with significant natural values within or close to Melbourne's growth corridors include: Plenty Gorge Parklands and Craigieburn Grasslands in the north; Point Cook Coastal Park and Cheetham Wetlands in the west; and Bunyip State Park in the south-east (Parks Victoria 2007).

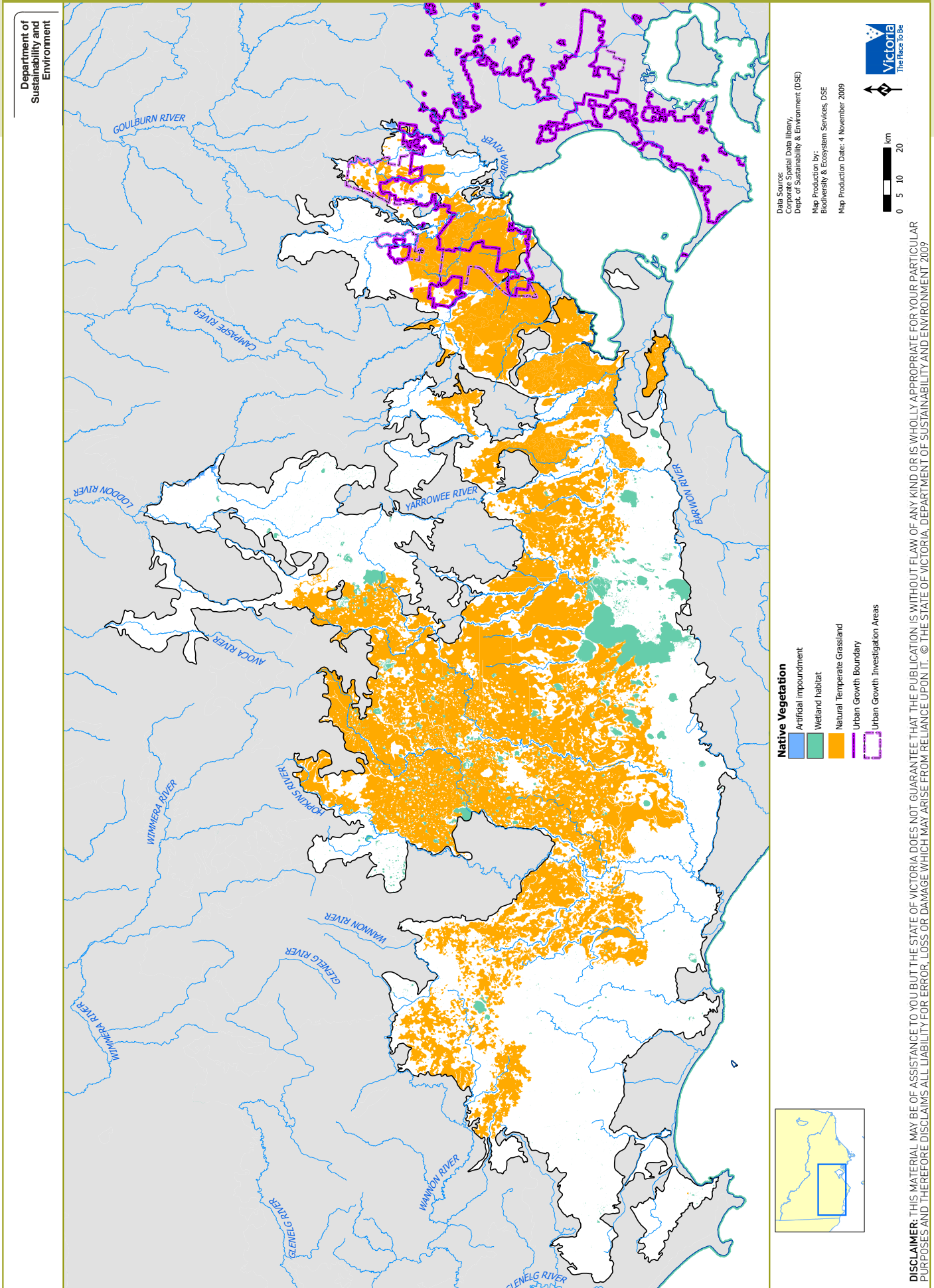
3.7 THE IMPACT ASSESSMENT REPORT: APPROACH AND METHODOLOGY

This impact assessment report provides a strategic assessment of impacts on EPBC Act matters arising from the Program defined in Section 3.1.

As required by the Terms of Reference the strategic assessment addresses all relevant the matters of national environmental significance under the EPBC Act. These are:

- > Listed threatened species and communities;
- > Listed migratory species;
- > Ramsar wetlands of international importance;
- > The Commonwealth marine environment;

FIGURE 2. MODELLED MAP OF PRE 1750 NATIVE GRASSLAND EXTENT WITHIN THE VICTORIAN VOLCANIC PLAIN BIOREGION



- > National Heritage places;
- > World Heritage properties; and
- > Nuclear actions.

As there are no World Heritage properties, nuclear actions or aspects of the Commonwealth marine environment relevant to the study area or this assessment these matters are excluded from further consideration.

This impact assessment report has been written to satisfy the requirements of the EPBC Act. It is not an impact assessment of matters required under Victorian law, although there is clear overlap on certain issues. Issues of Victorian law and policy are dealt with in separate processes (see description of Victorian assessment processes in Section 3.5).

As this is a report for a strategic assessment, it is necessarily written at a strategic level. It does not generally provide detail on specific sites (except where necessary); nor does it provide definitive information on species or other matters across the study area. It uses the best available information on matters of national environmental significance within the area to provide an overall assessment at a strategic level of likely impacts on these matters, and what major mitigation initiatives would be required to reduce or where possible reverse net impacts.

The Growth Area Framework Planning, Precinct Structure Planning and transport planning processes, the Sub-Regional Species Strategies and development of Biodiversity Conservation Strategies for Growth Areas are examples of processes that will gather further detailed information to inform the implementation of the strategic assessment. These various mechanisms are discussed in this report and the accompanying Program Report.

This approach necessarily relies on the precautionary principle. Where impacts on specific issues are not yet confirmed, but are considered reasonably likely it is assumed that they will occur. The benefits of taking mitigation action now for impacts that may not occur for many years to come is one of the key advantages of the strategic assessment approach. As documented earlier, detailed site-based assessment and refinements will be made in subsequent processes as required by Victorian law and as required by processes developed specifically for this strategic assessment.

A brief description of the methodology and approach used for addressing each of the relevant matters of national environmental significance is set out below.

3.7.1 LISTED THREATENED SPECIES AND ECOLOGICAL COMMUNITIES

The EPBC protected matters search tool provided the basis for identifying all listed threatened species and ecological communities that could potentially occur within the study area and surrounds. This was supplemented by specialist advice on particular issues together with all available records held by Department of Sustainability and Environment.

Staff of the Department of the Environment, Water, Heritage and the Arts provided important information about items that had been nominated to the EPBC Act and were likely to be listed at some point in the future. These were included in the initial assessment lists.

These lists were only minimally filtered to remove anomalies. Although it was apparent that many of the items on the lists were no longer – or were highly unlikely ever to be – present within the study area they were still listed and briefly discussed in Section 5.2.

Specialist advice, including from State and Commonwealth government staff, consultants and local naturalists was used to determine likely presence now and in the future.

In addition, surveys were undertaken by flora and fauna consultants throughout the study area as outlined below.

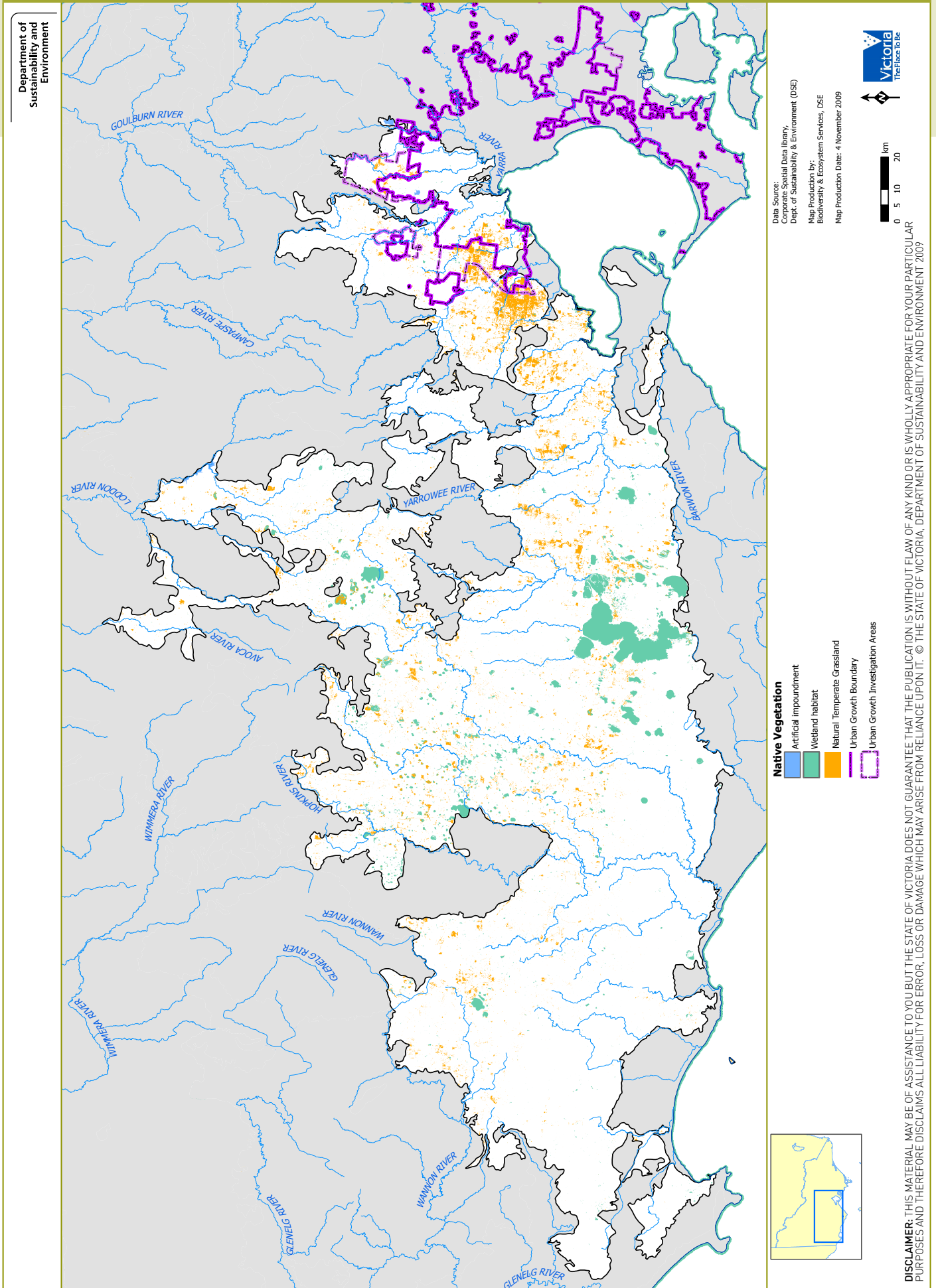
The public consultation process provided some additional information in relation to threatened species records and local occurrences of patches of ecological communities. All such additional advice was investigated and used in the revised Impact Assessment Report where relevant.

WITHIN CURRENT URBAN GROWTH BOUNDARY

Detailed field survey and mapping in proposed Precinct Structure Planning areas within the current Urban Growth Boundary, including some targeted surveys for threatened species, has been progressively undertaken since 2007. This work is the responsibility of the Growth Areas Authority and their contractors.

The protocol for data collection is described in Department of Sustainability and Environment's *Biodiversity Precinct Planning Kit* (Department of Sustainability and Environment 2009). It requires adherence to Department of Sustainability and Environment's *Vegetation Quality Assessment Manual* (Department of Sustainability and Environment 2006) for the collection of native vegetation data and meets the standard of data required for a Native Vegetation Precinct Plan in clause 52.16 of all planning schemes. It also includes survey protocols for nationally and state threatened species that may occur within the proposed precinct.

FIGURE 3. MODELLED MAP OF CURRENT NATIVE GRASSLAND EXTENT WITHIN THE VICTORIAN VOLCANIC PLAIN BIOREGION



WITHIN INVESTIGATION AREAS

Given the obvious importance of native grassland within the **Melbourne West Investigation Area** and areas further west that have been identified as potential new grassland reserves, considerable effort was applied to collecting data in these areas to inform the proposed Program.

As the first step, Department of Sustainability and Environment's state-wide maps modelled native vegetation extent and condition and provided an indication of likely occurrences of native grassland. Figures 2 and 3 are examples of these maps, which are derived from remote sensing and environmental variables and informed by data points from the field. Examination of modelled mapping was followed by detailed property scale assessment and mapping within the study area and within areas identified as potential grassland reserves west of Melbourne (Section 6.1.1).

This assessment (summarised in Biosis (2009)) followed the Department of Sustainability and Environment's standard methodology for native vegetation assessment (Department of Sustainability and Environment 2006) and included targeted assessments or surveys for some threatened species. Approximately 12,000ha in the west were assessed in this way.

Where detailed property assessment was not possible, such as where Department of Sustainability and Environment modelling indicated that native grassland may be present, but permission to access property was not granted, other methods of data collection were utilised to confirm the presence of native grassland, or if native grassland was not present, to correct the modelled map accordingly.

For the **Melbourne North and Melbourne South-East Investigation Areas**, and for the area immediately around Melton, a risk-based approach was applied. This approach involved:

- > Confirming the presence or absence of vegetation types;
- > Assessing the presence of suitable habitat for threatened species;
- > Undertaking targeted assessments or surveys for threatened species (such as Growling Grass Frog, Southern Brown Bandicoot, Golden Sun Moth); and
- > Identifying key priorities and opportunities for avoidance and habitat retention and enhancement.

These studies (Biosis 2009, Practical Ecology 2009, SMEC 2009 and Birds Australia 2009) also identified issues requiring further work. Additional detailed surveys will be undertaken in all areas designated for urban development, transport infrastructure and related land uses (eg quarrying) as part of the *Precinct Structure Planning* process or

approvals processes for transport, quarrying and other land uses. Information will be collected to the standard specified in the *Biodiversity Precinct Planning Kit* (Department of Sustainability and Environment 2009).

Subsequent to the consultant studies described above, and prior to release of the draft Impact Assessment Report, Department of Sustainability and Environment botanists undertook additional field checking where uncertainties were indicated from the consultant work (eg. major differences from the Department of Sustainability and Environment model and previous reports). There were overall very few such situations requiring additional field-checking.

The Department of Sustainability and Environment used these various data sources to create a composite native vegetation extent and condition layer. Essentially the data source used at any one point in the study area was the “best available”, with preference given to the following datasets in the following priority order:

1. detailed field-assessed habitat hectare data;
2. field based rapid assessments (includes some consultant studies and Department of Sustainability and Environment staff investigations);
3. consultant desktop assessments (extent only); and
4. DSE modeled data (eg. Figure 3).

Additional rapid surveys and site specific investigations were conducted during July, August and September 2009 to further inform the assessment regarding biodiversity at key locations and clarify technical issues raised in public submissions. A key focus of this work was to refine, through field work, the distribution map of Grassy Eucalypt Woodland across the Program area, following the formal listing of the community under the EPBC Act, which occurred on 25 June 2009 just prior to the release of the draft Impact Assessment Report. The results of this revised mapping resulted in revised analysis of loss figures for Grassy Eucalypt Woodland (Appendix 1).

In some cases, the Department of Sustainability and Environment modelled data was considered more spatially accurate than some of the consultant desktop mapping, hence where there was agreement between Department of Sustainability and Environment modelling and the consultant information on type the Department of Sustainability and Environment model was used in preference.

An example of the detailed native vegetation information that informed this report and which is available for the whole study area is given in Figure 4. It includes an example based on Victorian Ecological Vegetation Class typology, together with habitat score data.

Separate maps of the native vegetation of Wyndham, Melton-Caroline Springs, Sunbury, Whittlesea and Casey-Cardinia of sections of the growth areas and adjoining precincts have been produced and are provided in this report (Figures 5–9).

Some species (such as orchids) are cryptic or seasonal and/or are unlikely to be detected even if present. This means that they must always be considered to be potentially present, albeit with reduced likelihood, even though previous surveys may have failed to detect them. A prescription has been developed (section 6.4.2) for species that may be located during development planning surveys or during actual development, setting out appropriate management responses.

IMPACT ASSESSMENT

Impacts have been assessed according to criteria set out in the Department of the Environment and Heritage (2006) and supplemented by any specific guidelines available from Department of the Environment, Water, Heritage and the Arts (Department of the Environment, Water, Heritage and the Arts 2008, 2009c, 2009d, 2009e). As well as available conservation advice, recovery plans and similar information have been used to assess impacts and determine mitigation strategies. The conclusions of the Impact Assessment Report are considered consistent with published conservation advice and recovery plans.

Estimates of native vegetation losses took the available field-based and modelled data and assumed total removal of native vegetation in areas proposed for the Urban Growth Zone (and associated utilities in the Public Use Zone), the OMR/E6 Transport Corridor and the Regional Rail Link. One area of Special Use Zone, which relates to a proposed quarry in the south west of the Melbourne West Investigation Area, was also included in the loss statistics. Existing quarries that already have relevant State and Commonwealth approvals to remove native vegetation were excluded from the assessment of impacts as a result of the Program. However they are reported separately in the summary statistics for completeness.

This approach to assessment of impacts represents a worst case scenario, which will be realistic in some areas and an exaggeration in others. The actual scale of losses will depend on the extent of further minimisation achieved through the Precinct Structure Planning process and within the respective road, rail and quarry projects as a result of the application of prescriptions and other mitigation requirements.

Appendix 1 provides a detailed summary of the likely losses as a result of clearing for the Program, together with likely gains from the Western Grassland Reserves. The data are broken down by vegetation type, vegetation condition (habitat score ranges), hectares and Habitat Hectares, and provides a column indicating the offset target (in Habitat Hectares) which is determined as a result of multipliers for higher conservation significance losses in line with the Victorian Native Vegetation Framework. The summary includes the following sections:

- > gains likely to be generated as a result of securing and managing the Western Grassland Reserves;
- > losses by project component (new Urban Growth Boundary, proposed Precinct Structure Planning areas in the existing Urban Growth Boundary, transport projects, utilities and new quarries);
- > retained areas of native vegetation designated in Rural Conservation Zones with Environmental Significance Overlays within the proposed new Urban Growth Boundary; and
- > retained areas of native vegetation within non-conservation zones within the proposed new Urban Growth Boundary.

Section 6.1.4 outlines Victoria's approach to accounting for vegetation losses and gains and determining offset requirements for threatened species and vegetation.

Estimates of threatened species impacts were made using historical site data, threatened species habitat models (where available – see below), recovery plans and other species specific analyses. These data provided a basis for applying the significant impact criteria (Department of the Environment, Water, Heritage and the Arts 2006) to determine whether a significant impact was likely or unlikely when the worst case clearing scenario was applied. The data in most cases did not enable the assessment of specific impacts on populations, but this is not seen as a significant limitation on the results or on our ability to apply the Commonwealth impact criteria.

These criteria (Department of the Environment and Heritage 2006) use the concept of *habitat critical to the survival of a species or ecological community*. To date, no such habitat has been formally described in recovery plans or related documents for species relevant to this assessment. The Department of Sustainability and Environment's models of habitat suitability for key species were therefore used as a guide to the location of likely critical habitat, and as a guide to likely impacts and mitigation strategies.

MODELLING

Native vegetation models have been used for many years within the Department of Sustainability and Environment, to support the production of state-wide native vegetation datasets (such as Ecological Vegetation Class mapping). This approach produces maps with reasonable reliability in treed areas but with lower reliability in areas of treeless vegetation (such as grasslands).

In recent years, the Department of Sustainability and Environment has invested resources into improving its biodiversity modelling capability. Much of this recent work has focussed on improving the detection of native grasslands, developing a state-wide model of native vegetation condition and modelling threatened species habitat.

An explanation of the native vegetation spatial datasets used, and how they were derived, can be found on the Department of Sustainability and Environment website: <http://www.dse.vic.gov.au/>.

As indicated above, native vegetation models were used to indicate the likely presence and absence of native vegetation in the assessment areas, and where field data were absent, to estimate actual losses in extent and quality under different clearing scenarios.

The extensive (around 12,000ha) field based mapping of native vegetation in the west provided data to verify the accuracy of the native vegetation extent model, particularly for native grassland. The Department of Sustainability and Environment's model of likely native grassland extent proved highly reliable in the areas tested.

Work that had commenced on species modelling by the Department of Sustainability and Environment was accelerated as a result of the strategic assessment. Models were developed for several threatened species specifically to assist the assessment process, although they will have statewide application as well. A description of the species habitat modelling process developed by the Department of Sustainability and Environment can be found in Appendix 2. These species habitat models were used as a guide to likely locations of critical habitat as defined by Department of the Environment and Heritage (2006). The models were also used to develop prescriptions for some threatened species that will assist in deciding whether a particular threatened species location could be cleared (and offset) or retained and managed on site. A further description of the process of generating the models for these threatened species prescriptions is provided in Appendices 3, 4 and 5.

The location of proposed grassland reserves were based on prioritisation work undertaken by RMIT University, with datasets provided by the Department of Sustainability and Environment. The methodology for this work, which utilised the Zonation conservation planning tool (Moilanen and Kujala 2006), is described in Appendix 6.

3.7.2 MIGRATORY SPECIES

Data held by the Department of Sustainability and Environment were supplemented by information held by Birds Australia to determine likely impacts on listed migratory species. The assessment considers species that may utilise complimentary areas to Ramsar wetlands for feeding, including degraded areas such as those in the West and South-East Investigation Areas. Birds Australia provided advice on impacts and mitigation measures for all migratory species.

Some migratory species are also listed as threatened species. These are included within the threatened species and ecological communities section.

3.7.3 WETLANDS OF INTERNATIONAL IMPORTANCE

Approval under the EPBC Act is required for an action occurring within or outside a declared Ramsar wetland if the action has, will have, or is likely to have a significant impact on the ecological character of the Ramsar wetland (Commonwealth of Australia 2006).

Declared Ramsar wetlands of relevance to Melbourne are: Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar Site; Western Port Ramsar Site; and Edithvale – Seaford Wetlands.

Although the proposed Program will have a very minor direct impact on one Ramsar site, the majority of the assessment focuses on any likely indirect impacts due to their potential to be more significant if poorly managed. Birds Australia assisted with this assessment and proposed mitigation measures that have been included within the report.

3.7.4 NATIONAL HERITAGE PLACES

Approval under the EPBC Act is required for any action occurring within, or outside, a National Heritage place that has, will have, or is likely to have a significant impact on the National Heritage values of the National Heritage place (Commonwealth of Australia 2006).

Searches of the EPBC protected matters search tool and further information from Department of the Environment, Water, Heritage and the Arts staff indicate that there are no National Heritage places listed under the EPBC Act within the study area.

The Commonwealth Minister for the Environment is required to consider the Register of the National Estate when making some decisions under the EPBC Act. The Register was therefore used for this assessment, and several issues listed on the Register are discussed in Sections 5.6 and 6.7 of the report.

PARTICIPATORY PROCESSES

Participatory processes involving key non-government stakeholders were commenced early in 2009 with the signing of the agreement to undertake the strategic assessment. An Environmental Reference Group was established and has had regular meetings. Members of the Environmental Reference Group include Trust for Nature, Victorian National Parks Association, Port Phillip and Westernport Catchment Management Authority, Parks Victoria, Vision for Werribee Plains, Melbourne Water and the Shires of Wyndham and Melton.

Major public consultation was conducted between 17 June and 17 July 2009. Letters were sent to 15,000 landowners and occupiers directly affected by the Program, and

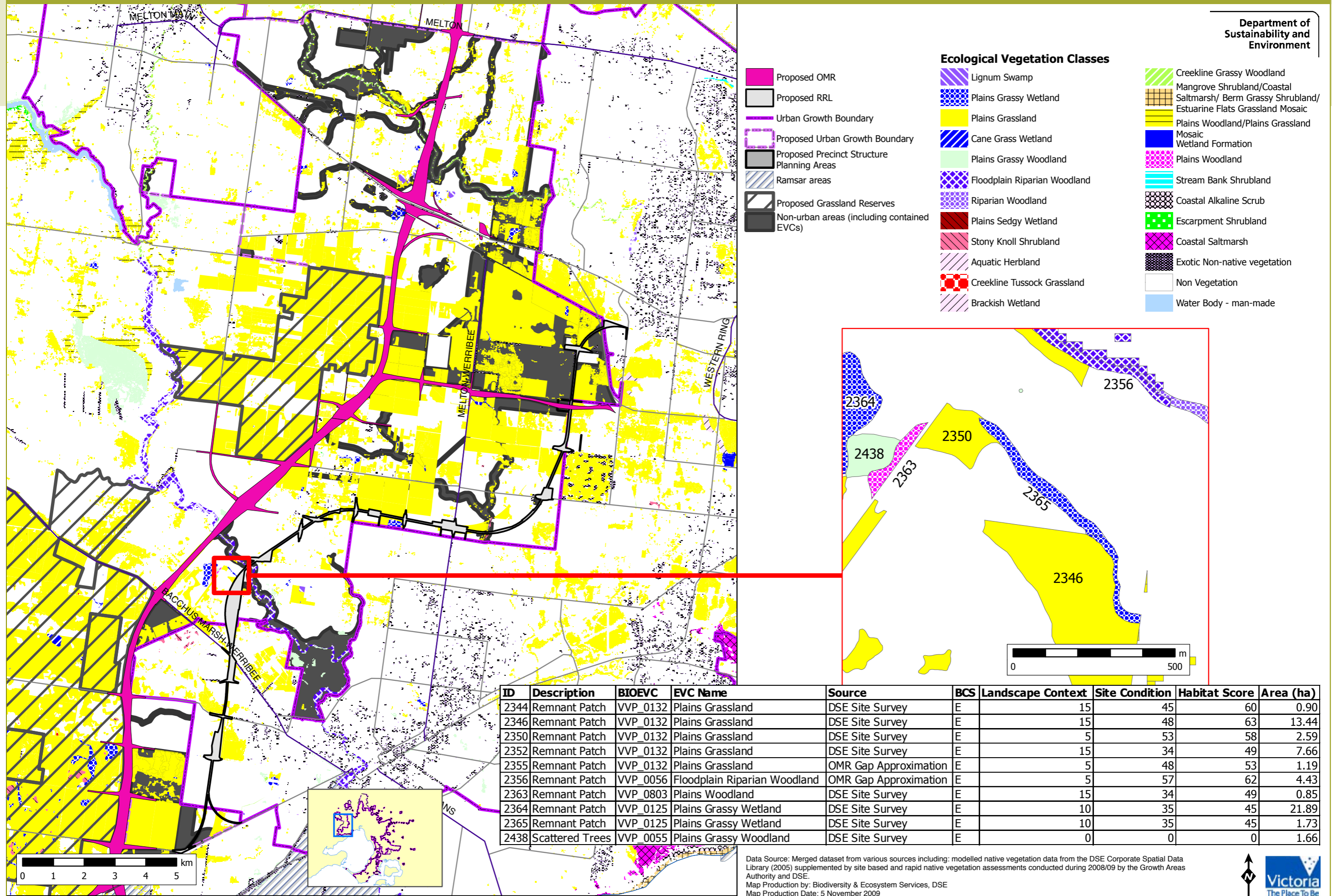
advertisements were placed in state and national newspapers outlining the Program and inviting participation in eight public information sessions. Information was also provided on the websites of the Victorian Government agencies involved. Over 2,000 people participated in these information sessions, hundreds of calls were made to the call centre established for the Program and calls were logged for follow-up by agency staff.

A web-portal was also established to receive formal submissions on the Program. Over 1,700 submissions were received on the changes to the Urban Growth Boundary, the transport projects and the strategic Impact assessment. Two hundred and thirty eight (238) of these were directly related to the strategic assessment and proposed grassland reserves.

A preliminary review of these submissions led the Victorian Government to consider potential minor refinements to the alignments of the transport corridors and boundary of the grassland reserves. A further round of consultation was therefore conducted between 21 August and 21 September targeting landholders potentially affected by these revised options. The process involved mailouts and information sessions consistent with the initial consultation. A further eight submissions relating to the proposed grassland reserves were received from this second consultation.

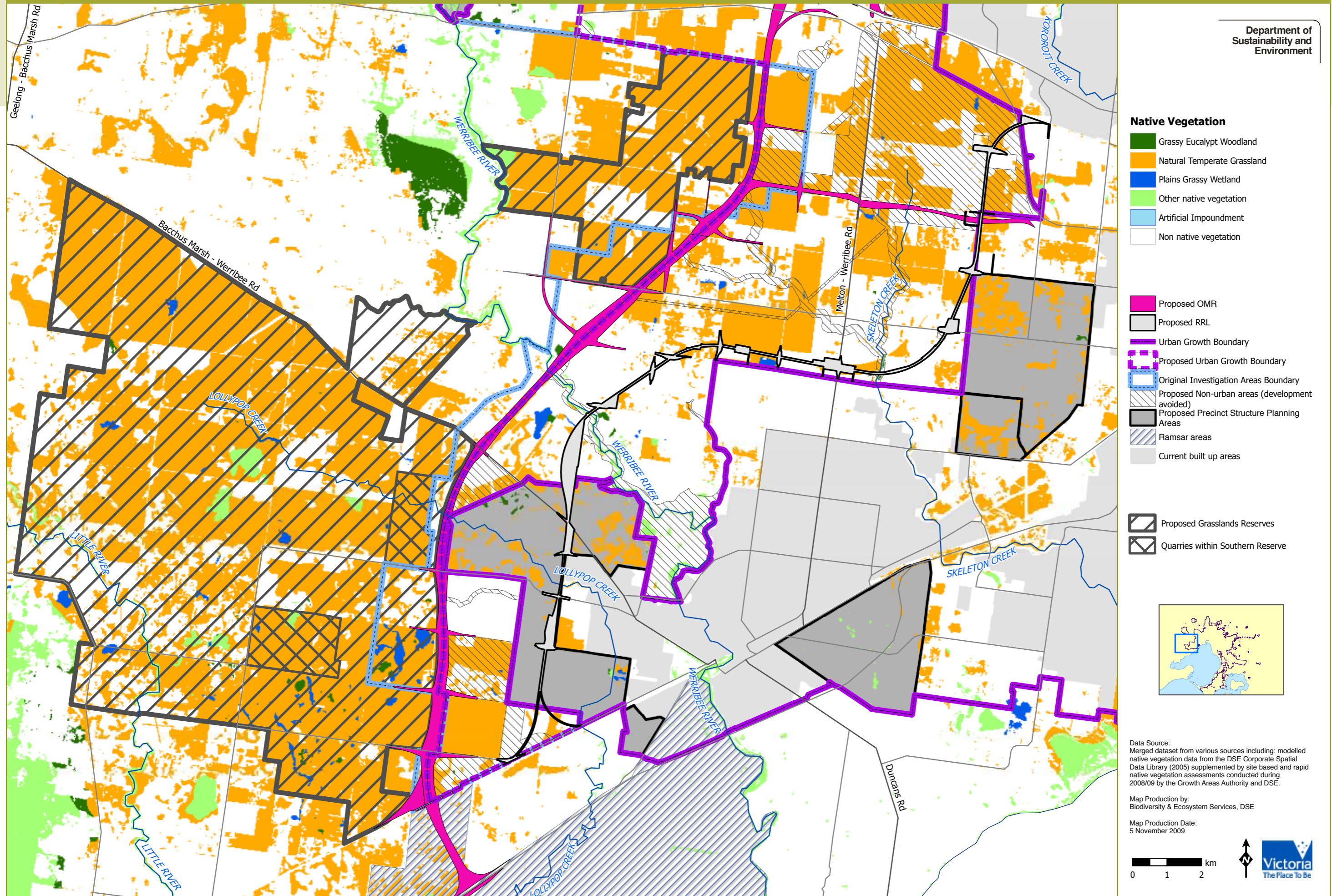
A report on the submissions received from both these rounds of consultation and the Victorian Government response has been prepared.

FIGURE 4. SAMPLE OF DETAILED NATIVE VEGETATION DATA USED IN THIS REPORT



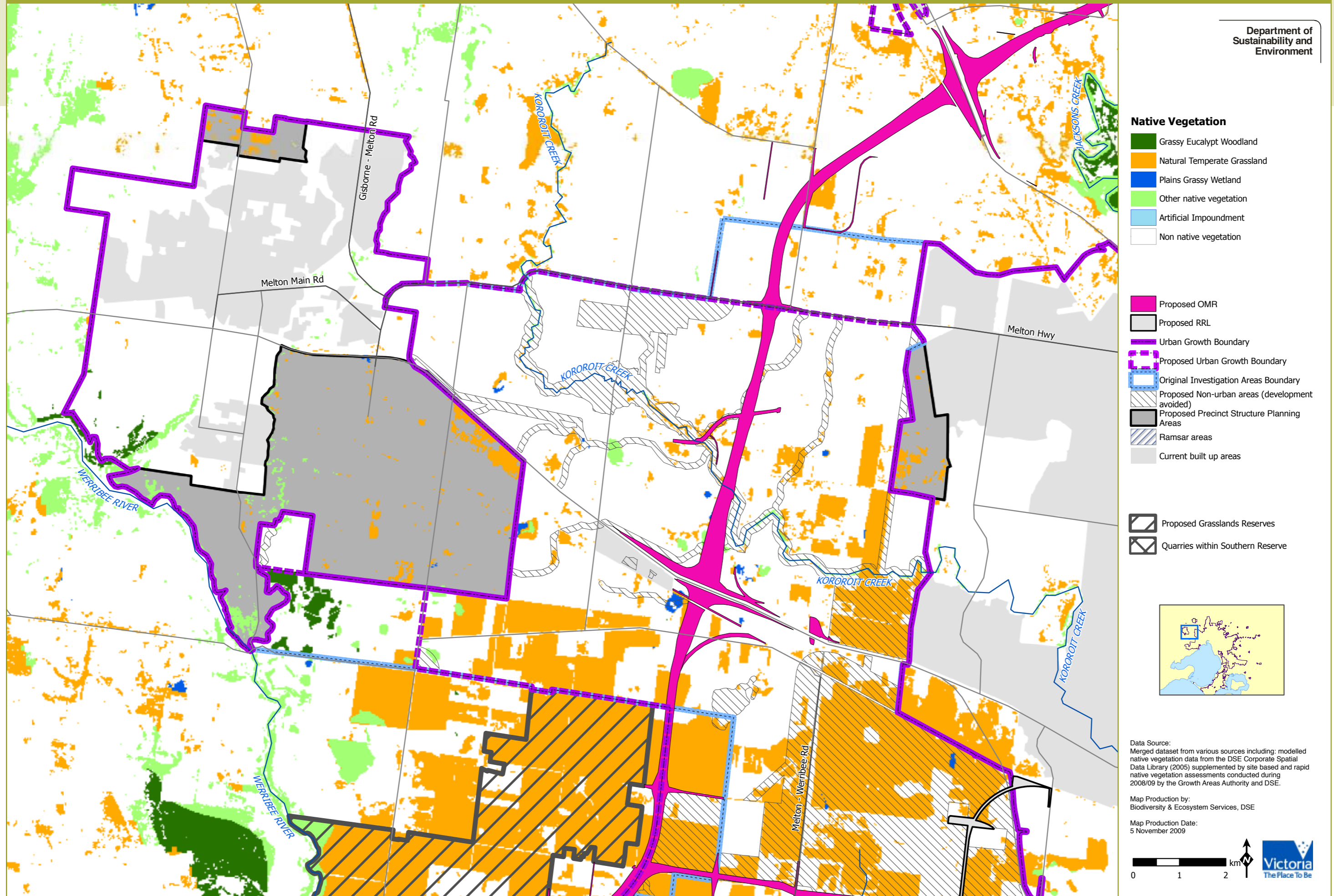
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FIGURE 5. NATIVE VEGETATION TO THE WEST OF MELBOURNE: WYNDHAM GROWTH AREA AND PROPOSED GRASSLAND RESERVES



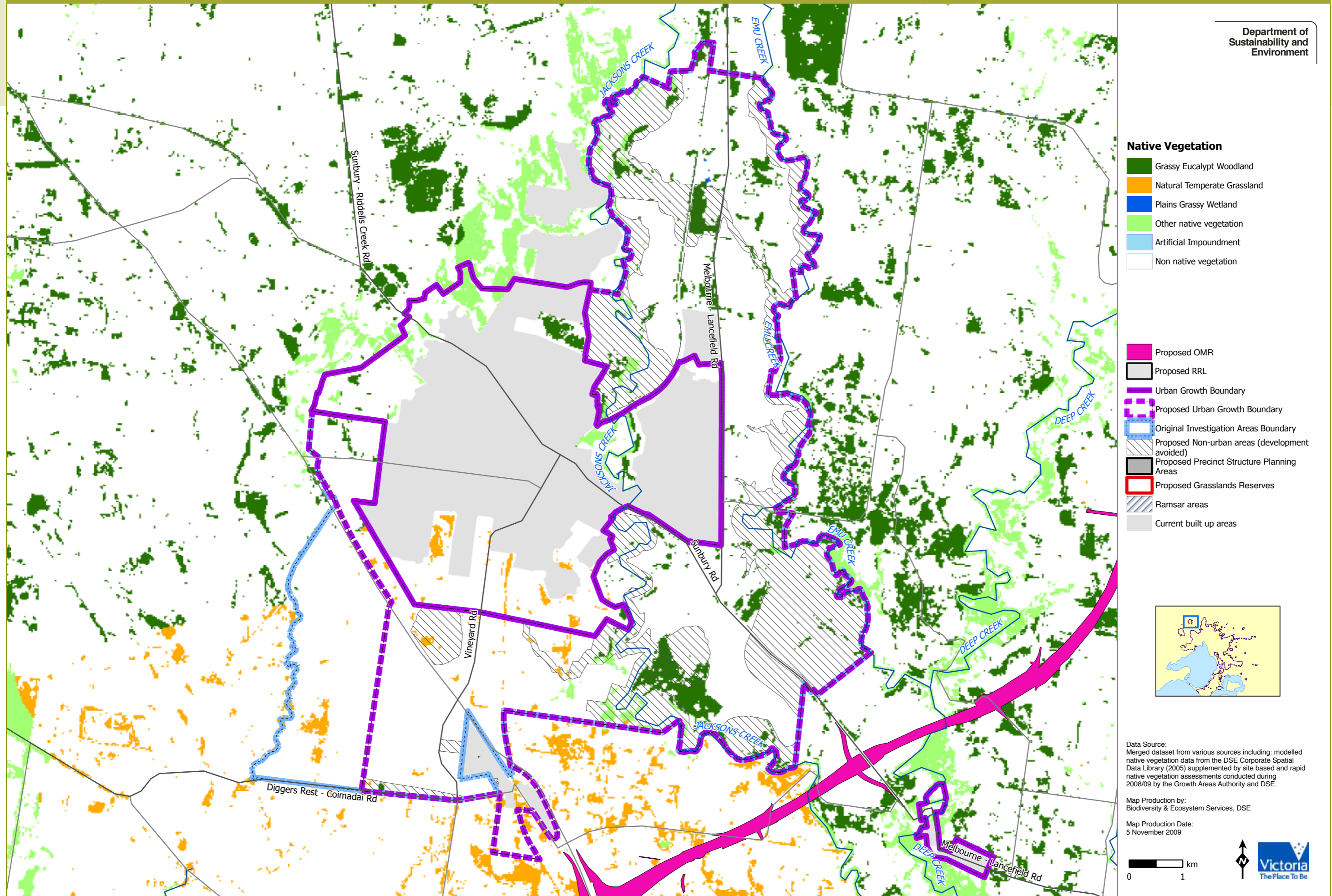
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FIGURE 6. NATIVE VEGETATION TO THE WEST OF MELBOURNE: MELTON AND CAROLINE SPRINGS GROWTH AREA



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FIGURE 7. NATIVE VEGETATION TO THE NORTH OF MELBOURNE: HUME (SUNBURY) GROWTH AREA



Department of Sustainability and Environment

- Native Vegetation**
- Grassy Eucalypt Woodland
 - Natural Temperate Grassland
 - Plains Grassy Wetland
 - Other native vegetation
 - Artificial Impoundment
 - Non native vegetation
-
- Proposed OMR
 - Proposed RRL
 - Urban Growth Boundary
 - Proposed Urban Growth Boundary
 - Original Investigation Areas Boundary
 - Proposed Non-urban areas (development avoided)
 - Proposed Precinct Structure Planning Areas
 - Proposed Grasslands Reserves
 - Ramsar areas
 - Current built up areas

Data Source:
Merged dataset from various sources including: modelled native vegetation data from the DSE Corporate Spatial Data Library (2005) supplemented by site based and rapid native vegetation assessments conducted during 2008/09 by the Growth Areas Authority and DSE.

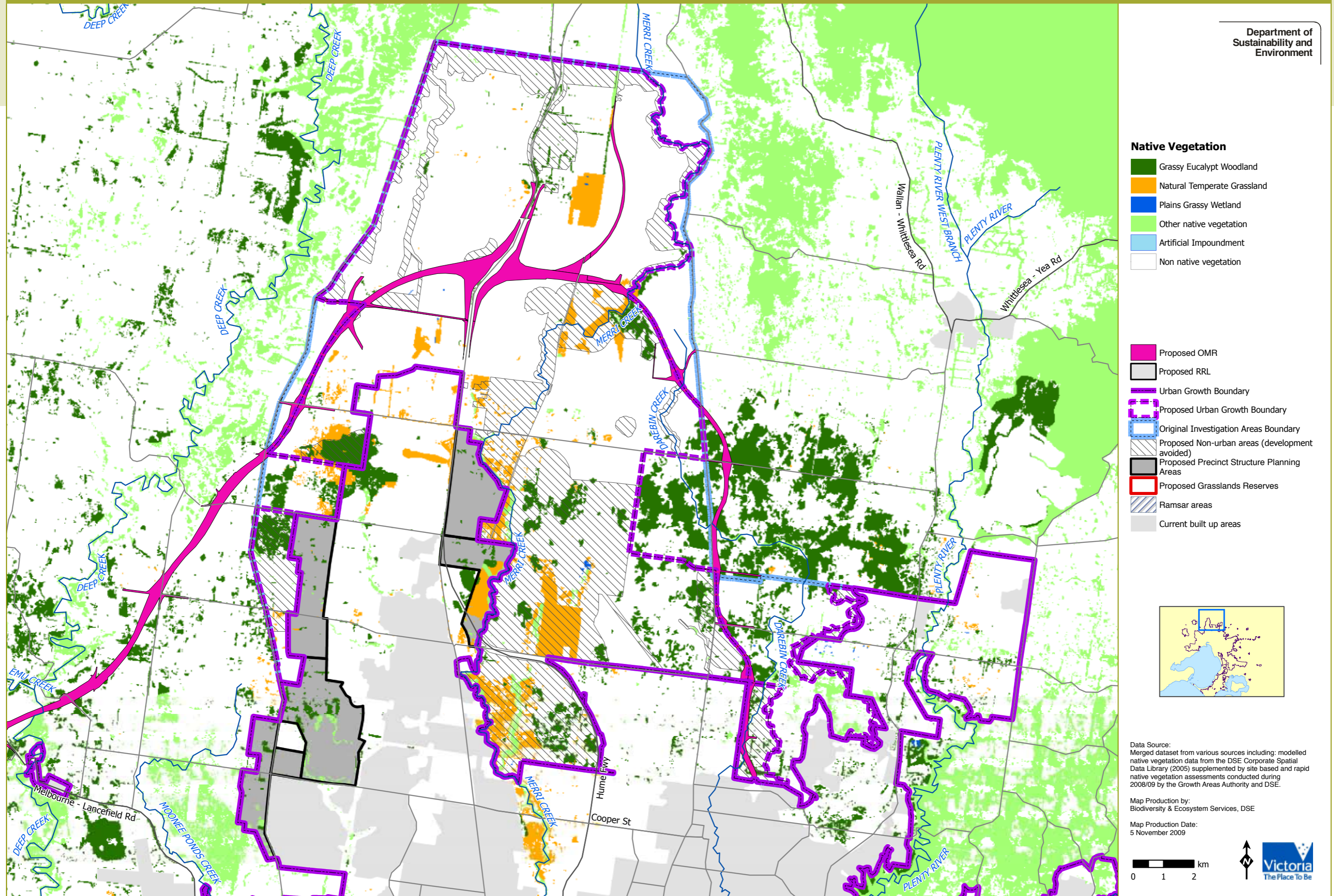
Map Production by:
Biodiversity & Ecosystem Services, DSE

Map Production Date:
5 November 2009



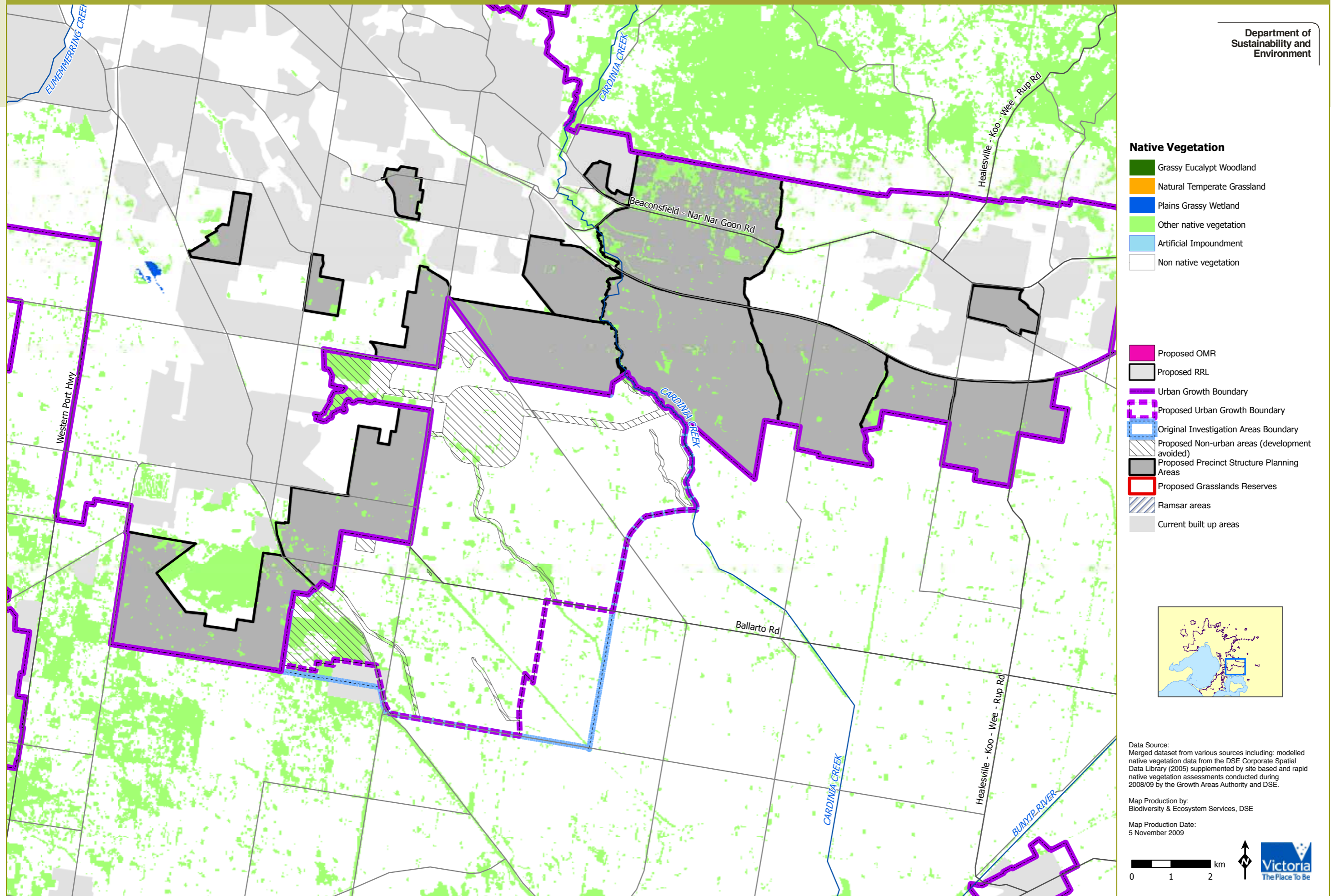
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FIGURE 8. NATIVE VEGETATION TO THE NORTH OF MELBOURNE: WHITTLESEA GROWTH AREA



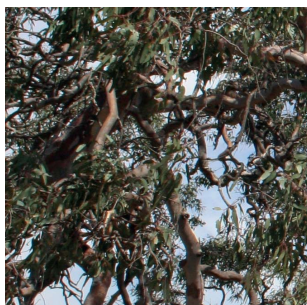
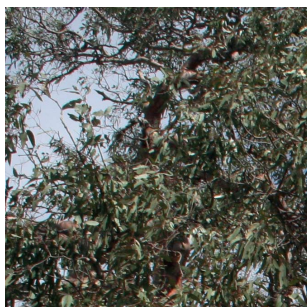
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FIGURE 9. NATIVE VEGETATION TO THE SOUTH-EAST OF MELBOURNE: CASEY - CARDINIA GROWTH AREA



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4 PROMOTING ECOLOGICALLY SUSTAINABLE DEVELOPMENT



4.1 PLANNING AND DESIGN PROCESS

4.1.1 MELBOURNE @ 5 MILLION

Melbourne @ 5 million responds to revised growth projections for Melbourne. It outlines the implications of the *Victoria in Future 2008* growth projections for Melbourne, which indicate that the city's population is likely to reach five million before 2030. Actively managing this growth and change is an important part of protecting Melbourne's future liveability.

As part of *Melbourne @ 5 million*, the Government is taking action to secure sufficient land for at least 134,000 dwellings outside the current urban growth boundary. This means that the Urban Growth Boundary will need to be reviewed.

Areas to be considered for inclusion within the growth areas are called Investigation Areas. The Investigation Areas are larger than required, to provide for meaningful consideration of constraints such as floodways and quarries, which limit the land that can be developed for urban purposes.

The investigation into new growth areas will resolve a number of issues including securing land supply, ensuring well-planned communities with local employment, and protecting environmental assets.

The Government chose the Investigation Areas on the basis of its current planning policy, *Melbourne 2030* (DPCD 2008a), which emphasises that development on Melbourne's fringe should be focused in growth areas based around major regional transport corridors. Sound planning principles and technical assessment of issues and constraints led to the exclusion of many potential development areas from the Investigation Areas before they were announced.

The Government does not intend to consider land outside the Investigation Areas for inclusion within the new Urban Growth Boundary.

4.1.2 RELATED TRANSPORT PROJECTS (OMR/E6 TRANSPORT CORRIDOR AND REGIONAL RAIL LINK)

The planning process for the OMR/E6 Transport Corridor and Regional Rail Link projects are described in the relevant project documentation. In summary the major steps are:

- > Developing key objectives and broad corridors for investigation (complete);
- > Developing refined corridors in consultation with technical experts and government agencies (complete);

- > Exhibiting the planning assessment report and other documentation for public consultation purposes (commencing);
- > Considering public submissions;
- > Making recommendations to government on appropriate course of action;
- > Gaining approval of planning scheme amendments to reserve the corridor; and
- > Defining required mitigation measures and environmental management processes.

4.2 PROMOTION OF THE PRINCIPLES OF ECOLOGICALLY SUSTAINABLE DEVELOPMENT

The EPBC Act emphasises the importance of the principles of ecologically sustainable development. These principles are derived from the 1992 *Inter-Governmental Agreement* on the Environment and have been essential to the strategic assessment:

- a) Decision making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations;
 - b) If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation;
 - c) The present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations;
 - d) The conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making; and
 - e) Improved valuation, pricing and incentive mechanisms should be promoted.
- The Government of Victoria was a signatory to the *Inter-Governmental Agreement* on the Environment. These principles are reflected in Victorian legislation including the *Commissioner for Environmental Sustainability Act 2003* and similar objectives underpin the P & E Act.

The response of the Program to each of these five principles is outlined below.

INTEGRATION OF BOTH LONG TERM AND SHORT-TERM ECONOMIC, ENVIRONMENTAL, SOCIAL AND EQUITABLE CONSIDERATIONS

The development of the Program is based on an integrated planning approach to provide for long-term reconciliation of a range of economic, environmental, social and equitable considerations.

The challenge has been to develop a spatial program that complements planning for the whole metropolitan area, through *Melbourne 2030*, *Melbourne @ 5 Million* and the *Victorian Transport Plan*. In doing so, the overall planning is directed towards reducing the need for outward expansion of Melbourne in the longer term, as well as balancing the lop-sided expansion of Melbourne towards the south-east over the past four decades, in order to maintain Melbourne's effective functioning and liveability into the future.

Other priorities for Melbourne's metropolitan planning are to optimise the use of existing infrastructure systems (transport, water, drainage, sewerage, power), in terms of both economic efficiencies and environmental costs, and to ensure that new urban areas are planned around high capacity public transport facilities.

The Program is based on an evaluation of the practical feasibility and socio-economic implications of different scenarios for accommodating fractions of population growth within Melbourne's established area; the existing Urban Growth Boundary area; or an expanded Urban Growth Boundary area. The proposed new Urban Growth Boundary and associated area within which the Urban Growth Zone would be applied maintains the *Melbourne 2030* priority of urban consolidation, by directing the majority of new housing development to established areas.

In the context of these larger planning objectives, the Program:

- > Provides an adequate area to enable the development of affordable housing and accessible employment opportunities that meet the needs of the projected future population who will need to be accommodated outside the existing growth areas;
- > Provides for the provision of sufficient greenfield land supply to ensure competitive land prices and support housing affordability, while also being predicated on a reasonably compact, sustainable urban form in new residential areas with an average dwelling density of 15 dwellings per hectare;
- > Provides for the development of an efficient transport network that is functional at a range of scales, including local and regional, with effective linkages to the existing urban area, and new centres of the logistics industry in outer metropolitan Melbourne, as well as to non-metropolitan centres;
- > Provides for a spatial arrangement of land use and transport that will both stimulate development and sustain efficient economic activity, within a progressively restructured metropolitan context;
- > Responds to physical environmental constraints in terms of topography, soil, drainage and flood risk;

- > Limits the environmental footprint of new urban development in terms of both direct impacts on greenfield areas (including remnant ecosystems) and greenhouse gas emissions from the associated transport demand;
- > Provides for the conservation and secure management of viable and representative areas of endangered ecological communities, providing habitat for a range of nationally listed species;
- > Provides a strong boundary for the future expansion of Melbourne to the west and north-west through the proposed OMR/E6 Transport Corridor alignment, which will mitigate speculative pressures and create a physical boundary to mitigate environmental impacts on rural productivity and remnant ecosystems;
- > Provides for more detailed precinct planning through consultative statutory processes that ensure that the local arrangement of residential, commercial and industrial activities, community facilities and open space effectively balance efficiency, accessibility and amenity considerations, as well as protecting key areas of native vegetation and fauna habitats that are not otherwise adequately conserved; and
- > Provides for more detailed environmental assessment of major transport projects (including the proposed OMR/E6 Transport Corridor and Regional Rail Link) through statutory processes, to ensure that both on-site and off-site adverse impacts are minimised to the extent practicable in their approval and implementation.

By addressing these factors in formulating the Program, economic, environmental, social and equitable considerations have been integrated. While it is a long-term program, its progressive implementation means that development and associated impacts will begin to occur in the medium-term, if not the short-term. The above considerations and forward processes equally apply to medium-term planning.

PRECAUTIONARY PRINCIPLE

The precautionary principle stated in the EPBC Act says: “if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation”.

This principle has been pivotal in framing the Program, as it is recognised that the proposed Program would have a significant impact on those parts of the Natural Temperate Grassland and Grassy Eucalypt Woodland ecological communities within the expanded Urban Growth Boundary, as well as along the proposed alignments of the OMR/E6 Transport Corridor and Regional Rail Link. Within the area affected by

proposed urban and infrastructure development, the impacts on the remnant ecological communities and local populations of some listed species would be significant in a local context and irreversible.

However, there is considerable scientific and practical uncertainty about the scale and significance of these impacts. The precise impacts entailed cannot be fully assessed at this time, because:

- a. A variety of existing threatening processes, including cropping, grazing, pasture improvement and other land management practices, as well as weed invasion, are progressively reducing the extent, integrity and viability of the Natural Temperate Grassland and Grassy Eucalypt Woodland communities;
- b. The distribution and quality of remnant ecological communities, both within the proposed new Urban Growth Boundary and beyond it, have not been comprehensively surveyed at a site level;
- c. The distribution and quality of remnant habitats of listed fauna, within the proposed new Urban Growth Boundary and their wider distributional range, have not all been comprehensively surveyed at a site level; and
- d. The exact footprints of future development will not be determined until precinct structure planning and infrastructure planning are complete.

As the proposed urban and infrastructure development for the Program could have significant ecological impacts on the Natural Temperate Grassland and Grassy Eucalypt Woodland communities and associated flora and fauna, the Program adopts a precautionary response. The key components of this response are:

- a. Setting the proposed Urban Growth Boundary as well as the proposed alignments of the OMR/E6 Transport Corridor and Regional Rail Link to avoid (to the extent practicable) direct impacts on areas of high quality grassland, grassy woodland and other high quality habitats, while also achieving urban growth objectives;
- b. Establishing two major conservation reserves encompassing extensive remnants of Natural Temperate Grassland (totalling about 15,000ha) outside the new Urban Growth Boundary, and providing for their long term protective management and enhancement within National Parks, thereby making a major contribution to the ecological viability of these communities and providing secure habitat for significant species of flora and fauna;
- c. Establishing other large or small reserves where protection of additional habitat remnants would be manageable and would: support conservation of multiple listed species; connectivity with other reserves; insurance for protection of ecological values represented within the National Park reserves; and/or important ecological research;

- d. Assuming that clearance of Natural Temperate Grassland and Grassy Eucalypt Woodland habitat would result in the loss of potential habitat for associated fauna (for example, the Striped Legless Lizard and Spiny Rice-flower) and warrant measures to assess, monitor and offset impacts on these species;
- e. Developing guidelines for the future structure planning of greenfield urban precincts within the new Urban Growth Boundary and within the current Urban Growth Boundary, to ensure that matters of national environmental significance are carefully considered and practicable mitigation measures are applied, in the context of priorities established by the Program. These guidelines will include requirements for detailed flora and fauna surveys, prescriptions for the management of key listed species, best practice management of stormwater to protect waterways and downstream wetlands, and other relevant matters such as protection of native vegetation and the integration of open space and ecological objectives; and
- f. Developing and implementing a biodiversity management approach for the metropolitan fringe, to provide a comprehensive and accountable framework for the management of biodiversity values affected by the Program, including matters of national environmental significance and other biodiversity priorities recognised under Victorian policy. As part of this approach (outlined in the Program Report), the outcomes of mitigation measures for key listed species would be monitored to enable adaptive changes to species management (such as translocation protocols) or habitat management (such as fire, grazing and weed control regimes). Auditing of the monitored outcomes will inform reviews of the effectiveness of various measures, including the *Precinct Structure Planning Guidelines*, as well as delivering accountability against these outcomes.

This multi-pronged precautionary strategy aims to ensure that the Program's net impacts yield positive ecological outcomes in the face of various sources of uncertainty, relative to the outcomes which would probably occur in the absence of the planned program of both development and ecological protection.

INTER-GENERATIONAL EQUITY

The Program addresses the principle of inter-generational equity by seeking to provide a liveable and productive urban environment for Melbourne's expanding population in the next 20 to 30 years and beyond, while also enhancing the health and diversity of the fragile grassland and woodland ecosystems that have been severely reduced by past agricultural and urban development.

CONSERVATION OF BIOLOGICAL DIVERSITY AND ECOLOGICAL INTEGRITY

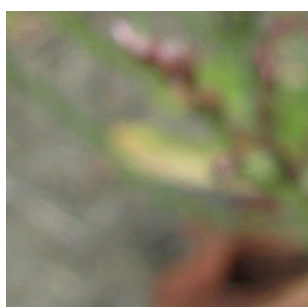
The Program makes a priority of conserving the biological diversity and ecological integrity of the Grassy Woodland Natural Temperate Grassland and Grassy Eucalypt Woodland communities, as well as other ecological communities and dependent flora and fauna in their regional setting, while still enabling urban growth objectives to be achieved. These elements of the Program are summarised above and detailed elsewhere in this report.

IMPROVED VALUATION, PRICING AND INCENTIVE MECHANISMS

Establishing core conservation reserves as part of the Program will require substantial capital investment by the Victorian Government. The development of these reserves will be linked with offsetting vegetation clearance within the new Urban Growth Boundary, and proponents will therefore contribute to the progressive establishment of these reserves through purchase of native vegetation credits created from the acquisition and management of the reserves. This financial mechanism will be used both to fund the creation of the conservation reserves and to provide a real cost signal (incentive) to influence vegetation clearance decisions.



5 EXISTING ENVIRONMENT



5.1 COMPONENTS OF BIODIVERSITY, ECOLOGICAL AND PHYSICAL ENVIRONMENTAL PROCESSES

The study area (Figure 1) includes predominantly agricultural land adjacent to highly urbanised areas. Most land within the study area can be considered highly altered from its 'natural state', with consequent impacts on biodiversity and ecological processes, due to its land-use history.

The changed ecological processes resulting from land-use change reported by numerous authors (see Pickett et al. 2001, Whitford et al. 2001, Dale et al. 2005 and Theobald et al. 2005) have historically occurred over much of the study area. Those with significant effects on biodiversity include changes in vegetation structure and composition; local species extinctions and fragmentation of habitat; changes in species abundances including the introduction of new species; and the alteration of disturbance regimes.

The surrounding catchments have been highly modified. Water quality into Westernport Bay is often poor because of extreme modification to catchment hydrology and the establishment of intensive agriculture. There is very little connectivity of habitat within the current Urban Growth Boundary.

The Port Phillip and Westernport catchment, within which Melbourne is located, scored poorly for four out of five biodiversity indicators in the Catchment Condition report (PPWCMA 2006).

5.2 LISTED AND NOMINATED COMMUNITIES UNDER THE EPBC ACT

Five ecological communities listed, or nominated for listing, under the EPBC Act were identified from the Commonwealth's Protected Matters Search Tool as potentially occurring within the study area. These are:

- > Natural Temperate Grassland of the Victorian Volcanic Plain;
- > Grassy Eucalypt Woodland of the Victorian Volcanic Plain;
- > Temperate Lowland Plains Grassy Wetland;
- > White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland; and
- > Gippsland Red Gum Grassy Woodland and Associated Native Grassland.

This assessment determined that White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland and Gippsland Red Gum Grassy Woodland and Associated Native Grassland do not occur within the study area.

Natural Temperate Grassland on the Victorian Volcanic Plain, Grassy Eucalypt Woodland of the Victorian Volcanic Plain and Temperate Lowland Plains Grassy Wetland are considered to have a moderate or high likelihood of occurring within the study area. These communities are described in more detail below.

5.2.1 NATURAL TEMPERATE GRASSLAND OF THE VICTORIAN VOLCANIC PLAIN

Natural Temperate Grassland of the Victorian Volcanic Plain is native grassland of Kangaroo Grass (*Themeda triandra*), Wallaby-grass (*Danthonia* spp.) and other perennial tussock-forming grasses interspersed with an array of native herbs and sub-shrubs.

Natural Temperate Grassland covered the vast majority of the Victorian Volcanic Plain, stretching from the Yarra River in Melbourne almost to the South Australian border. At least 95 per cent of its original extent has now been cleared or patches have been severely degraded, primarily for agriculture, but also for urban development. As a result it is listed as a critically endangered ecological community under the EPBC Act. The original, pre-European and current extents of around 870,000ha and 65,000ha respectively are shown in Figures 2 and 3. More information about this type of grassland can be found in Department of the Environment, Water, Heritage and the Arts (2008).

The EPBC-listed grassland community 'Natural Temperate Grassland of the Victorian Volcanic Plain' is essentially identical to Victoria's Western Basalt Plains Grassland listed as a threatened community under the Victorian *Flora and Fauna Guarantee Act 1988* (FFG Act). It also corresponds to Plains Grassland and Creekline Tussock Grassland ecological vegetation classes, which have a conservation status of endangered within the Victorian Volcanic Plains bioregion.

Refined maps of native grassland and other native vegetation within and to the west of the study area, including the OMR/E6 Transport Corridor and Regional Rail Link are shown in Figures 5 and 6. Remnants of native grassland persist in the study area, mostly in the Melbourne West Investigation Area, but also in smaller areas within the Melbourne North Investigation Area (Figures 7 and 8). Scattered remnants of this ecological community also occur within the OMR/E6 Transport Corridor and the Regional Rail Link. The final ground-truthed maps (Figures 5–8) are considered very reliable maps of the extent of Natural Temperate Grassland in the study area.

Apart from being a critically endangered ecological community, Natural Temperate Grassland provides habitat for several species of plant and animal threatened at a national (and state) level. Several of these are discussed in this report, including Golden Sun Moth (critically endangered), Striped Legless Lizard (vulnerable), Grassland Earless Dragon (endangered), Spiny Rice-flower (critically endangered) and Plains-wanderer (vulnerable).

5.2.2 GRASSY EUCALYPT WOODLAND OF THE VICTORIAN VOLCANIC PLAIN

Grassy Eucalypt Woodland of the Victorian Volcanic Plain is an open eucalypt woodland with a predominantly grassy understorey. The ecological community exhibits a degree of natural variation in appearance and composition across its range, due to variations in rainfall and landscape features such as changes in elevation, drainage patterns and the presence of rocky outcrops. It is most commonly dominated by River Red Gum (*Eucalyptus camaldulensis*), but this can become Grey Box (*E. microcarpa*) or Yellow box (*E. melliodora*) on drier sites, and Manna Gum (*E. viminalis*) or Swamp Gum (*E. ovata*) on damper sites. In some areas, this community can have an association with or include stony knolls.

Grassy Eucalypt Woodland of the Victorian Volcanic Plain is an ecological community that was listed under the EPBC Act on 25 June 2009 as critically endangered.

Grassy Eucalypt Woodland of the Victorian Volcanic Plain has a similar former range to the Natural Temperate Grassland of the Victorian Volcanic Plain and is likely to have extended from Melbourne to near Hamilton in south-west Victoria. It was always somewhat more restricted than Natural Temperate Grasslands of the Victorian Volcanic Plain, being confined to more friable soils on the basalt plains and rarely occurring on the true cracking clays.

The EPBC-listed community 'Grassy Eucalypt Woodland of the Victorian Volcanic Plain' incorporates Victoria's Volcanic Plains (River Red Gum) Grassy Woodland, which is listed as threatened under the FFG Act (Scientific Advisory Committee, 2004). This also correlates with Plains Grassy Woodland, the relevant ecological vegetation class which has a conservation status of endangered within the Victorian Volcanic Plains bioregion.

The Commonwealth Department of Environment, Water, Heritage and the Arts has drafted advice that defines eligible stands of this vegetation type based on condition of the vegetation. In essence, for a stand to qualify as the listed community, it must be at least 0.5ha in size and have at least 50 per cent of its perennial ground layer made up of native species; or if it is more degraded, it must have a density of at least three large (>70cm diameter at breast height) trees per hectare.

Department of Sustainability and Environment mapping, revised following the formal listing of Grassy Eucalypt Woodland, almost certainly represents an overestimate of the extent of the listed community. Following an additional program of ground-truthing this vegetation type, it was clear that some of the area mapped includes areas with very poor understorey condition. Without additional access to private property to determine

this precisely, a precautionary approach was taken where all areas with suitable tree cover and considered potentially able to support the necessary understorey component were included. However, where areas were confirmed not to be the listed community (generally due to absence of any native understorey), these were excluded from the mapping. There were only relatively small areas where this was the case.

Using Department of Sustainability and Environment's modelled vegetation mapping, the original (pre-European) extent of Grassy Eucalypt Woodland is shown in Figure 10. The current extent of Grassy Eucalypt Woodland is shown in Figures 7 and 8.

Within the study area, grassy woodlands of the Victorian Volcanic Plain are found scattered through the Melbourne North Investigation Area and adjoining precincts inside the existing Urban Growth Boundary, and including in the Sunbury area. The largest concentration of remnants is found in the south-east of the Melbourne North Investigation Area, with some more consolidated patches in the south-west and along Merri Creek, where there are many adjoining stony knolls. The ecological community also occurs within the OMR/E6 Transport Corridor. Generally the quality of the understorey appears similar throughout the Investigation Area, however this will be the subject of further detailed investigation. Beyond the Investigation Area, the community occurs more extensively to the east towards Whittlesea and to the west (generally as discrete stands) toward Gisborne. The red gum dominated woodlands within the Melbourne North Investigation Area and adjoining areas comprise the FFG-listed Western Basalt Plains (River Red Gum) grassy woodland, grading to a Grey Box (*Eucalyptus microcarpa*)-dominated grassy woodland alliance in the north-west of the Investigation Area.

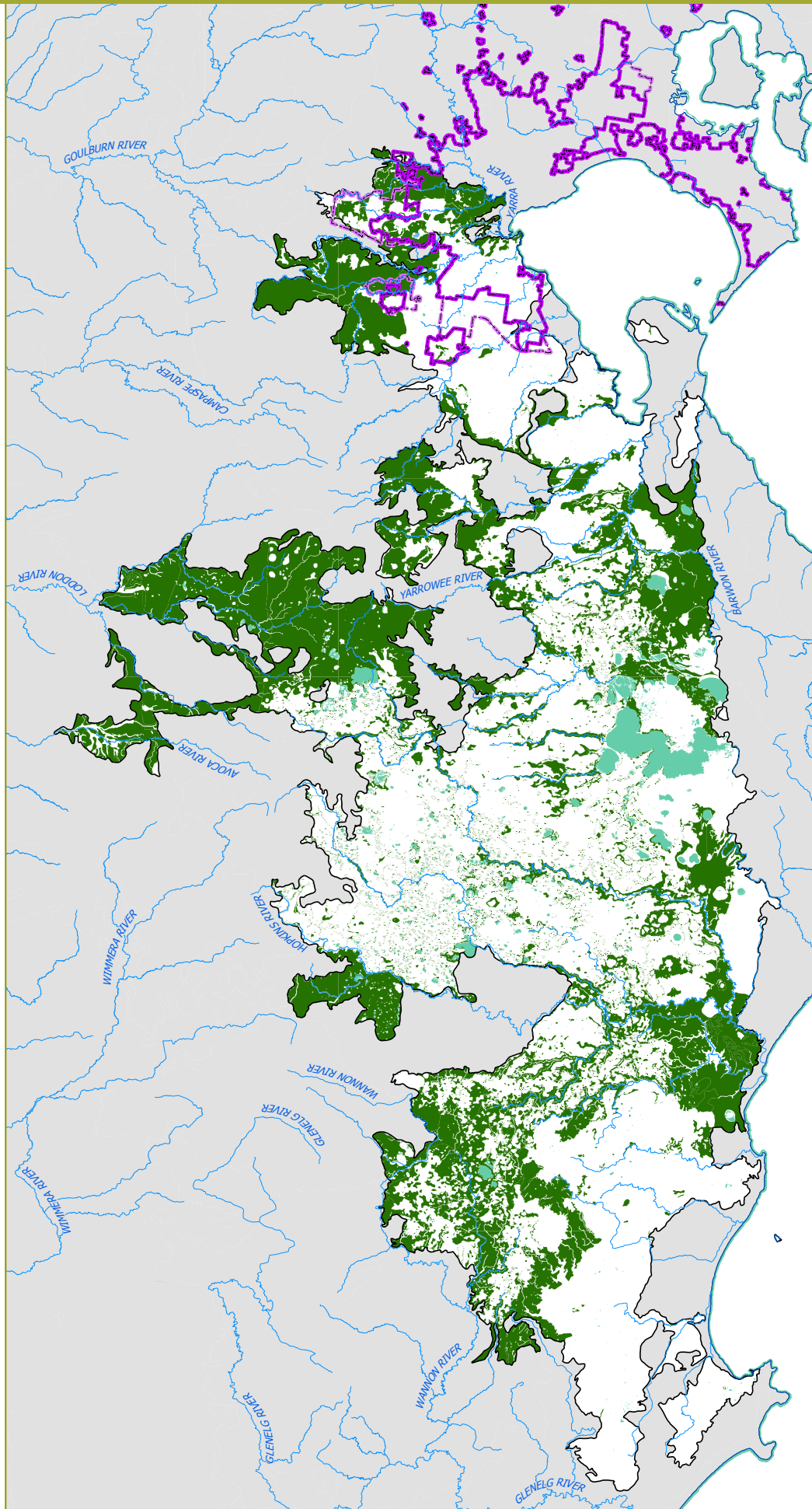
Grassy woodlands of the Victorian Volcanic Plain provide habitat to several threatened flora and fauna species. Within or near the study area, these include Swift Parrot, Golden Sun Moth and Matted Flax-lily, and potentially Striped Legless Lizard.

5.2.3 TEMPERATE LOWLAND PLAINS GRASSY WETLAND

Temperate Lowland Plains Grassy Wetland occurs in seasonally wet depressions on fertile soils of volcanic or sedimentary plain (Department of the Environment, Water, Heritage and the Arts, unpublished). It consists of grassland and associated sedges and other herbaceous vegetation in ephemeral and seasonal wetlands. The wetlands are sometimes fringed by or interspersed with eucalypts (typically Red Gum) or lignum shrubs. The herbaceous ground-layer comprises some aquatic species as well as those tolerant of intermittent to seasonal inundation. The community was previously widespread and common in suitable habitat but has now been largely cleared and most remnants are under threat.

FIGURE 10. MODELLED MAP OF PRE 1750 GRASSY EUCALYPT WOODLAND EXTENT WITHIN VICTORIAN VOLCANIC PLAIN BIOREGION

Department of Sustainability and Environment



Data Source:
 Corrupts Spatial Data Library,
 Dept. of Sustainability & Environment (DSE)
 Map Production by:
 Biodiversity & Ecosystem Services, DSE
 Map Production Date: 4 November 2009

Native Vegetation

- Artificial impoundment
- Wetland habitat
- Natural Temperate Grassland
- Urban Growth Boundary
- Urban Growth Investigation Areas

Victoria
 The Place to Be



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Temperate Lowland Plains Grassy Wetland has been nominated to the EPBC Act as a threatened ecological community. The Commonwealth assessment for this ecological community and determination of listing is due to be completed by 30 September 2010. In Victoria, it is broadly referred to as Ecological Vegetation Class no.125 Plains Grassy Wetland. It includes the Victorian FFG Act listed floristic community Herb-rich Plains Grassy Wetland (West Gippsland) (Department of the Environment, Water, Heritage and the Arts, unpublished).

5.3 LISTED AND NOMINATED THREATENED SPECIES UNDER EPBC ACT

A total of 25 fauna species and 32 flora species that are listed or nominated for listing under the EPBC Act have been identified as potentially occurring within the study area (see Section 3.6.1). However, most of these (15 fauna and 21 flora species) are considered to have a low or negligible likelihood of occurrence within the study area. Species with only a low or negligible likelihood of occurrence are listed in Tables 1 and 2, with reasons for this determination.

Species with a moderate or high likelihood of occurrence are described in more detail below.

5.3.1 SPECIES THAT INHABIT GRASSLANDS AND GRASSY WOODLANDS

Native Temperate Grasslands and Grassy Woodlands of the Victorian Volcanic Plain provide habitat for several species of plant and animal threatened at the State and national level.

Threatened fauna species that utilise grasslands or grassy woodlands and have a low–moderate to high likelihood of occurrence within the study area are:

- > Plains-wanderer;
- > Striped Legless Lizard;
- > Grassland Earless Dragon; and
- > Golden Sun Moth.

Threatened flora species that utilise grasslands or grassy woodlands and have a low–moderate to high likelihood of occurrence within the study area are:

- > Adamsons Blown-grass;
- > Button Wrinklewort;
- > Clover Glycine;
- > Curly Sedge;

- > Large-fruit Groundsel;
- > Matted Flax-lily;
- > Small Golden Moths;
- > Spiny Rice-flower; and
- > Swamp Fireweed.

PLAINS-WANDERER

The Plains-wanderer (*Pedionomus torquatus*) is a small quail-like bird standing about 10cm tall and weighing 40–95g (Marchant and Higgins 1993). It is listed as vulnerable under the EPBC Act and as threatened under the FFG Act.

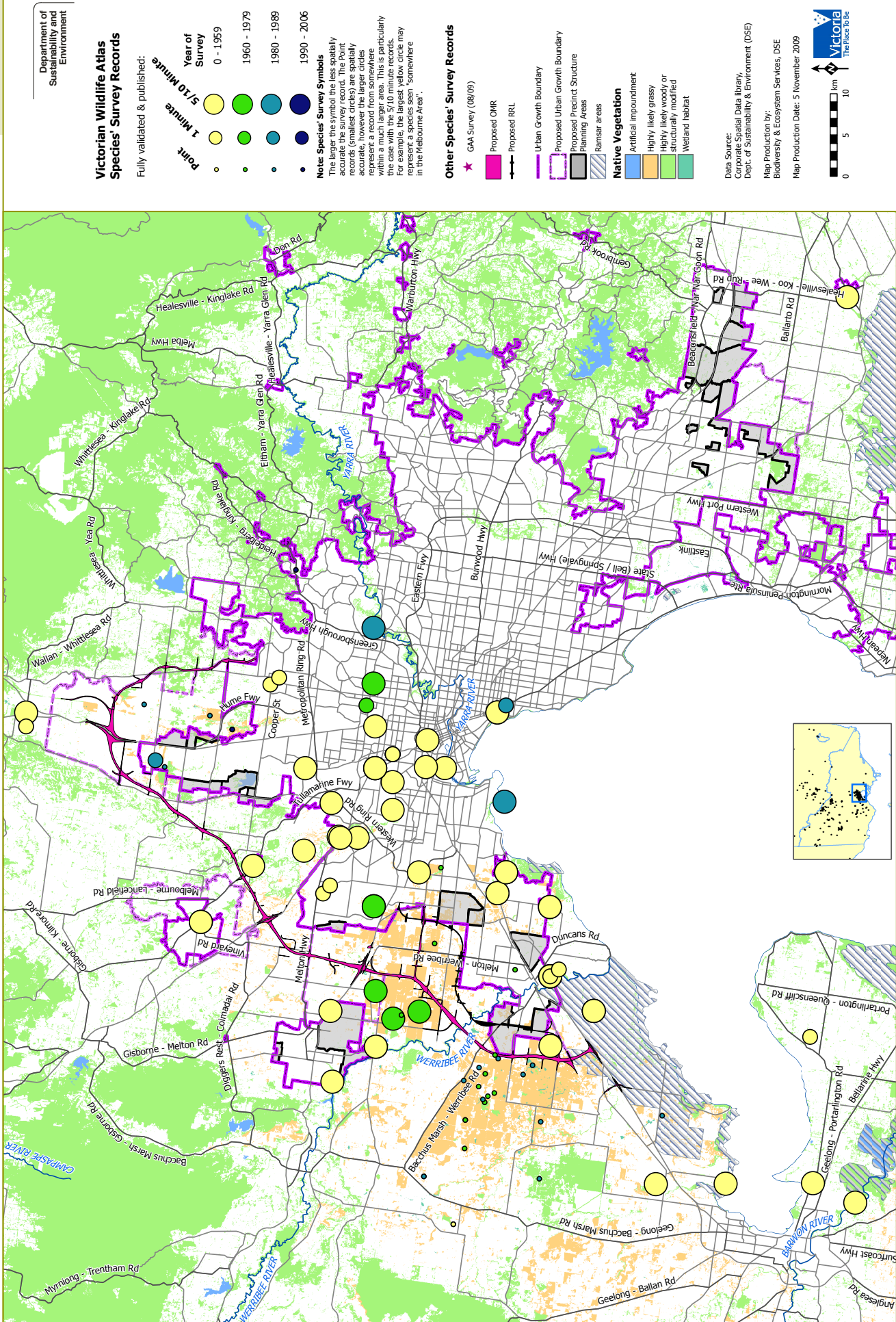
Plains-wanderer inhabits sparse, lowland native grasslands in which the vegetation structure is a more important habitat attribute than the species composition (Baker-Gabb 2002). In Victoria, over 70 per cent of recent sightings of Plains-wanderers have come from the Mitiamo district around Terrick Terrick National Park in the State's north-west (Maher and Baker-Gabb 1993, Webster 1996a). There have been previous records of this species in the Melbourne West and Melbourne North Investigation Areas. A confirmed record from 2008 of Plains-wanderer exists from the area immediately west of the Melbourne West Investigation Area. Habitat in this area has been altered little over the past 20 years, when Plains-wanderer was regularly recorded in the area (Birds Australia 2009). Historical records of the Plains-wanderer are shown in Figure 11.

GRASSLAND EARLESS DRAGON

The Grassland Earless Dragon (*Tympanocryptis pinguicolla*) is a small lizard with a head to tail length generally less than 150 mm, small rough scales and well-developed limbs (Robertson and Evans 2008). It is listed as endangered under the EPBC Act and threatened under the FFG Act.

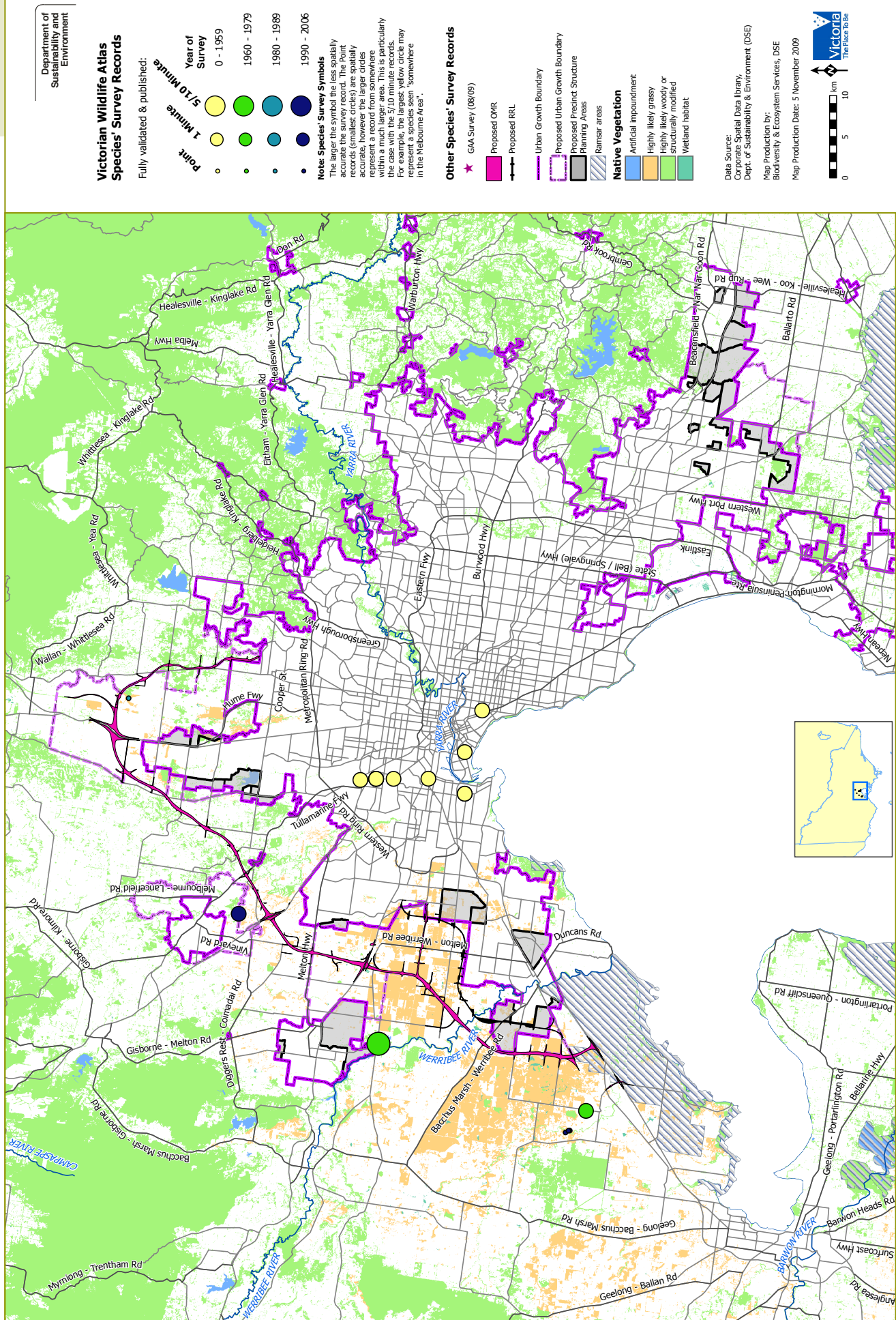
In Victoria, five sightings believed to be this species were reported between 1988 and 1990 (including from the upper reaches of Merri Creek and west of Werribee), but intensive trapping at these locations since 1994 have failed to confirm the sightings. Many other potential grassland sites to the north and west of Melbourne were also surveyed during this period, and no earless dragons were located (Robertson and Evans 2004). One further reported sighting near Craigieburn in 1990 requires further investigation (Robertson and Evans 2004). The last confirmed sightings of this species in Victoria were from the Rockbank area in 1968 and the Geelong area in 1969 (Robertson and Cooper 2000). While there are no recent confirmed records, Grassland Earless Dragon is a highly cryptic species and there is a small possibility it may still occur, particularly immediately west of the Melbourne West Investigation Area. Figure 12 shows historical records of the Grassland Earless Dragon.

FIGURE 11. SURVEY RECORDS OF PLAINS-WANDERER (*Pedionomus torquatus*)



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FIGURE 12. SURVEY RECORDS OF GRASSLAND EARLESS DRAGON (*Tympanocryptis pinguicolla*)



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STRIPED LEGLESS LIZARD

The Striped Legless Lizard (*Delma impar*) is a pale grey-brown lizard with a long thin body and long tail, growing to a total length of about 300mm. Legless Lizards lack forelimbs and have hind limbs reduced to tiny flaps (Smith and Robertson 1999). It was listed as vulnerable under the EPBC Act in July 2000, and a national recovery plan has been prepared (Smith and Robertson 1999). It is also listed as threatened under the FFG Act and an action statement has been prepared (Department of Sustainability and Environment 2003).

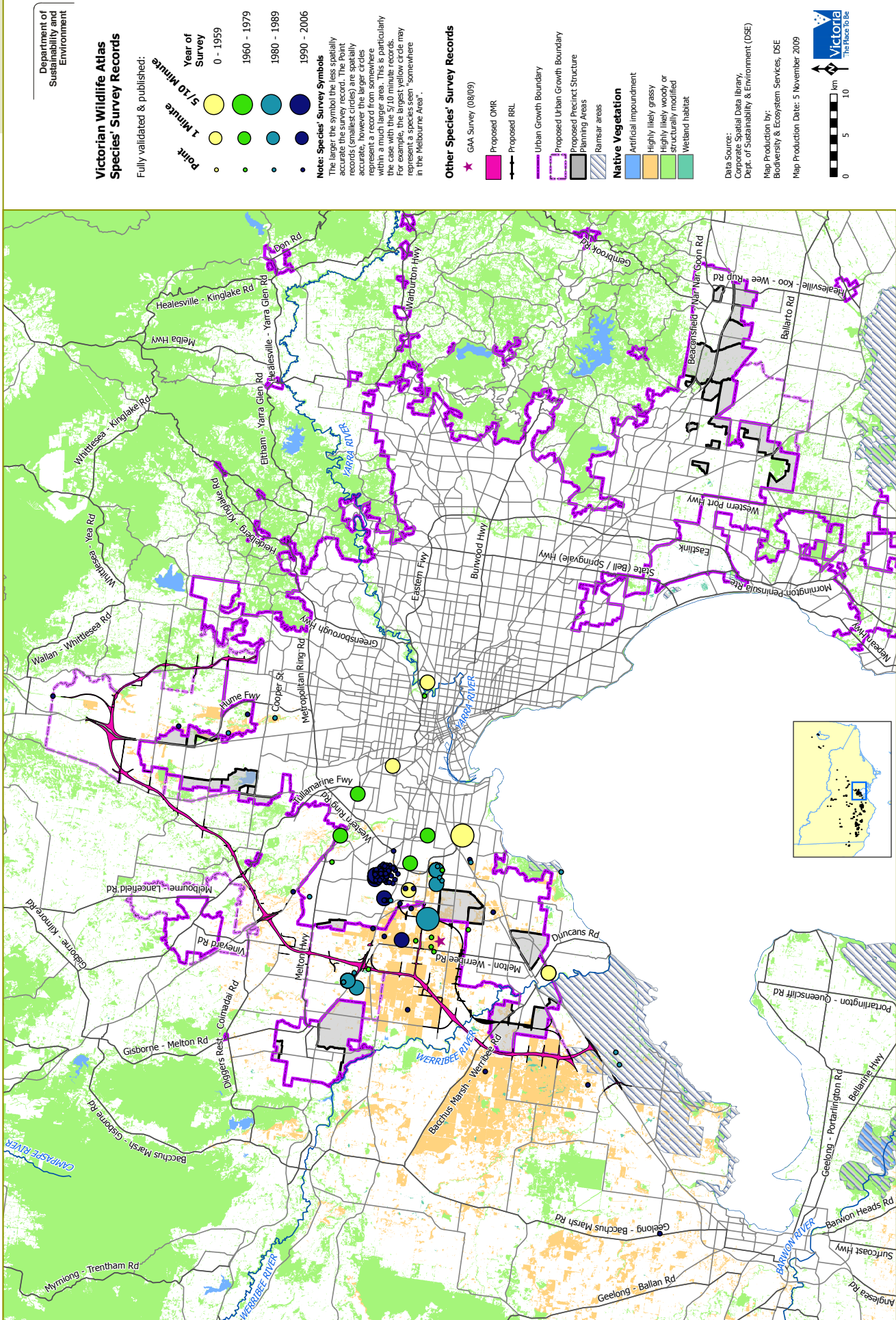
The Striped Legless Lizard inhabits lowland native grasslands and sometimes grassy woodlands in Victoria, the Australian Capital Territory, and the south-eastern parts of New South Wales and South Australia.

Although primarily found in native grasslands with relatively low levels of disturbance and dense tussock structure, Striped Legless Lizard has also been recorded in nearby exotic grasslands. This suggests that the grassland structure rather than the floristic composition is the important habitat characteristic. It is unknown, however, whether non-native habitats would support a population over the long term. More information about the biology and ecology of the species can be found in Smith and Robertson (1999) and Department of Sustainability and Environment (2003). The Striped Legless Lizard has more recently been recorded in grassy woodland habitat in the Yea area of Victoria. Figure 13 shows survey records of the Striped Legless Lizard.

There are currently four conservation reserves containing suitable grassland habitat in the state, and three of these are known to support the Striped Legless Lizard: Derrimut Grassland Reserve in the western suburbs of Melbourne; Craigieburn Grassland and Cooper Street Grasslands reserves just north of Melbourne; and Terrick Terrick National Park in northern Victoria.

Within the study area, the Striped Legless Lizard is known to occur at scattered locations in the Melbourne West Investigation Area and also at Craigieburn Grasslands in the Melbourne North Investigation Area. A cluster of records occur close to the Victoria University at St Albans, an area that has been intensively studied. Experience shows that the Striped Legless Lizard can be difficult to detect during surveys and that they are often present in suitable habitat. It is highly likely that additional populations will be located, particularly within the Melbourne West Investigation Area, either through targeted surveys or, more likely, during the actual physical construction process. The approach adopted therefore will be to use habitat as a surrogate for extant populations and assume the species is present in suitable habitat. However, surveys will still be undertaken as part of planning for urban and transport infrastructure.

FIGURE 13. SURVEY RECORDS OF STRIPED LEGLESS LIZARD (*Delma impar*)



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GOLDEN SUN MOTH

The Golden Sun Moth (*Synemon plana*) is a medium-sized (wingspan 3.1–3.4cm) day-flying moth restricted to Victoria, the Australian Capital Territory and adjacent areas of southern New South Wales. It was listed as critically endangered under the EPBC Act in December 2002 and as threatened under the FFG Act. An FFG action statement has been prepared for this species (Department of Sustainability and Environment 2003).

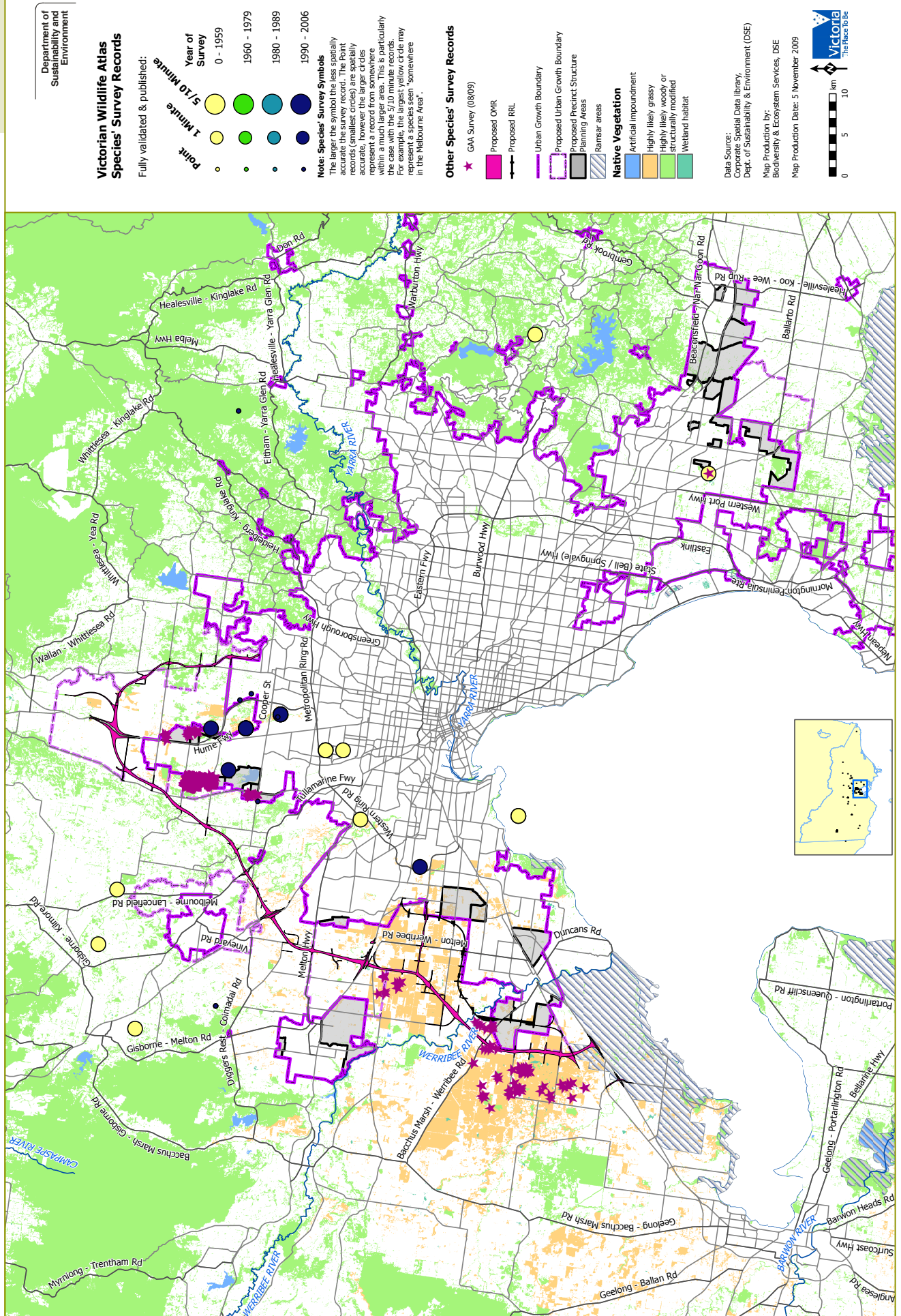
The Golden Sun Moth inhabits grassy areas, including native grasslands and grassy woodlands as well as areas of introduced (non-native) grasses and weeds. An open tussock structure with sparse inter-tussock spaces and/or much bare ground appears to be an important attribute of sites supporting the species (DEC 2006). The species has been thought to be associated with presence of Wallaby-grasses (*Austrodanthonia* spp.) in the ground layer at typical proportions of more than 40 per cent (DEC 2006, Department of the Environment, Water, Heritage and the Arts 2009), so such areas have been targeted for survey. However, this conclusion has not been borne out in recent surveys around Melbourne, which did not target native grasslands specifically but nonetheless found Golden Sun Moth at 19 of 24 sites searched (Biosis 2008). Sites where the species was recorded often had very low cover of Wallaby-grass and most sites were very weedy (Biosis 2008).

There have been no widespread targeted surveys undertaken for the Golden Sun Moth across its Victorian range. The most effective survey method is a number of repeatable site visits on suitable days during the active flight season, as per survey protocols developed by the Department of Sustainability and Environment, and the Department of the Environment, Water, Heritage and the Arts at the Golden Sun Moth Policy Workshop in 2008.

Targeted, opportunistic or pre-development surveys are responsible for most of the recent data about the Golden Sun Moth. These have increased the number of known sites in Victoria to around 60 from the six recorded when the FFG action statement was prepared in 2003 (Figure 14). The targeted Port Phillip Golden Sun Moth surveys occurred over two seasons (2006/07 and 2007/08), due to an EPBC controlled action requirement. It is highly likely that systematic surveys across the historic range of the species would locate many “new” populations, as the surveys around Melbourne (50 sites), Australian Capital Territory (32 sites), and New South Wales (42 sites) have demonstrated (National Recovery Plan and ACT Grassland Conservation Strategy 2005).

The lack of widespread surveying and recent survey results indicate that the true state of the species is more likely to be endangered or vulnerable rather than critically endangered. As surveys proceed, it is likely that the large number of sites around Melbourne will link up and become fewer but larger in area as the Golden Sun Moth distribution becomes known across its range. In addition, proposed regional surveys will add greatly to the information regarding distribution of this species in rural parts of Victoria.

FIGURE 14. SURVEY RECORDS OF GOLDEN SUN MOTH (*Synemon plana*)



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ADAMSONS BLOWN-GRASS

Adamson's Blown-grass (*Lachnagrostis adamsonii* formerly known as *Agrostis adamsonii*) is a tufted, short-lived perennial grass that may behave as an annual under some conditions (Murphy 2007). It is listed as endangered under the EPBC Act and threatened under the FFG Act.

Since its rediscovery in 1987, 68 populations of Adamson's Blown-grass have been found in saline shallow wetlands from Clifton Springs near Geelong to Melville Forest, east of Coleraine in south west Victoria (Murphy 2007) (Figure 15). Adamson's Blown-grass is unlikely to, but may occur, within the Melbourne West Investigation Area.

BUTTON WRINKLEWORT

The Button Wrinklewort (*Rutidosia leptorrhynchoides*) is a perennial multi-stemmed semi-shrub in the daisy family (DCE 1992). It was listed as endangered under the EPBC Act in 2000 and as threatened under the FFG Act.

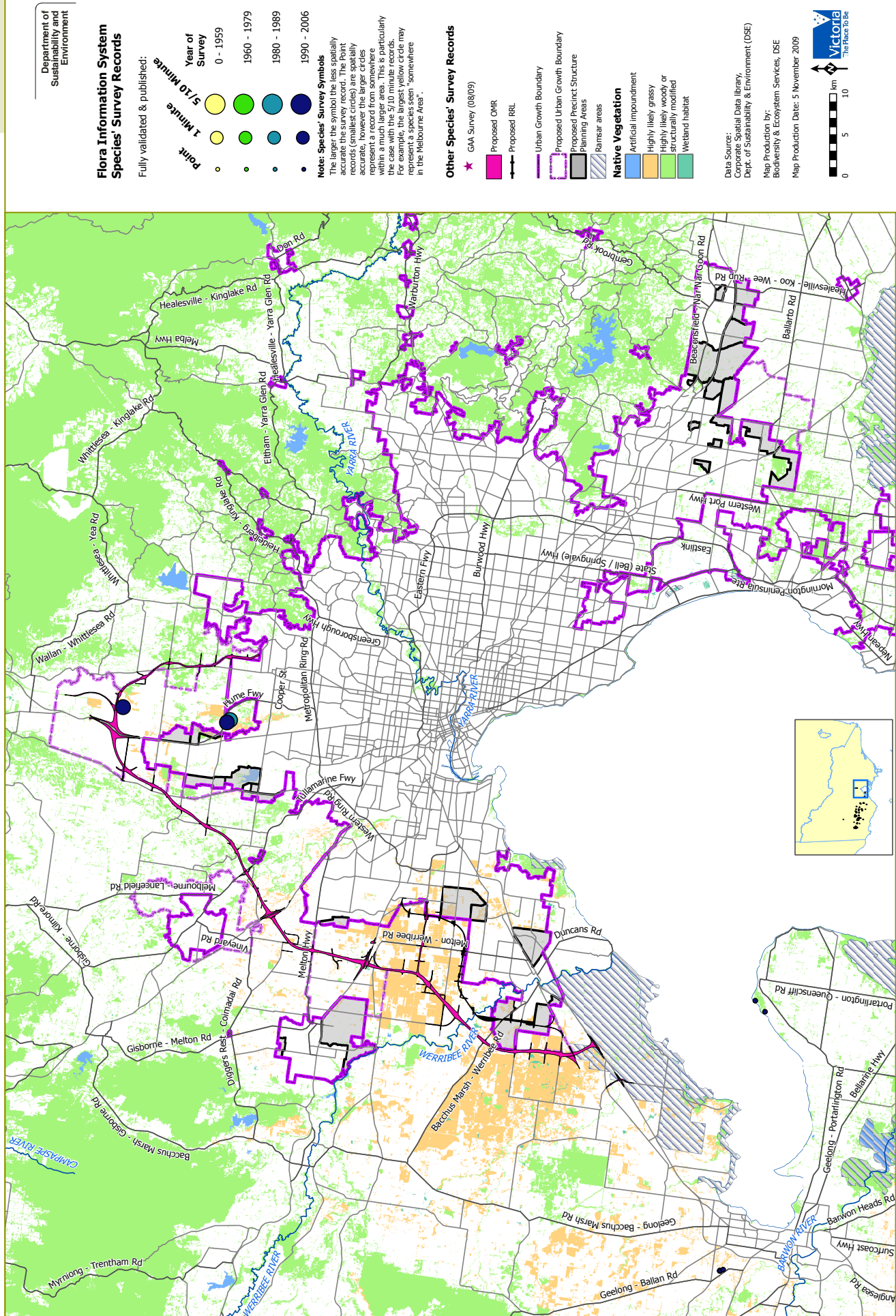
The species was formerly widespread in grasslands and grassy woodlands in Victoria but is now restricted to 11 populations in south-west Victoria and the western suburbs of Melbourne (DCE 1992) Figure 16. The species is known to occur in roadsides, rail reserves and cemeteries within the study area, but is unlikely to occur on private land because of incompatible management regimes: the species is intolerant of grazing, is palatable to stock and requires frequent burning to ensure that it is not out-competed by grasses (DCE 1992).

CLOVER GLYCINE

Clover Glycine (*Glycine latrobeana*) is a small, prostrate, perennial herb in the pea family, with purple flowers (Carter and Sutter unpublished). It is listed as vulnerable under the EPBC Act and threatened under the FFG Act.

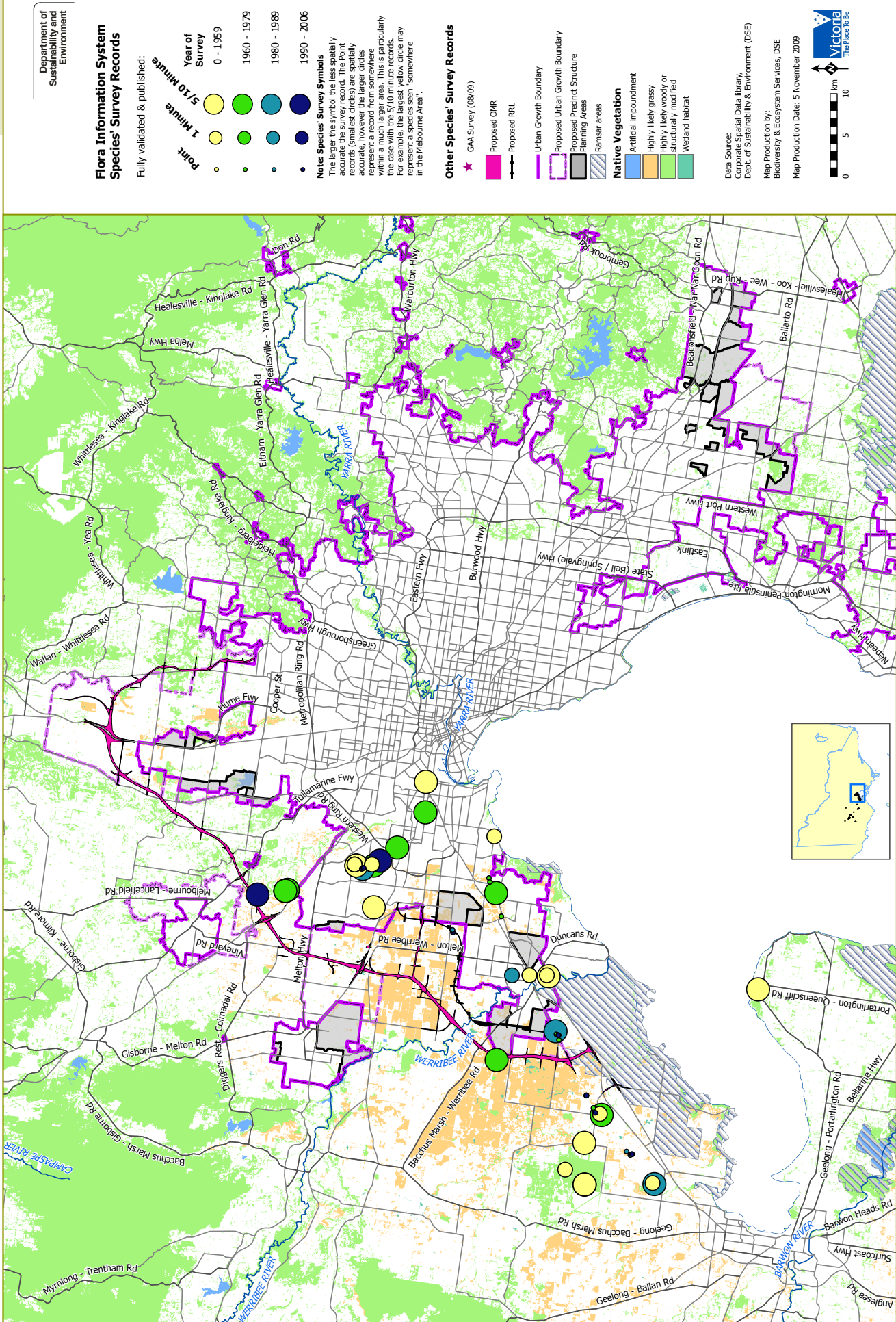
Clover Glycine occurs mainly in grassland and grassy woodland habitats, less often in dry forests, and only rarely in heathland (Carter and Sutter unpublished). There are approximately 65 recorded populations of Clover Glycine in Victoria, but there are likely to be many more scattered populations, particularly on private land (Carter and Sutter unpublished). There are records of this species from the Melbourne West Investigation Area (Figure 17); however as it is not known whether the species persists in the area, it is considered to have a moderate likelihood of regular occurrence (Table 2).

FIGURE 15. SURVEY RECORDS OF ADAMSON'S BLOWN-GRASS (*Lachnagrostis adamsonii*)



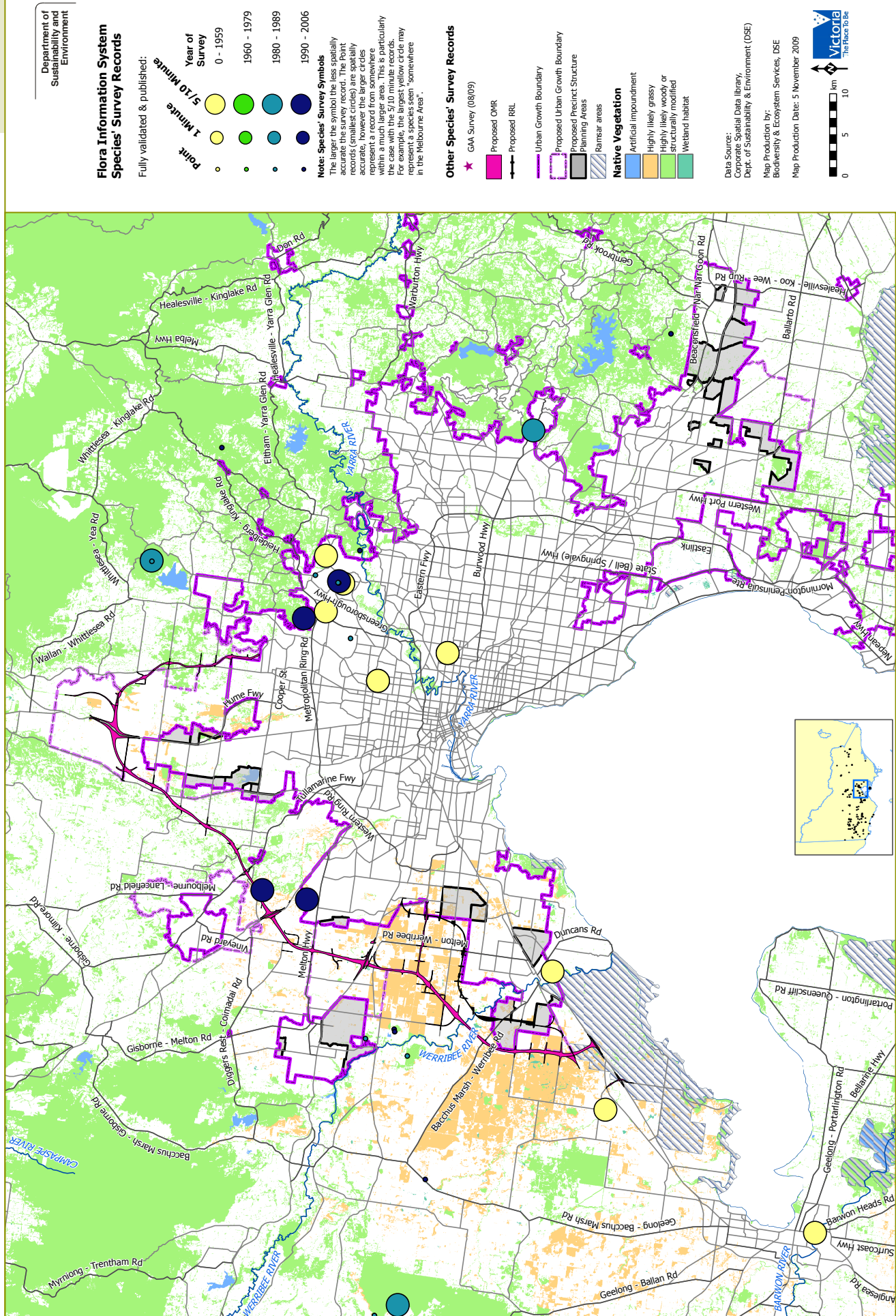
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FIGURE 16. SURVEY RECORDS OF BUTTON WRINKLEWORT (*Rutidosia leptorrhynchoides*)



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FIGURE 17. SURVEY RECORDS OF CLOVER GLYCINE (*Glycine latrobeana*)



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CURLY SEDGE

Curly Sedge (*Carex tasmanica*) is wiry, clumped, perennial sedge to 50cm high (Department of Sustainability and Environment 2004a). It was listed under the EPBC Act in 2000 as vulnerable and is listed as threatened under the FFG Act.

Curly Sedge grows in seasonally damp sites in grassland or grassy woodland (Department of Sustainability and Environment 2004a). In Victoria Curly Sedge is now known in around 20 sites (Carter, unpublished). Important populations are predominantly recorded in south-west Victoria, but two occur within the Greater Melbourne area (Figure 18). Both are along Curly Sedge Creek: one within Craigieburn Nature Conservation Reserve; and the other on private land south of the reserve (Carter, unpublished).

LARGE-FRUIT GROUNSEL

Large-fruit Groundsel (*Senecio macrocarpus*) is a bushy, upright herb up to 40cm high, belonging to the daisy family (DCE 1996). It was listed as vulnerable under the EPBC Act in 2000 and is listed as threatened under the FFG Act.

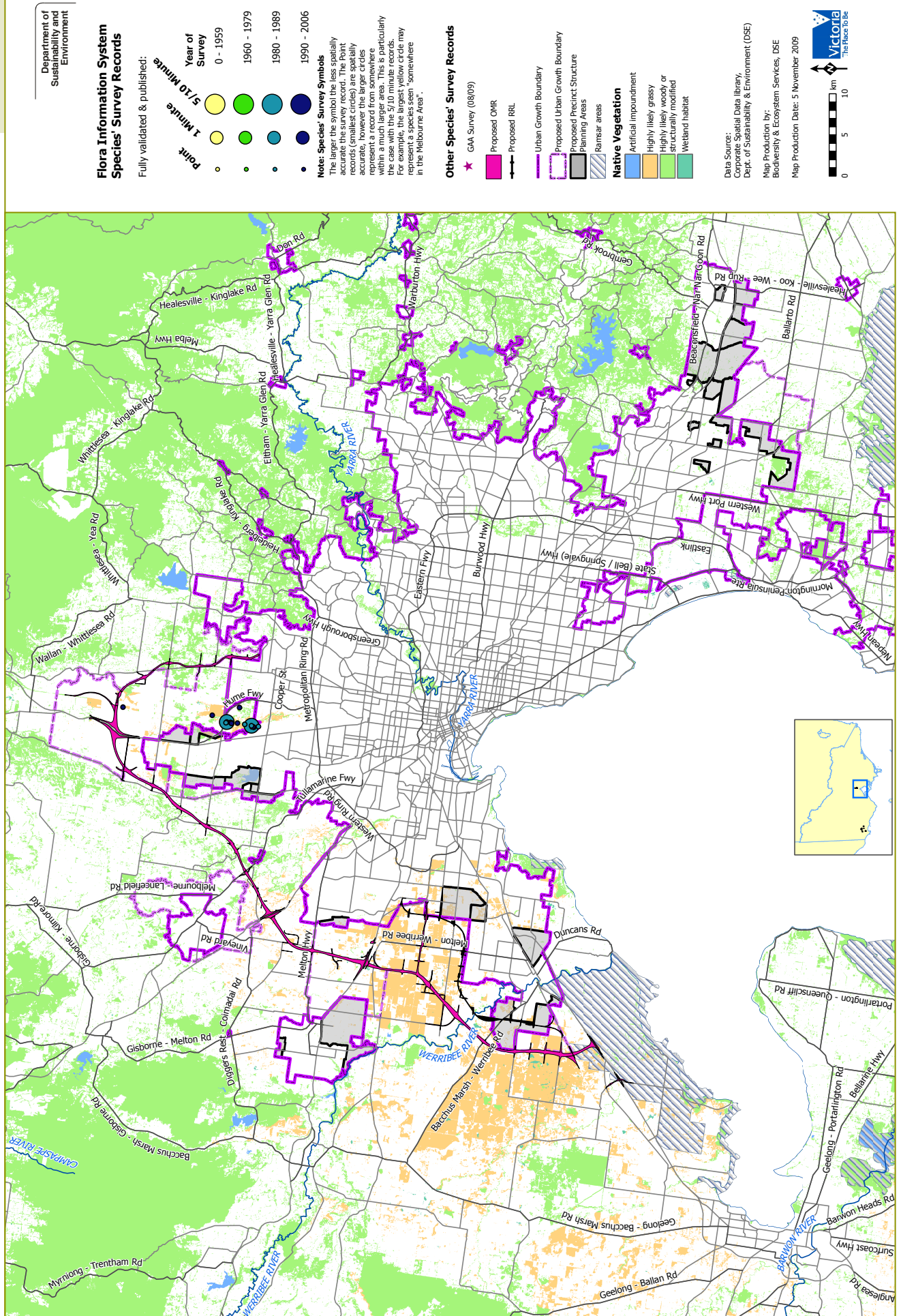
Large-fruit Groundsel predominantly occurs in plains grassland (where it is a subdominant species with Button Wrinklewort), but it is also found in grassy woodlands (Department of Sustainability and Environment 1996). The species was formerly widespread in western Victoria, but now only 13 populations are recorded at 11 locations (DCE 1996). The species is known to occur in roadsides, rail reserves and cemeteries within the study area, but rarely on private land because of incompatible management regimes: the species does not tolerate heavy grazing or mechanical disturbance (DCE 1996) (Figure 19). It also occurs in railway reserves outside but close to the Melbourne West Investigation Area, and near Werribee station in the existing urban area. The species is known to occur at one private land site within the study area at Rockbank, where plants have persisted amongst native grassland with abundant surface rock.

MATTED FLAX-LILY

Matted Flax-lily (*Dianella amoena*) is a tufted, mat-forming perennial lily. Its leaves typically have small, irregularly spaced teeth and may be shed in summer if stressed by lack of water (Carter 2005). It is listed as endangered under the EPBC Act and threatened under the FFG Act.

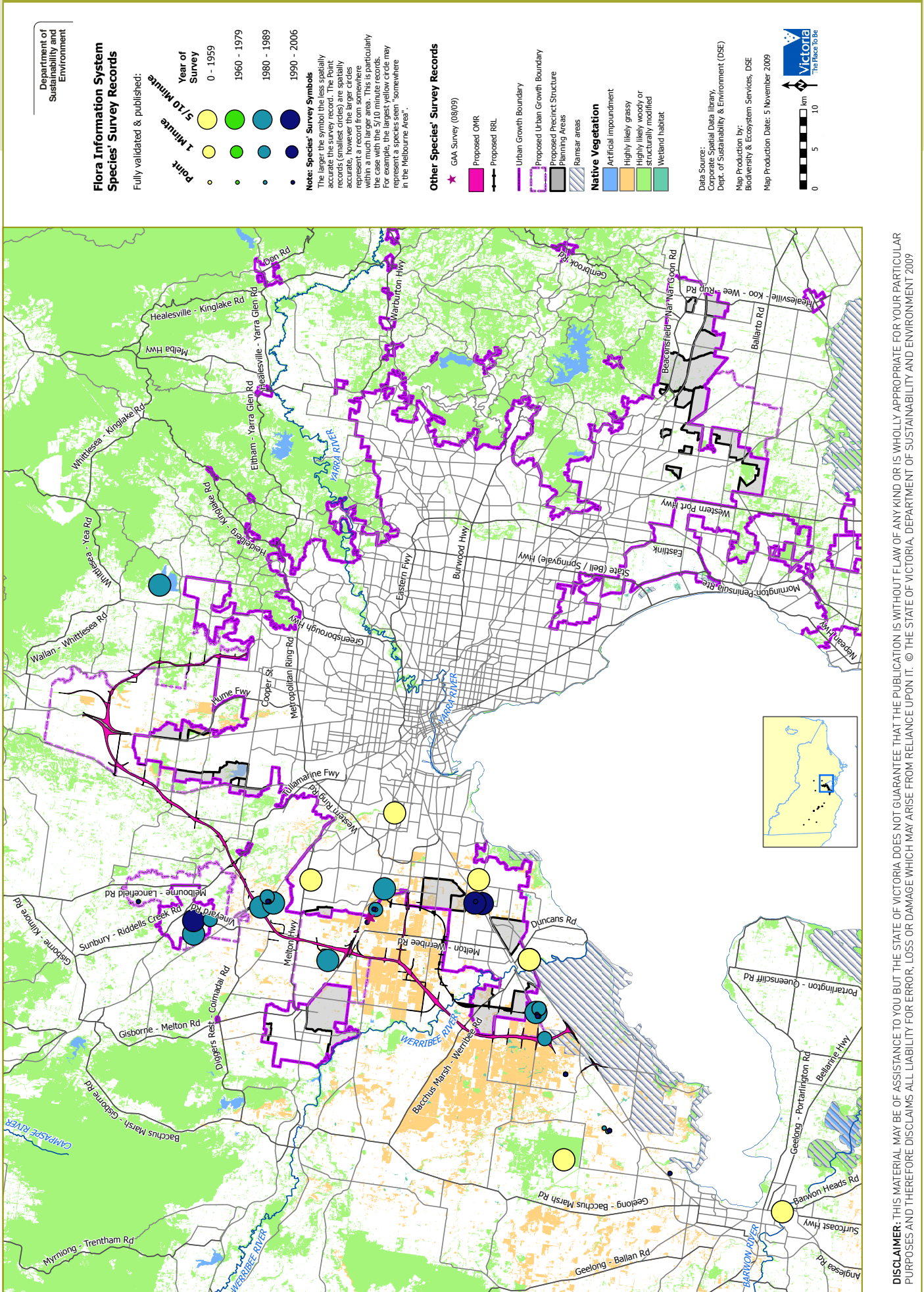
The species occurs on fertile soils in grassland and grassy woodland habitats (Carr & Horsfall 1995). There are estimated to be around 1,400 Matted Flax-lily plants remaining in approximately 120 wild populations (Carter 2005). Many sites where this species is found are in the Melbourne metropolitan area: around Bundoora; Eltham; Craigieburn; Reservoir; Epping; and South Morang. Other populations are found on the Victorian Volcanic Plains between Sunbury and Bacchus Marsh (Figure 20). The majority of populations comprise just a few plants (Carter 2005).

FIGURE 18. SURVEY RECORDS OF CURLY SEDGE (*Carex tasmanica*)



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FIGURE 19. SURVEY RECORDS OF LARGE-FRUIT GROUNDSEL (*Senecio macrocarpus*)



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SMALL GOLDEN MOTHS

Small Golden Moths (*Diuris basaltica*) is a terrestrial orchid with grass-like green leaves and barely opening, golden orange flowers. It is most similar to the Golden Moths Orchid (*Diuris chryseopsis*) and the Golden Cowslips Orchid (*Diuris behrii*), but differs from both by its diminutive stature, smaller and poorly opening flowers, and highly restricted distribution (Backhouse and Webster 1999). It was listed as endangered under the EPBC Act in 2000 and is listed as threatened under the FFG Act.

Small Golden Moths is known in only two populations; with the largest on private land near Clarke Road near Caroline Springs within the Melbourne West Investigation Area (G. Backhouse pers. comm.). The smaller population is located at Laverton Airbase, outside the study area.

SPINY RICE-FLOWER

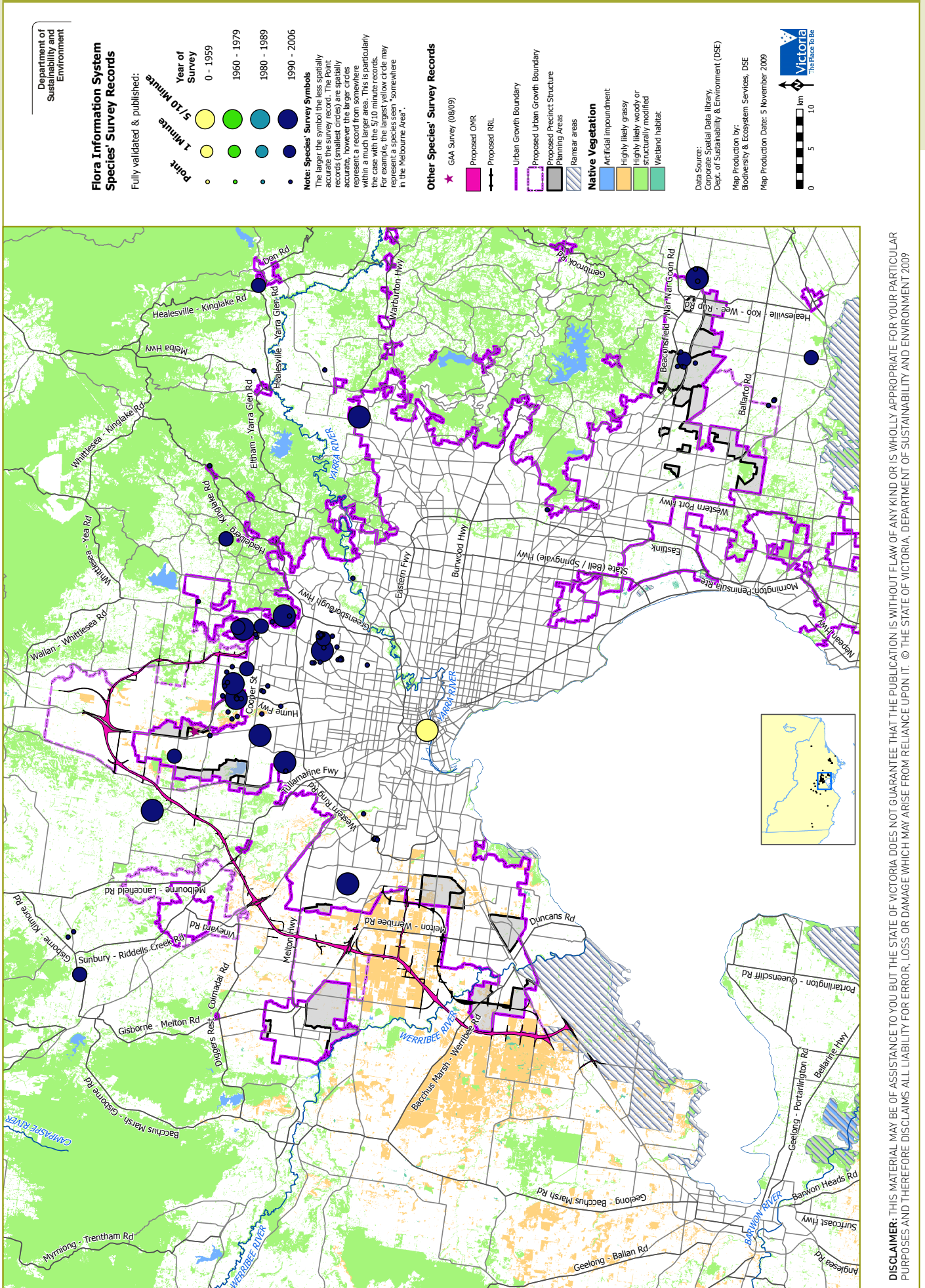
The Spiny Rice-flower (*Pimelea spinescens ssp. spinescens*) is a small spreading shrub to 30cm in height with spine-tipped stems (Carter and Walsh 2006). It is endemic to Victoria, occurring in the central west of the state from the Victorian Volcanic Plain to the Riverina (Figure 21). It has a very large tap-root and is thought to live for up to 100 years (Mueck 2000). Plants are either male or female so both types are required for reproduction. More information about the biology of the species can be found in Carter and Walsh (2006) and Department of the Environment, Water, Heritage and the Arts (2009).

The species inhabits native grasslands or other open grassy areas on volcanic soils of low relief (Walsh and Entwisle 1996). It has been severely depleted across its range and was listed as critically endangered under the EPBC Act in May 2003. A recovery plan has been published (Carter and Walsh 2006).

Carter and Walsh (2006) estimate that there are approximately 12,000 Spiny Rice-flower plants in 20 populations. Most of these are in roadsides or rail reserves, although the largest known population occurs on private land in northern Victoria. Since 2006, several more populations have been located, but these are all relatively small and have generally been recorded as part of development applications on private land, as a result of which many plants have been translocated. According to the *Pimelea spinescens* Recovery Team there were 184 known locations of Spiny Rice-flower across Victoria in October 2008 (Walsh and Thomas 2009). It should be noted that while many Spiny Rice-flower plants have been translocated previously, and lived for many years post-translocation, no reproduction has occurred in plants translocated recently (S. Mueck pers. Comm. 2008 in Department of the Environment, Water, Heritage and the Arts 2009).

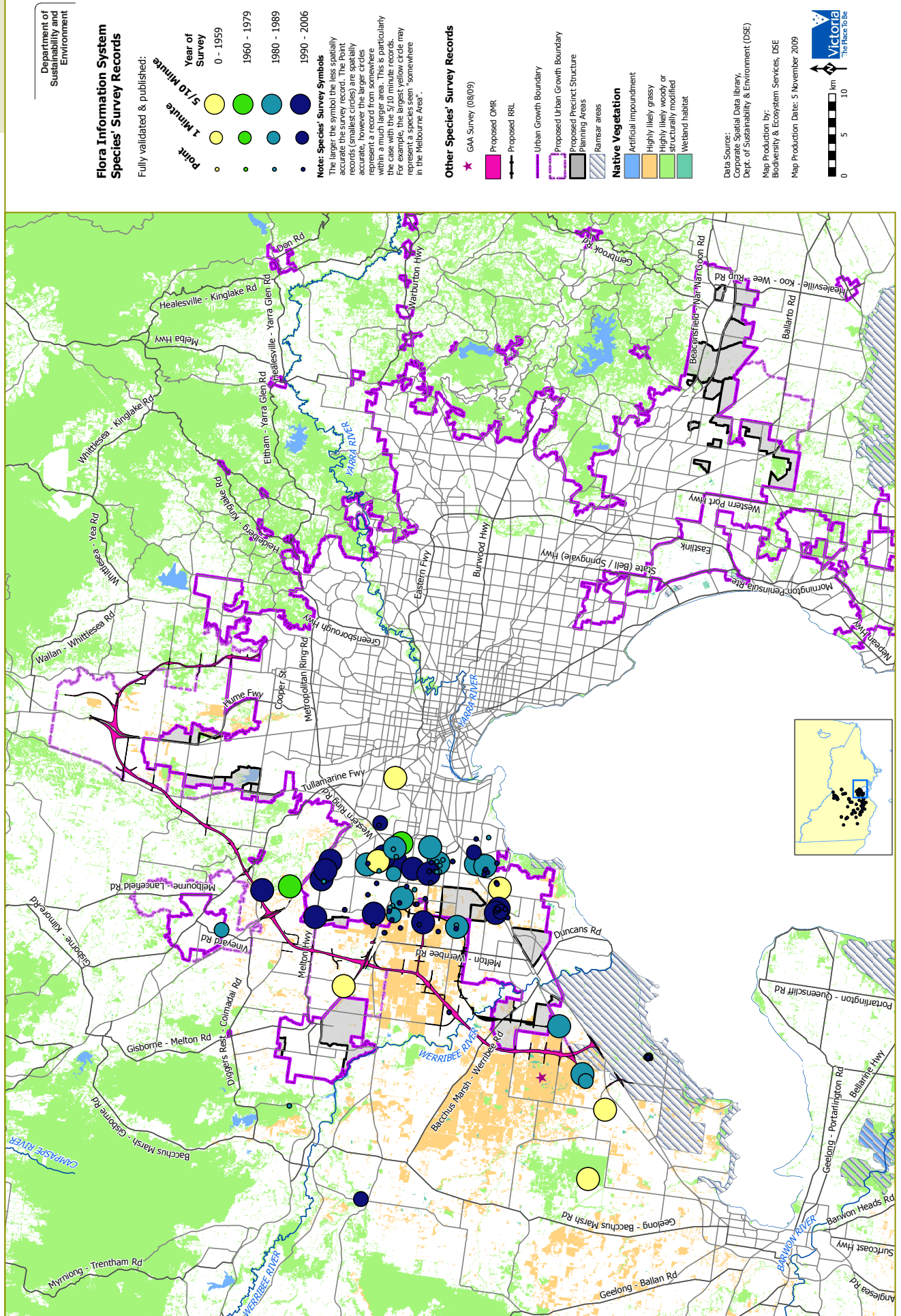
Spiny Rice-flower is known to occur within the Melbourne West Investigation Area and also within both of the proposed Western Grassland Reserves (Figure 21).

FIGURE 20. SURVEY RECORDS OF MATTED FLAX-LILY (*Dianella amoena*)



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FIGURE 21. SURVEY RECORDS OF SPINY RICE-FLOWER (*Pimelea spinescens* subsp. *spinescens*)



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SWAMP FIREWEED

The Swamp Fireweed (*Senecio psilocarpus*) is a tall slender herb occurring in shallow wetlands and seasonally wet areas. It is listed as vulnerable under the Commonwealth EPBC Act. Scattered populations occur across western Victoria, including approximately 10 sites between Wallan (north of Melbourne) and Honans Scrub in south-east South Australia (Threatened Species Scientific Committee 2008b). It has also been recorded in Tasmania.

Within the study area it occurs in on private land at Hearne Swamp, just north-east of Beveridge, in the Melbourne North Investigation Area (Figure 22). There are several tens of records of the species at this site (Brett Lane, ecological consultant, pers. comm.). According to the National Herbarium in Melbourne it has also been recorded in the south-east of Melbourne as recently as 2005, with a potential location within the Melbourne South East Investigation Area at Clyde.

5.3.2 SPECIES THAT PREDOMINANTLY INHABIT NON-GRASSY ENVIRONMENTS

A variety of other threatened species that inhabit non-grassy environments or are not grassland specialists have a moderate or high likelihood of occurrence within the study area. Many of these species utilise wetland environments.

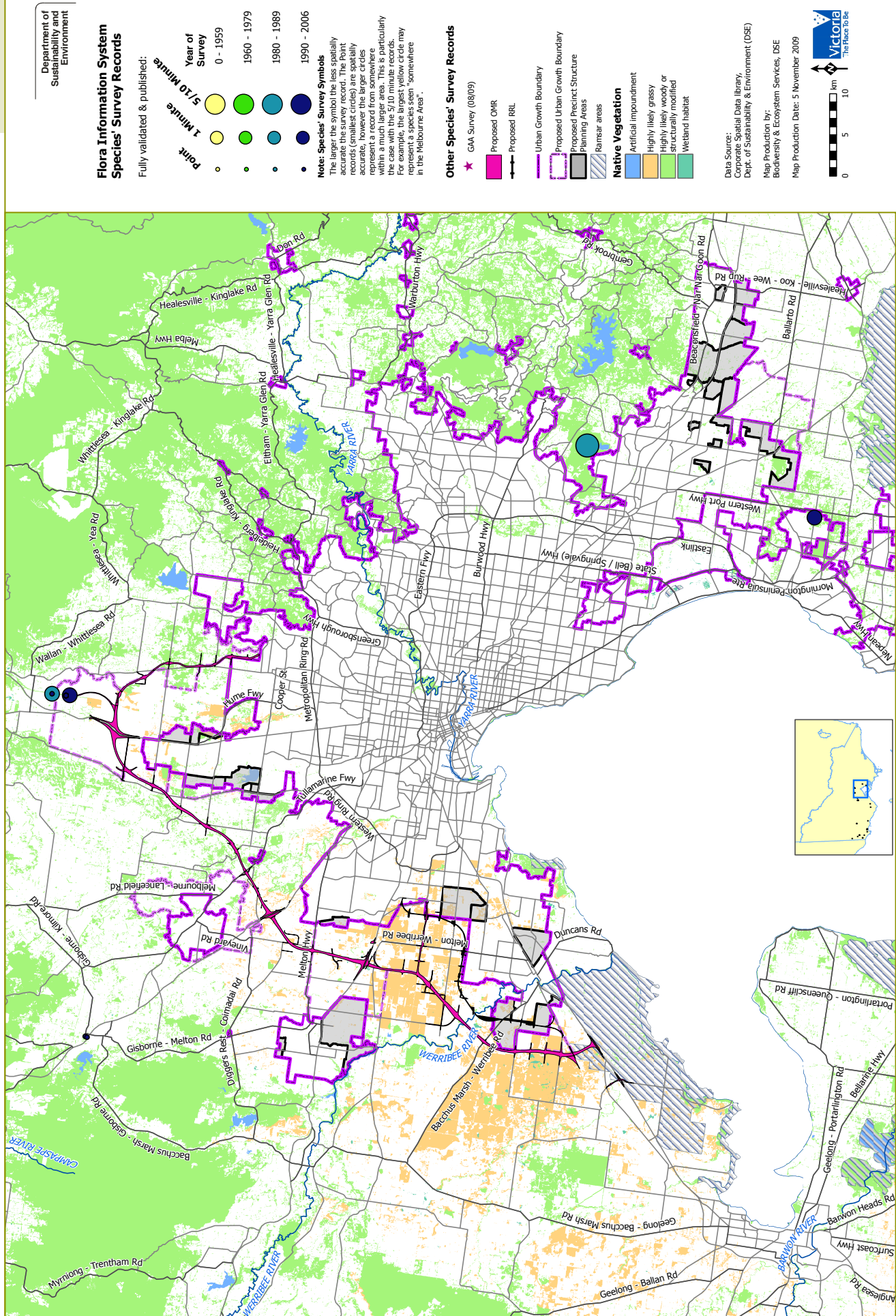
Threatened fauna species that utilise non-grassy environments and have a moderate to high likelihood of occurrence within the study area are:

- > Grey-headed Flying-fox;
- > Southern Brown Bandicoot;
- > Australian Painted Snipe;
- > Swift Parrot;
- > Growling Grass Frog;
- > Australian Grayling; and
- > Dwarf Galaxias.

Threatened flora species that utilise non-grassy environments and have a moderate to high likelihood of occurrence within the study area are:

- > Maroon Leek-orchid;
- > River Swamp Wallaby-grass; and
- > Swamp Everlasting.

FIGURE 22. SURVEY RECORDS OF SWAMP FIREWEED (*Senecio psilocarpus*)



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GREY-HEADED FLYING-FOX

Grey-headed Flying-fox (*Pteropus poliocephalus*) is one of the largest bats in the world, ranging in weight from 600g to 1000g and ranging between 230cm and 289cm in head and body length (Eby and Lunney 2002). It was listed as vulnerable under the EPBC Act in December 2001.

The population of the Grey-headed Flying-fox is spatially structured into colonies (Parry-Jones and Wardle 2004). Within Victoria, the main colony is located at Yarra Bend Park near Fairfield and the smaller colony at Geelong (Figure 23).

The Grey-headed Flying-fox forages up to 50km per night in search of nectar, pollen and fruit, which they collect from suburban gardens, parks, orchards and forests from the Brisbane Ranges to the west of Melbourne around to the eastern and northern suburbs.

SOUTHERN BROWN BANDICOOT

There are five sub-species of Southern Brown Bandicoot (*Isodon obesulus obesulus*) across southern Australia and on Cape York. The sub-species discussed here is *Isodon obesulus obesulus*, a medium sized ground-dwelling marsupial up to around 1.5 kg in weight. It is similar to but generally a little smaller than the Long-nosed Bandicoot, with which it sometimes co-exists.

The Southern Brown Bandicoot is a nationally threatened subspecies that was listed as endangered under the EPBC Act in April 2001.

The Southern Brown Bandicoot is endemic to mainland south-eastern Australia, where it occurs in New South Wales, Victoria and South Australia. Historically, it occupied a more or less continuous coastal band from Eyre Peninsula in South Australia to Sydney. It has contracted significantly in range, and in Victoria, now occurs in five essentially isolated “populations”, including one from south-east of Melbourne to Wilsons Promontory (Schmidt et al. 2008).

The Southern Brown Bandicoot utilises a range of native and exotic vegetation types with a densely vegetated ground-layer, and generally occurs within 50km of the coast, although it extends further inland in south-west Victoria. Individuals tend to be solitary and generally nocturnal, with a home range of between 0.5ha to 9ha reported (Schmidt et al. 2008). The minimum area required to support an individual or a population is not known.

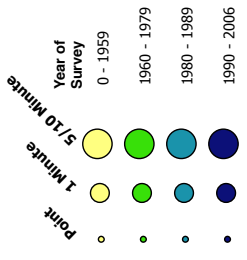
The Southern Brown Bandicoot is well known in the south-east of Melbourne and has been recorded in the Melbourne South-East Investigation Area and adjacent precincts (Figure 24). An important population occurs at the Royal Botanic Gardens Cranbourne, where it is protected by a predator-proof fence. This is the largest population known within the Melbourne area. The species does not occur in the Melbourne North or Melbourne West Investigation Areas.

FIGURE 23. SURVEY RECORDS OF GREY-HEADED FLYING-FOX (*Pteropus poliocephalus*)

Department of Sustainability and Environment

Victorian Wildlife Atlas Species' Survey Records

Fully validated & published:



Note: Species' Survey Symbols

The larger the symbol the less spatially accurate the survey record. The Point records (smallest circles) are spatially accurate, however the larger circles represent a record from somewhere within the 5/10 minute grid. For example, the largest yellow circle may represent a species seen 'somewhere' in the Melbourne Area.

Other Species' Survey Records

GAA Survey (08/09)

Proposed OMR

Proposed RRL

Urban Growth Boundary

Proposed Urban Growth Boundary

Proposed Precinct Structure

Planning Areas

Remain areas

Native Vegetation

Artificial Impoundment

Highly likely grassy

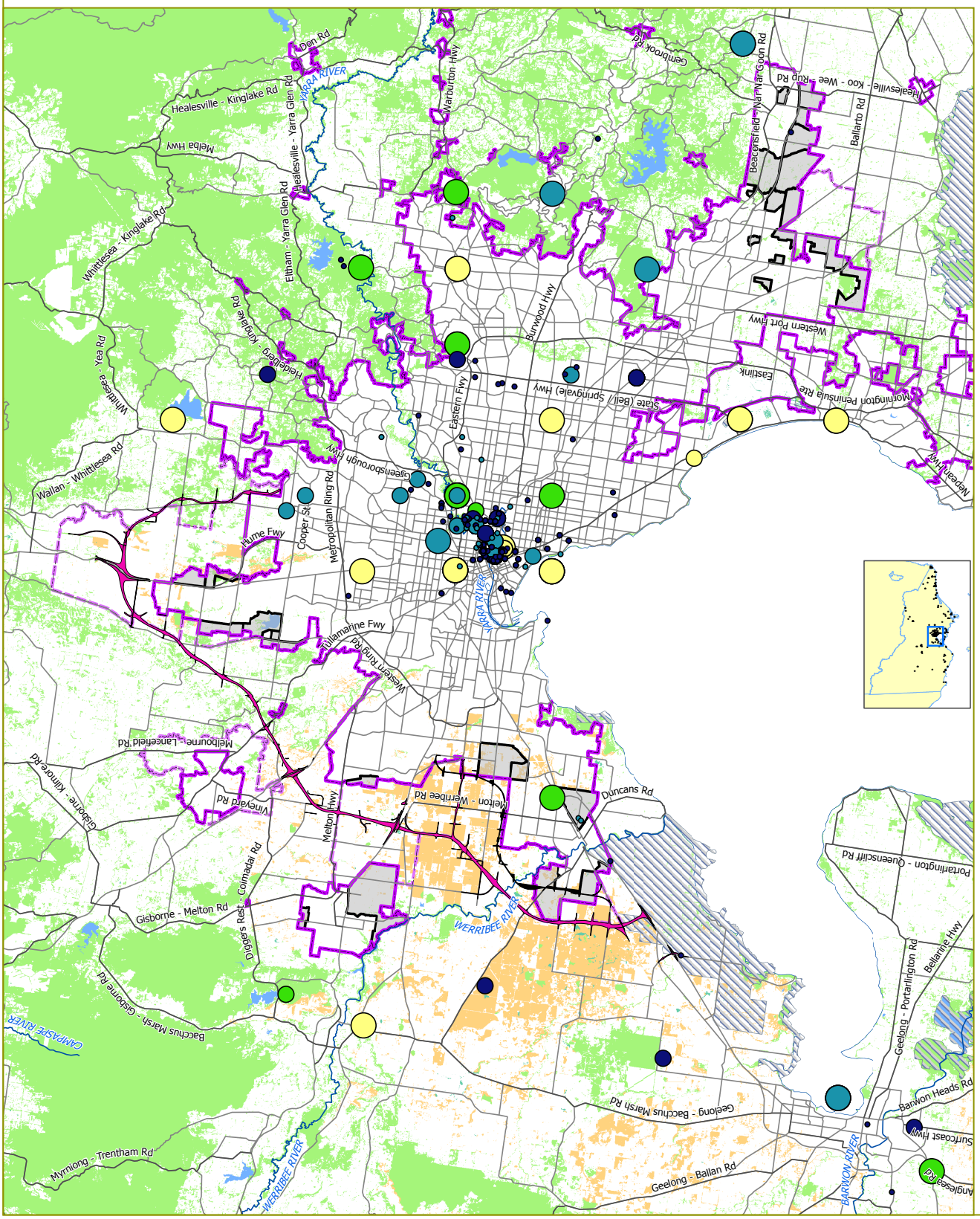
Highly likely woody or structurally modified

Wetland habitat

Data Source: Corporate Spatial Data Library, Dept. of Sustainability & Environment (DSE)

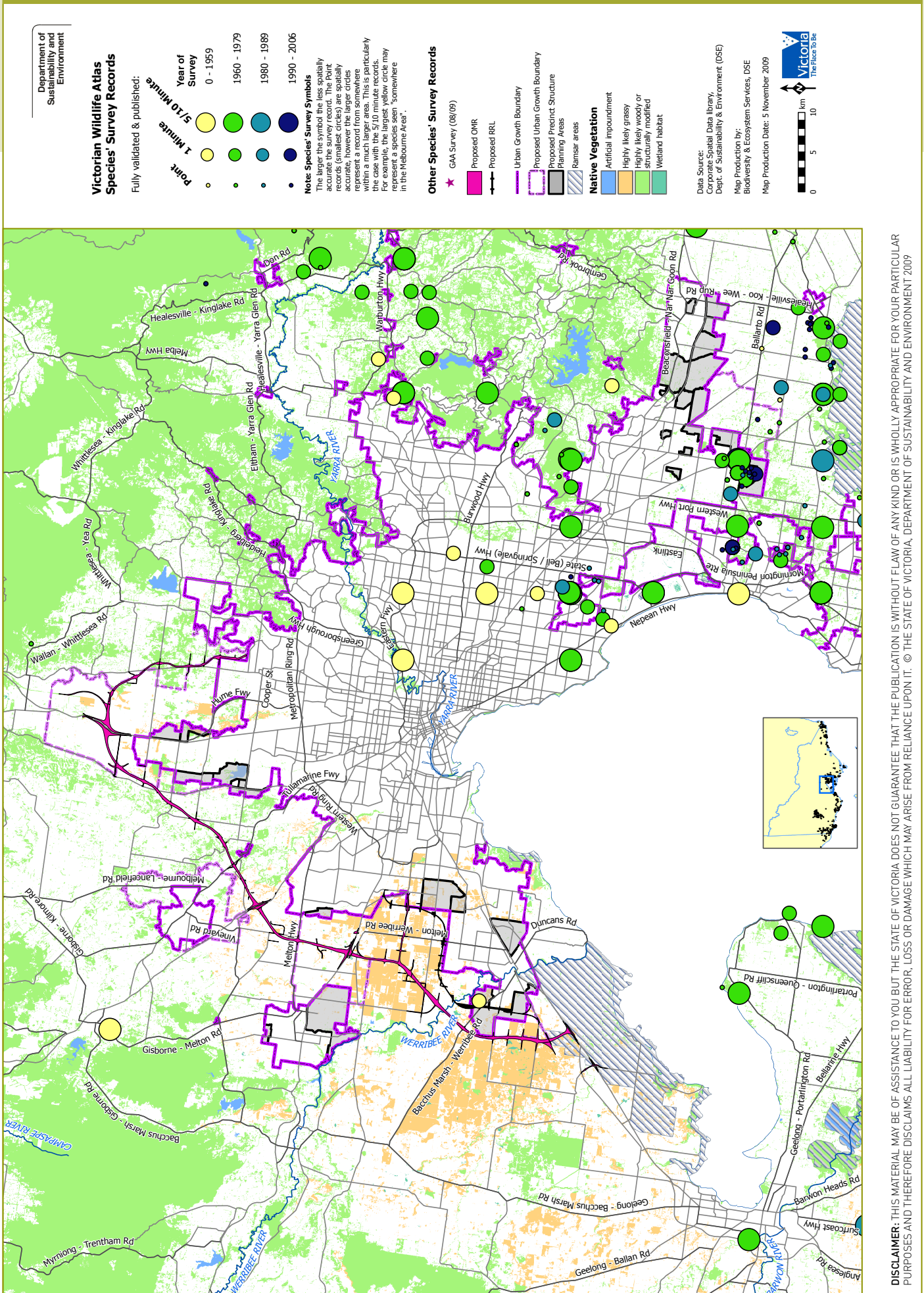
Map Production by: Biodiversity & Ecosystem Services, DSE

Map Production Date: 5 November 2009



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FIGURE 24. SURVEY RECORDS OF SOUTHERN BROWN BANDICOOT (*Isodon obesulus obesulus*)



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AUSTRALIAN PAINTED SNIPE

The Australian Painted Snipe (*Rostratula australis*) is a stocky wading bird around 25cm in length (Department of the Environment, Water, Heritage and the Arts 2009f). It is listed as vulnerable, migratory and marine under the EPBC Act.

Australian Painted Snipe is usually found in shallow inland wetlands, either freshwater or brackish, which are either permanently or temporarily filled (Department of the Environment, Water, Heritage and the Arts 2009f). It is a cryptic bird that is hard to see and often overlooked (Department of the Environment, Water, Heritage and the Arts 2003). It has been recorded in two locations in the south-west of the Melbourne West Investigation Area (Birds Australia 2009) (Figure 25).

SWIFT PARROT

The Swift Parrot (*Lathamus discolor*) is a small, fast-flying parrot found in eucalypt forests in south eastern Australia (Swift Parrot Recovery Team 2001). It was listed as endangered under the EPBC Act in July 2000.

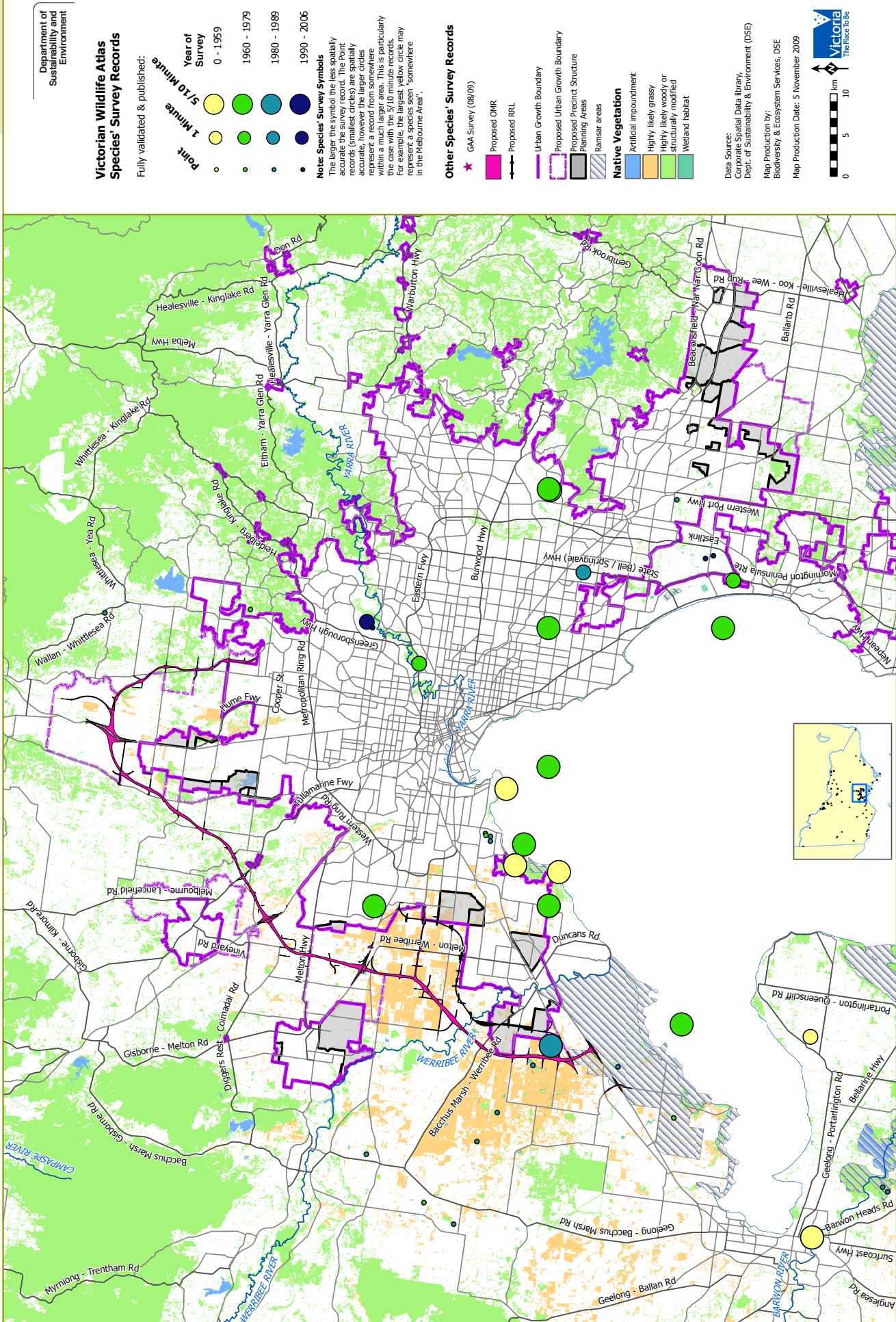
Swift Parrots breed in Tasmania and migrate to mainland Australia in autumn. During winter it is semi-nomadic, foraging for lerps or nectar in flowering eucalypts, mainly in the Box-Ironbark Forests and woodlands inland of the Great Dividing Range in Victoria and New South Wales (Swift Parrot Recovery Team 2001) (Figure 26). However, there are a few records each year from suburban Melbourne, and in the dry forests and woodlands of the Melbourne and Geelong districts (Swift Parrot Recovery Team 2001). Within the Greater Melbourne area, its favoured forage trees are Grey Box (*Eucalyptus microcarpa*). However, during poor flowering seasons, Swift Parrots may forage for lerps on Red Gums (*Eucalyptus camaldulensis*).

GROWLING GRASS FROG

The Growling Grass Frog or Southern Bell Frog (*Litoria raniformis*) is a large frog up to 10cm in length, varying from dull olive to bright emerald-green with irregular golden-bronze blotches (Clemann and Gillespie 2007). It occurs in south-eastern Australia, including South Australia, Victoria, Tasmania, New South Wales and the Australian Capital Territory. It was listed as vulnerable under the EPBC Act in July 2000.

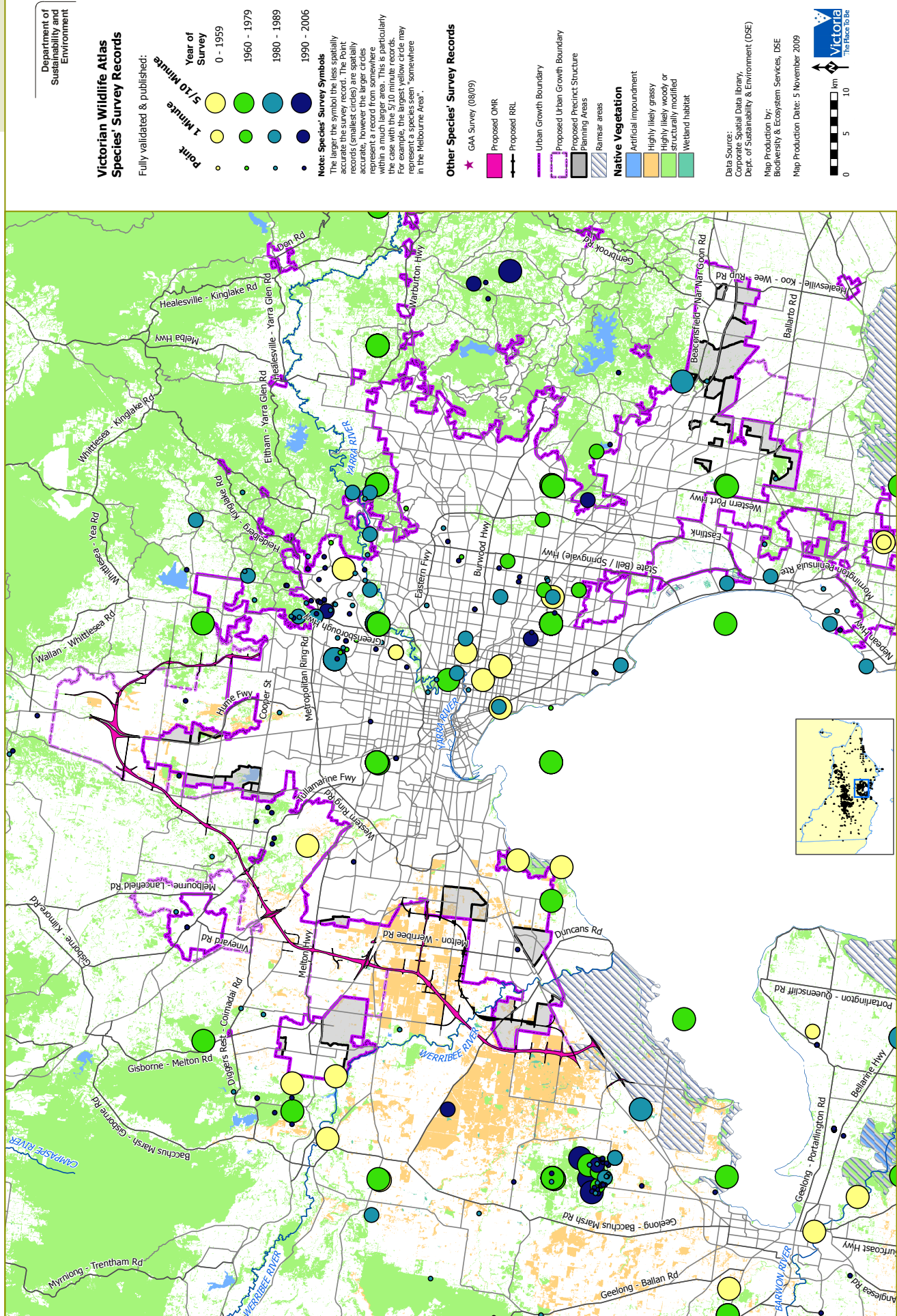
The Growling Grass Frog's habitat is permanent or seasonally flooded slow moving waterbodies for breeding, aquatic vegetation for shelter and foraging, and logs and debris for over-wintering. The species is known to utilise artificial habitat such as farm dams, flooded quarries and constructed wetlands. Adults are known to travel two kilometers between waterbodies, sometimes travelling up to one kilometer in 24 hours using vegetated areas, such as paddocks and drainage lines, for movement (Clemann and Gillespie 2007). Viable populations rely on a matrix of aquatic and terrestrial habitat across the landscape (Department of the Environment, Water, Heritage and the Arts 2008).

FIGURE 25. SURVEY RECORDS OF AUSTRALIAN PAINTED SNIPE (*Rostratula australis*)



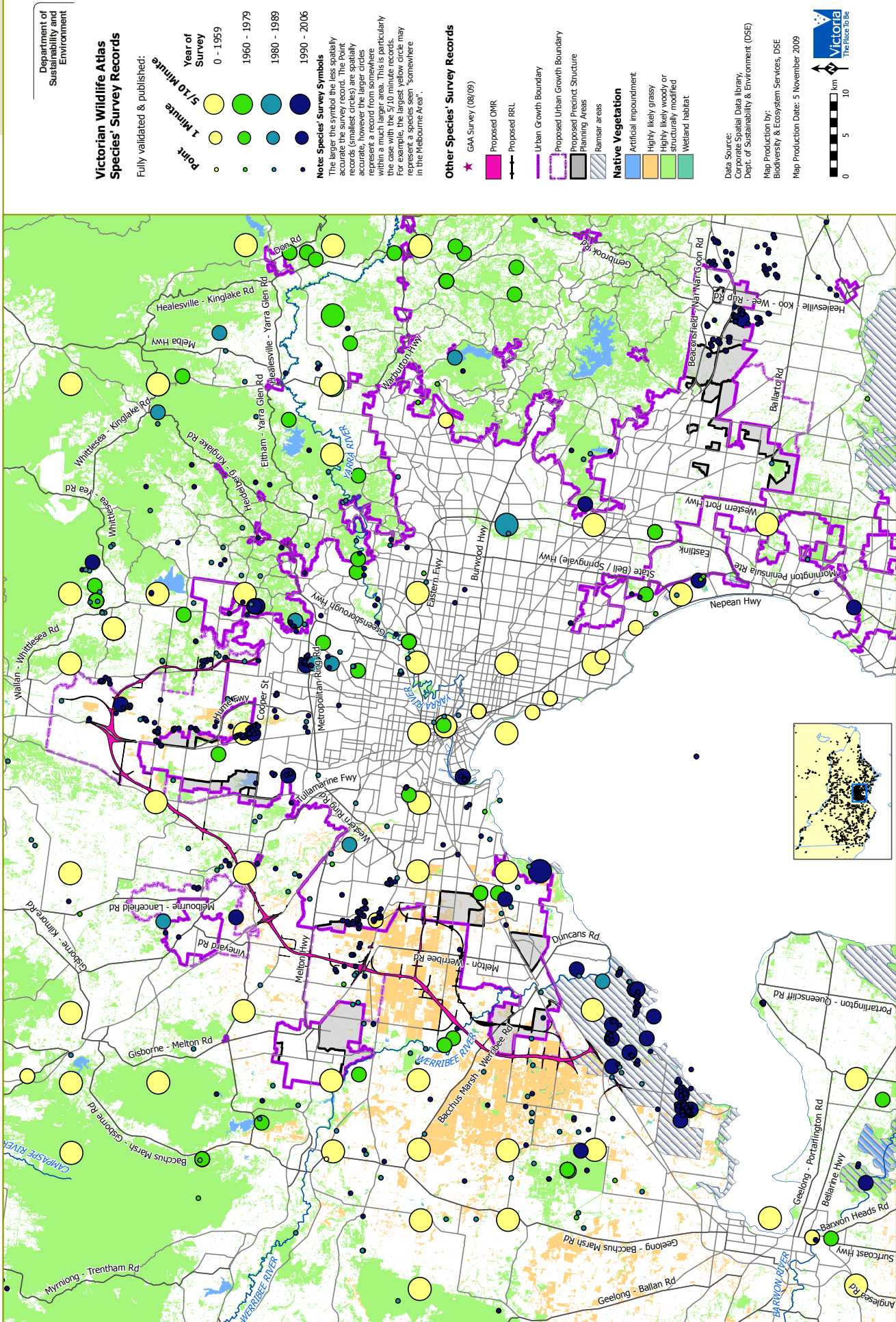
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FIGURE 26. SURVEY RECORDS OF SWIFT PARROT (*Lathamus discolor*)



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FIGURE 27. SURVEY RECORDS OF GROWLING GRASS FROG (*Litoria raniformis*)



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There are currently many sites in Victoria where the Growling Grass Frog is known to occur, including many in the Greater Melbourne area (Figure 27). Within the study area, an important population occurs along the Merri Creek within the Melbourne North Investigation Area and also along the nearby Darebin Creek. The species has also been recorded sporadically in the Melbourne West Investigation Area and in the area proposed for the Western Grassland Reserves, generally in association with key waterways. It is well known in the south-east of Melbourne. It has been recorded within proposed precincts immediately east of the Melbourne South-East Investigation Area and there are extensive populations in the Pakenham area to the immediate north-east, within the existing Urban Growth Boundary (Figure 27). These Pakenham populations probably meet the criteria for an important population (Department of the Environment, Water, Heritage and the Arts 2008). Despite not being recorded within the Melbourne South-East Investigation Area, there is suitable habitat (natural and artificial) and the species is assumed to be present.

AUSTRALIAN GRAYLING

The Australian Grayling (*Prototroctes mareana*) is small to medium-sized, slender fish endemic to south-eastern Australia (Backhouse et al. 2008). The species is listed as vulnerable under the EPBC Act.

Australian Grayling migrate between rivers, their estuaries and coastal seas, so rely on free access to a range of habitat for survival (Backhouse et al. 2008). This species has been recorded within Cardinia Creek, which flows through the Melbourne South-East Investigation Area and adjacent proposed precincts (Backhouse et al. 2008) (Figure 28).

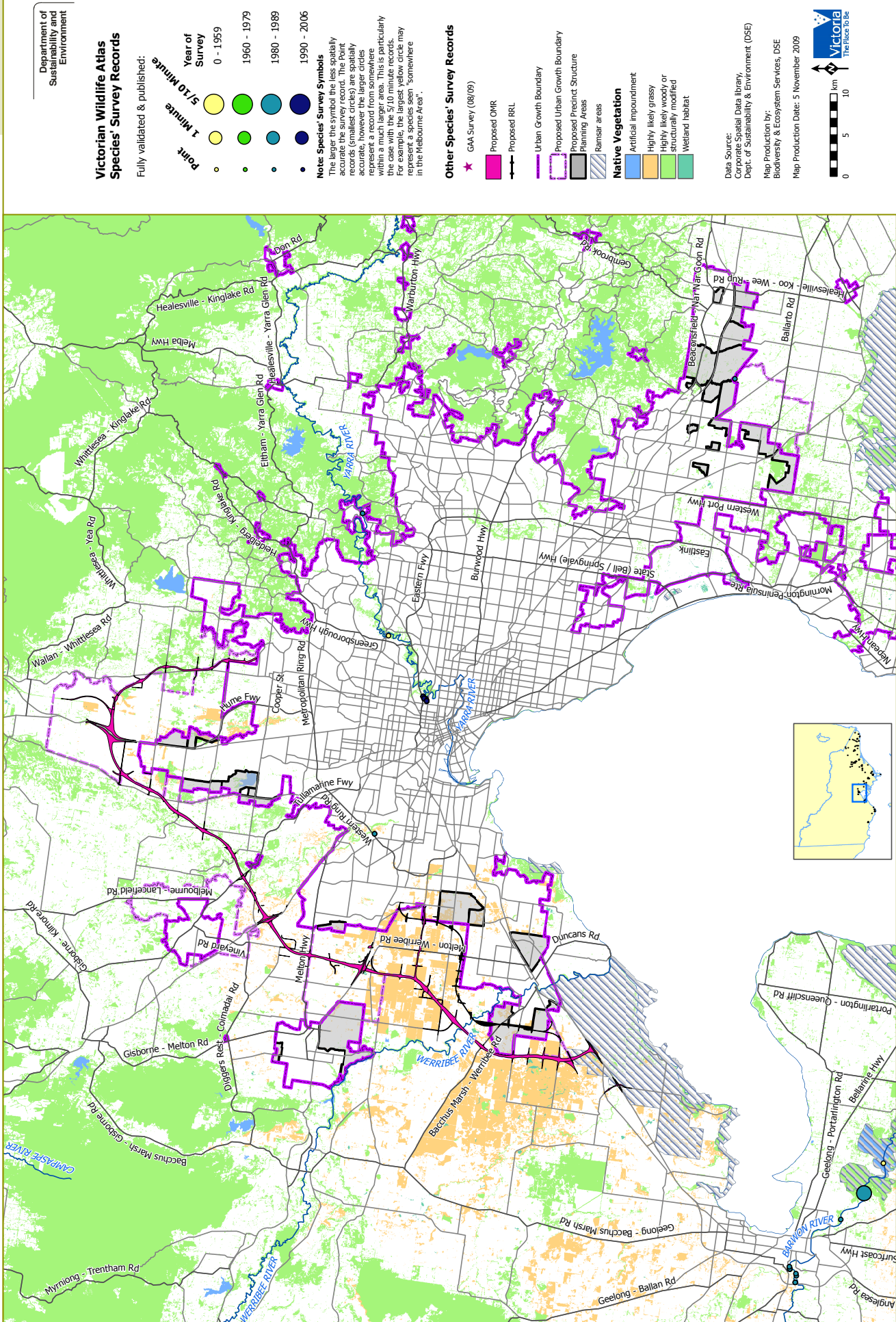
DWARF GALAXIAS

The Dwarf Galaxias (*Galaxiella pusilla*) is a tiny freshwater fish endemic to south-east Australia (Saddler et al. 2008) (Figure 3). The species is listed as vulnerable under the EPBC Act, and as threatened under the FFG Act.

The Dwarf Galaxias typically occurs in slow flowing and still, shallow, freshwater habitats such as swamps, drains and the backwaters of streams and creeks (Cadwallader & Backhouse 1983; McDowall 1996; Hammer 2002 in Saddler et al. 2008). Some wetlands where it occurs may partially or completely dry up during summer (Humphries 1986 in Saddler et al. 2008). Such wetlands rely on seasonal flooding and linkages to other sites where the species occurs for habitat and population replenishment. The degree of wetland connectivity to a more permanent waterbody (such as river or creek) may be vital to the long term survival of this species, particularly during extended dry conditions (Saddler et al. 2008).

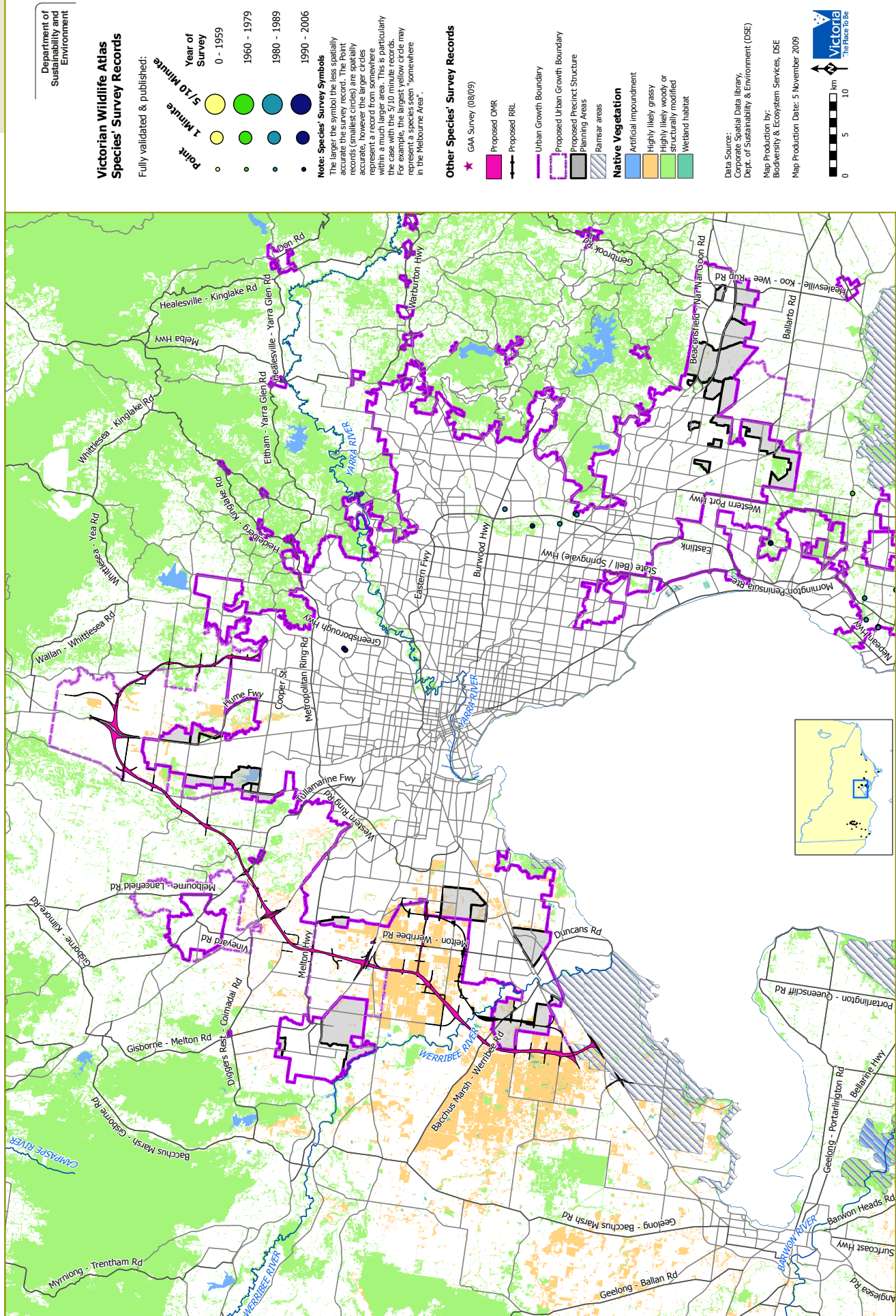
The Dwarf Galaxias is still widely distributed, but populations are fragmented and patchy across the landscape within the Greater Melbourne area (Figure 29).

FIGURE 28. SURVEY RECORDS OF AUSTRALIAN GRAYLING (*Prototroctes maraena*)



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FIGURE 29. SURVEY RECORDS OF DWARF GALAXIAS (*Galaxiella pusilla*)



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MAROON LEEK-ORCHID

Maroon Leek-orchid (*Prasophyllum frenchii*) is a tall, slender, deciduous terrestrial orchid endemic to south-eastern Australia (Duncan *unpublished*). Although not a grassland specialist, grasslands and grassy woodlands are important habitats for the species (Jeanes and Backhouse 2006). It is listed as endangered under the EPBC Act and threatened under the FFG Act.

The Maroon Leek-orchid is currently known only from seven populations containing about 1,000 plants. These include approximately 100 plants in a rail reserve at Clyde (Duncan *unpublished*) (Figure 30). Part of the population at Clyde is within the South-East Investigation Area.

RIVER SWAMP WALLABY-GRASS

River Swamp Wallaby-grass (*Amphibromus fluitans*) is a slender aquatic or semi-aquatic perennial grass. It is listed as vulnerable under the EPBC Act.

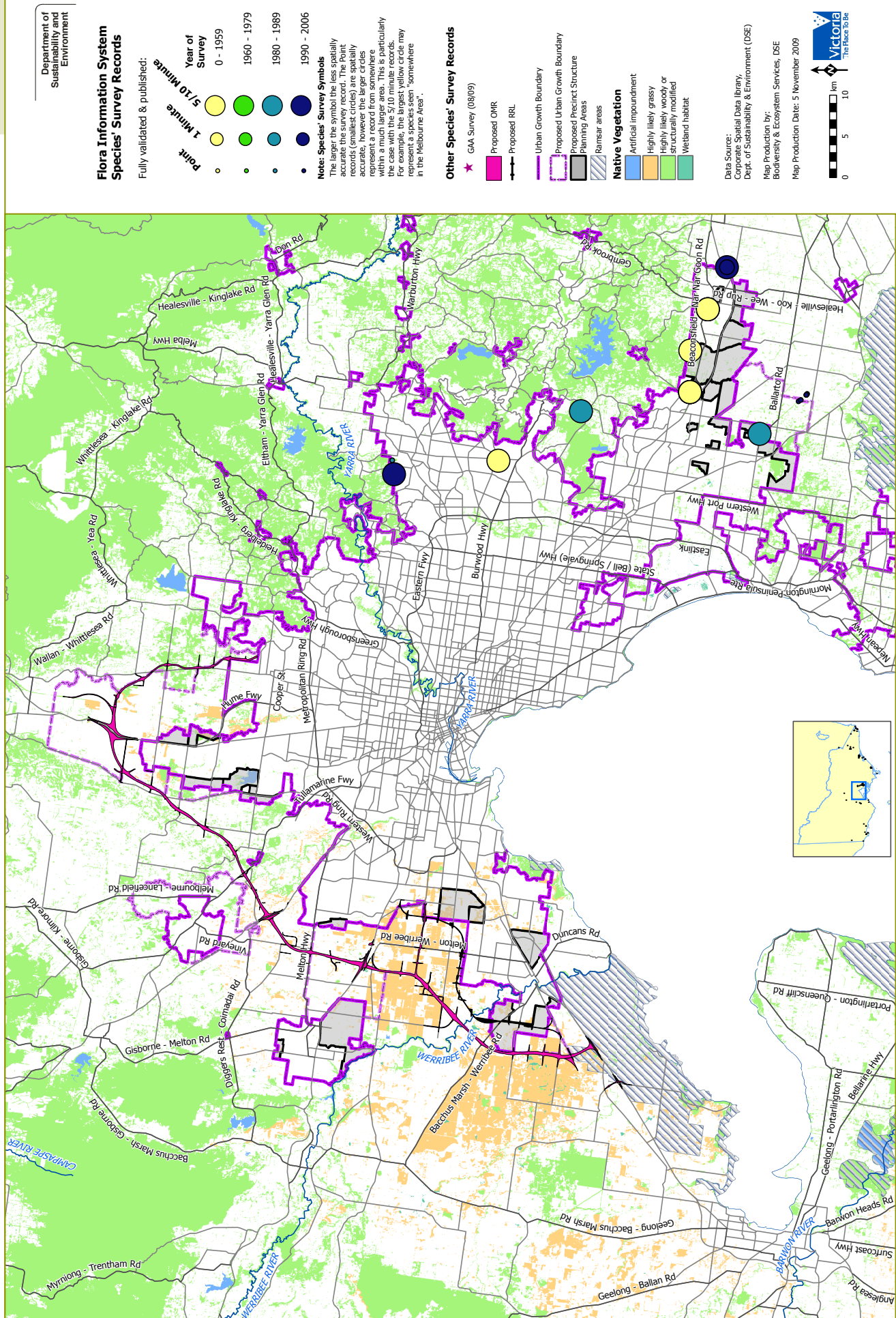
Numerous populations of River Swamp Wallaby-grass exist in northern Victoria. It is also known in several localities in the south Gippsland, Melbourne (Lysterfield, Werribee), Ballarat, and Portland-Casterton areas (Threatened Species Scientific Committee 2008a). It grows mostly in permanent swamps. This species has also been recorded within the Melbourne West Investigation Area (Figure 31). It most likely occurs in the wetlands to the south of Ballan Road (Biosis 2009).

SWAMP EVERLASTING

Swamp Everlasting (*Xerochrysum palustre*) is a perennial herb in the daisy family (Carter and Walsh 2006). It is listed as vulnerable under the EPBC Act and threatened under the FFG Act (where it is listed as *Bracteantha* sp. aff. *subundulata*).

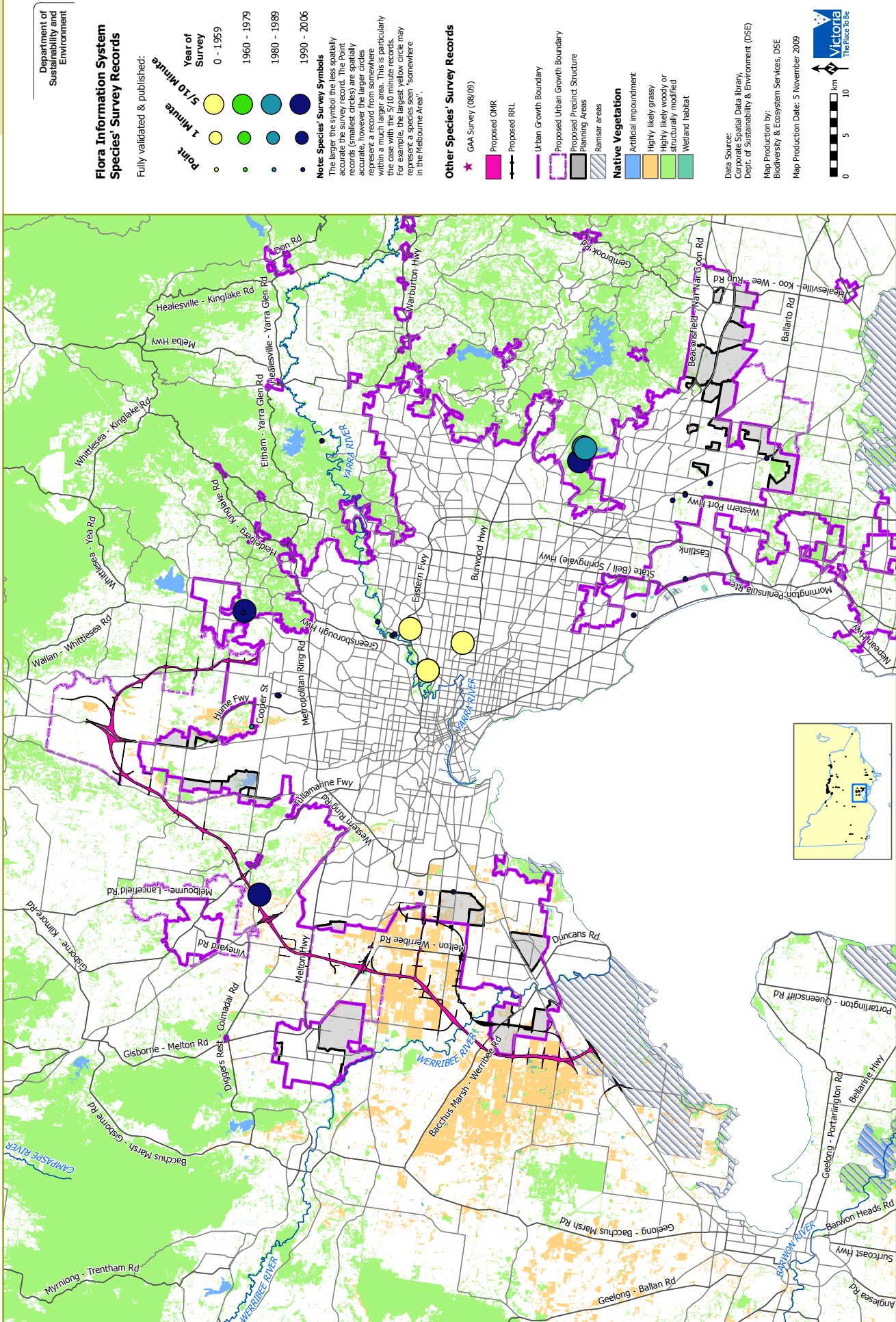
The Swamp Everlasting grows in wetlands including sedge-swamps and shallow freshwater marshes, often on heavy black clay soils (Oberon and Walsh 2006). This species has been recorded on the edge of the Melbourne South-East Investigation Area near Clyde (Figure 32).

FIGURE 30. SURVEY RECORDS OF MAROON LEEK-ORCHID (*Prasophyllum frenchii*)



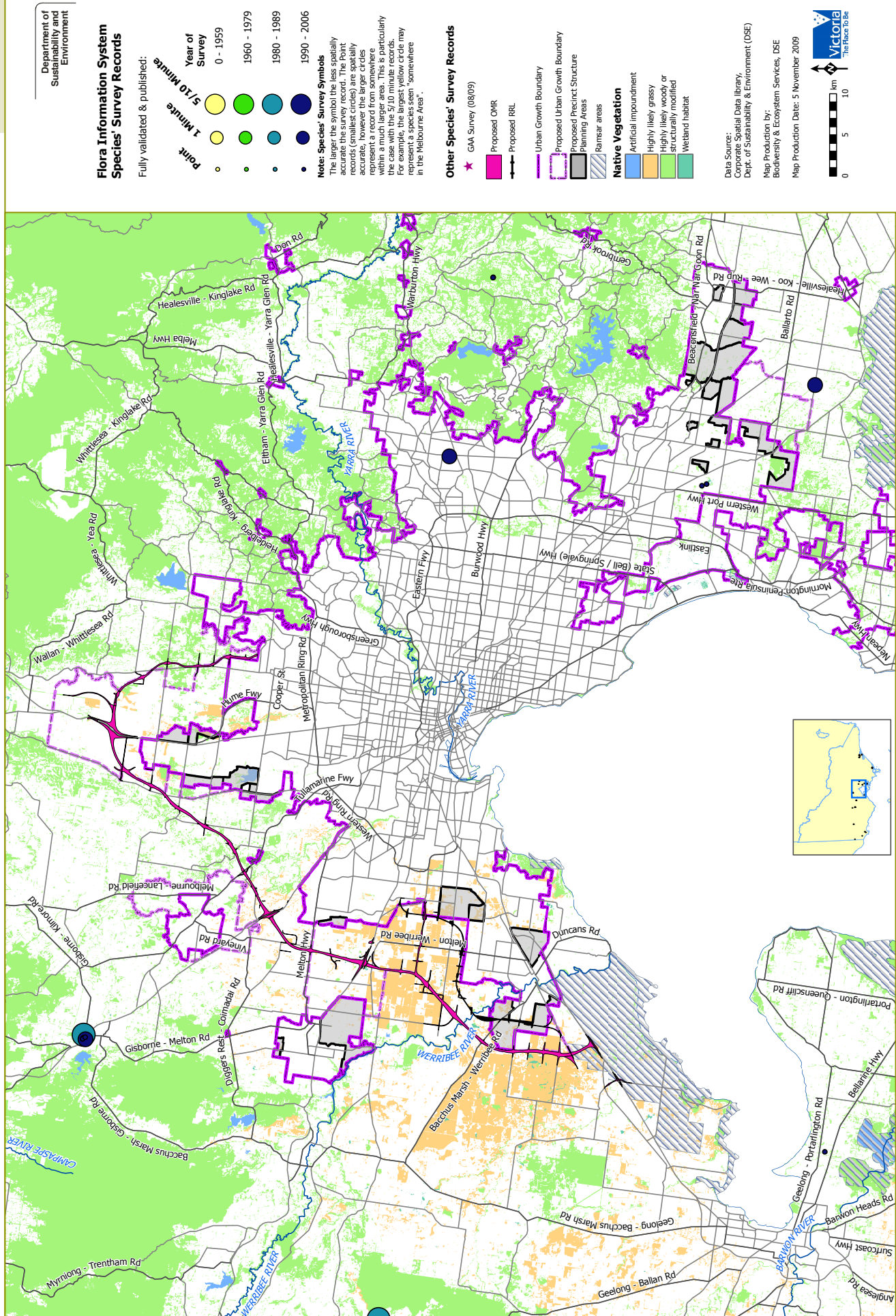
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FIGURE 31. SURVEY RECORDS OF RIVER SWAMP WALLABY-GRASS (*Amphibromus fluitans*)



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FIGURE 32. SURVEY RECORDS OF SWAMP EVERLASTING (*Xerochrysum palustre*)



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TABLE 1: THREATENED FAUNA SPECIES LISTED UNDER THE EPBC ACT IDENTIFIED AS POTENTIALLY OCCURRING WITHIN THE STUDY AREA

Species	EPBC listing	Likelihood of regular occurrence within study area			Comments
		West Investigation Area	North Investigation Area	South-East Investigation Area	
MAMMALS					
Eastern-barred Bandicoot (Mainland) <i>Perameles gunnii</i> unnamed subsp.	Endangered	Negligible	Negligible	Negligible	The only current population near Melbourne is a colony established for captive breeding at Woodlands Historic Park near Tullamarine Airport. No other recent records from study area.
Grey-headed Flying-fox <i>Pteropus poliocephalus</i>	Vulnerable	Low-moderate	Low-moderate	Low-moderate	Can be assumed to be an occasional visitor in suitable foraging habitat in study area. Refer to text for discussion.
Leadbeater's Possum <i>Gymnobelideus leadbeateri</i>	Endangered	Negligible	Negligible	Negligible	Not known in study area and no suitable habitat.
Long-nosed Potoroo <i>Potorous longipes</i>	Vulnerable	Negligible	Negligible	Negligible	Not known in study area and no suitable habitat.
Smoky Mouse <i>Pseudomys fumeus</i>	Endangered	Negligible	Negligible	Negligible	Not known in study area and no suitable habitat.
Southern Brown Bandicoot <i>Isodon obesulus obesulus</i>	Endangered	Negligible	Negligible	Moderate	Recent records south-east of Melbourne (see map), including in Cranbourne area. Importance of particular sites will need to be determined. Refer to text for discussion.
Spotted-tail Quoll <i>Dasyurus maculatus maculatus</i>	Endangered	Negligible	Negligible	Negligible	No recent records in study area and no suitable habitat.
BIRDS					
Australian Painted Snipe <i>Rostratula australis</i>	Vulnerable	Moderate	Low	Moderate	Previously recorded within the study area. Refer to text for discussion.
Helmeted Honeyeater <i>Lichenostomus melanops cassidix</i>	Endangered	Negligible	Negligible	Negligible	No recent records in study area and no suitable habitat.

Species	EPBC listing	Likelihood of regular occurrence within study area			Comments
		West Investigation Area	North Investigation Area	South-East Investigation Area	
Orange-bellied Parrot <i>Neophema chrysogaster</i>	Critically endangered (marine/migratory)	Low	Negligible	Low	Can be assumed to be an occasional visitor in suitable habitat in study area, however important habitat for the species highly unlikely to occur in Investigation Areas.
Plains-wanderer <i>Pedionomus torquatus</i>	Vulnerable	Low-moderate	Low	Negligible	Previously recorded in study area. Preferred habitat is grassland vegetation. Refer to text for discussion.
Superb Parrot <i>Polytelis swainsonii</i>	Vulnerable	Negligible	Negligible	Negligible	May be an occasional visitor in suitable habitat in study area, however recorded individuals most likely to be escapees.
Swift Parrot <i>Lathamus discolor</i>	Endangered	Low	Low-moderate	Low	Suitable foraging habitat present in the Melbourne North Investigation Area, but only very few individuals observed during annual surveys. Refer to text for discussion.
Regent Honeyeater <i>Anthochaera phrygia</i>	Endangered (marine/migratory)	Negligible	Negligible	Negligible	Known breeding sites to the north-east of Melbourne (Plenty Gorge and Warrandyte State Park) but not within study area where there is insufficient suitable habitat.
REPTILES					
Corangamite Water Skink <i>Eulamprus tympanum marnieae</i>	Endangered	Negligible	Negligible	Negligible	Restricted to the basalt plains of south-western Victoria, between Colac in the south-east and Lake Bolac in the north-west (Robertson 1998).
Grassland Earless Dragon <i>Tympanocryptis pinguicollis</i>	Endangered	Low	Low	Negligible	The last confirmed sightings in Victoria were from the Rockbank area in 1968 and the Geelong area in 1969 (Robertson and Evans 2004). Sightings between 1988 and 1990 not confirmed despite survey effort. Refer to text for discussion.
Striped Legless Lizard <i>Delmar impar</i>	Vulnerable	High	High	Negligible	Can be assumed to be present as resident or regular user of suitable habitat. Often difficult to detect during general/standard field assessments but habitat requirements well understood. Refer to text for discussion.

Species	EPBC listing	Likelihood of regular occurrence within study area			Comments
		West Investigation Area	North Investigation Area	South-East Investigation Area	
AMPHIBIANS					
Growling Grass Frog <i>Litoria raniformis</i>	Vulnerable	High	High	High	Can be assumed to be present as resident or regular user of suitable habitat. Relatively easily detected during general/standard field assessments. Refer to text for discussion.
FISH					
Australian Grayling <i>Prototroctes maraena</i>	Vulnerable	Negligible	Negligible	High	This species has been recorded within in Cardinia Creek which flows through the Melbourne South-East Investigation Area and adjacent proposed precincts (Backhouse et al. 2008). Refer to text for discussion.
Dwarf Galaxias <i>Galaxiella pusilla</i>	Vulnerable	Negligible	Negligible	Moderate-high	Likely to occur in creeks or wetlands within the Melbourne South-East Investigation Area. Refer to text for discussion.
Macquarie Perch <i>Macquaria australasica</i>	Endangered	Negligible	Negligible	Negligible	In Victoria, Macquarie Perch is thought to be confined to the Murray-Darling Basin (Department of the Environment, Water, Heritage and the Arts 2009a) outside the study area.
Murray Cod <i>Maccullochella peelii peelii</i>	Vulnerable	Negligible	Negligible	Negligible	The species occurs naturally in the waterways of the Murray Darling Basin (Department of the Environment, Water, Heritage and the Arts 2009b) outside the study area.
Yarra Pygmy-perch <i>Nannoperca obscura</i>	Vulnerable	Negligible	Negligible	Negligible	Populations in the Yarra River and Dandenong Creek presumed extinct. Unlikely to occur within creeks and rivers in the study area.
INVERTEBRATES					
Golden Sun Moth <i>Synemon plana</i>	Critically endangered	High	High	Low	Can be assumed to be present as resident or regular user of suitable habitat. Importance of particular sites will need to be determined. Refer to text for discussion.
Giant Gippsland Earthworm <i>Megascolides australis</i>	Vulnerable	Negligible	Negligible	Negligible	Not known in study area and no suitable habitat.

TABLE 2: THREATENED FLORA SPECIES LISTED, OR NOMINATED FOR LISTING, UNDER THE EPBC ACT THAT HAVE BEEN IDENTIFIED AS POTENTIALLY OCCURRING WITHIN THE STUDY AREA

Species	EPBC listing	Likelihood of Occurrence within Study Area			Comments
		West Investigation Area	North Investigation Area	South-East Investigation Area	
Adamson's Blown-grass <i>Lachnagrostis adamsonii</i>	Endangered	Low	Negligible	Negligible	Some recent records from Greater Melbourne area, but no recent records in the study area. Refer to text for discussion.
Austral Toadflax <i>Thesium australe</i>	Vulnerable	Low	Low	Negligible	Possibly extinct in Melbourne. No recent records from the study area. Refer to text for discussion.
Basalt Greenhood <i>Pterostylis basaltica</i>	Endangered	Negligible	Negligible	Negligible	No recent records from the study area. Has a very localised distribution and is now known in one locality in western Victoria (Ingeme and Backhouse 1999).
Basalt Peppergrass <i>Lepidium hyssopifolium</i>	Endangered	Low	Low	Negligible	One recent record from Greater Melbourne area, but no recent records in the study area (see Figure 32). Refer to text for discussion.
Bellarine Yellow-Gum <i>Eucalyptus leucoxydon</i> subsp. <i>bellarinensis</i>	Being assessed for listing	Negligible	Negligible	Negligible	The Bellarine Peninsula supports the only known locations of this subspecies (Department of Sustainability and Environment 2003a). No records from the study area.
Button Wrinklewort <i>Rutidosia leptorrhynchoides</i>	Endangered	Moderate	Low	Negligible	Some recent records from within the study area. Refer to text for discussion.
Charming Spider-orchid <i>Arachnorchis amoena</i> (syn. <i>Caladenia amoena</i>)	Endangered	Negligible	Negligible	Negligible	Known from two populations on public land at Plenty and private land at Wattle Glen. Previous range across the Greensborough-Plenty-Hurstbridge area to the north-east of Melbourne (Todd 2000). No records from within study area and lack of suitable habitat.
Clover Glycine <i>Glycine latrobeana</i>	Vulnerable	Moderate	Moderate	Low	Grows mainly in grasslands and grassy woodlands (Jeanes 1996). Found in Greater Melbourne area. Refer to text for discussion.

Species	EPBC listing	Likelihood of Occurrence within Study Area			Comments
		West Investigation Area	North Investigation Area	South-East Investigation Area	
Cream Spider-orchid <i>Arachnorchis orientalis</i> (syn. <i>Caladenia fragrantissima</i> ssp. <i>orientalis</i>)	Endangered	Negligible	Negligible	Low	Previous range extended from the eastern shores of Port Phillip Bay to Wilsons Promontory. Grows in coastal environments. Now known at Rosebud, Wonthaggi, Cape Patterson and Walkerville (Todd 2000). No recent records from the study area, but may potentially occur in Cranbourne area. Refer to text for discussion.
Curly Sedge <i>Carex tasmanica</i>	Vulnerable	Low	High	Low	Is now known in only nine sites of remnant grasslands in Victoria: at Craigieburn; Lake Condah; and near Portland (Department of Sustainability and Environment 2004a). Recent records from within the Greater Melbourne area including the study area. Importance of particular sites will need to be determined. Refer to text for discussion.
Fragrant Leek-orchid <i>Prasophyllum suaveolens</i>	Endangered	Negligible	Negligible	Negligible	Presumed extinct in Melbourne. Now known in only five populations in western Victoria (Department of Sustainability and Environment 2003b).
Gorae Leek-orchid <i>Prasophyllum diversiflorum</i>	Endangered	Negligible	Negligible	Negligible	No records from study area. Known from six isolated populations in south west Victoria, extending from the Cobboboonee State Forest in the west, to Orford in the south and private land near Glenthompson in the north (Ingeme and Govanstone 1999).
Green-striped Greenhood <i>Pterostylis chlorogramma</i>	Vulnerable	Negligible	Negligible	Low	Grows in moist areas in open forest. No records from the study area (see Figure 35), but may potentially occur in Cranbourne area. Refer to text for discussion.
Hoary Sunray <i>Leucochrysum albicans</i> var. <i>tricolor</i>	Endangered	Negligible	Negligible	Negligible	Presumed extinct in the Melbourne area. No recent records despite being highly conspicuous when flowering.
Large-fruit Groundsel <i>Senecio macrocarpus</i>	Vulnerable	High	Low	Low	Found in grasslands and grassy woodlands west of Melbourne (Department of Sustainability and Environment 1996). Recent records from within the study area. Refer to text for discussion.

Species	EPBC listing	Likelihood of Occurrence within Study Area			Comments
		West Investigation Area	North Investigation Area	South-East Investigation Area	
Maroon Leek-orchid <i>Prasophyllum frenchii</i>	Endangered	Negligible	Negligible	Moderate-high	Known from Melbourne South-East Investigation Area at Clyde near Cranbourne. Refer to text for discussion.
Matted Flax-lily <i>Dianella amoena</i>	Endangered	High	High	High	Many records from within the Greater Melbourne area including the Melbourne South-East Investigation Area (see map). Refer to text for discussion.
Metallic Sun-orchid <i>Thelymitra epipactoides</i>	Endangered	Negligible	Negligible	Low	Known with certainty from eight main populations in Victoria in the south-west and Gippsland (Coates et al. 2003). There are no recent records from the study area (see map), but may potentially occur in Cranbourne area based on habitat requirements. Refer to text for discussion.
River Swamp Wallaby-grass <i>Amphibromus fluitans</i>	Vulnerable	High	High	High	Recent records in the Greater Melbourne area, including the study area. Importance of particular sites will need to be determined. Refer to text for discussion.
Round-leaf Pomaderris <i>Pomaderris vacciniifolia</i>	Being assessed for listing	Negligible	Negligible	Negligible	The species is known to occur to the north-east of Melbourne in the Eltham-Kinglake-Castella area and in Gippsland (Cameron 2005). No populations or suitable habitat known in the study area.
Small Golden Moths <i>Diuris basaltica</i>	Endangered	High	Low	Negligible	Recent records from the Greater Melbourne area, including the study area. Refer to text for discussion.
Southern Shepherd's Purse <i>Ballantinia antipoda</i>	Endangered	Negligible	Negligible	Negligible	Presumed extinct from Melbourne area. Now known only from several sites in the Mount Alexander Regional Park, 30km south of Bendigo (Alexander 1999).
Spiny Peppercross <i>Lepidium aschersonii</i>	Vulnerable	Low	Negligible	Negligible	Formerly widespread in western Victoria, only 14 stands in eight localities are known to exist in Victoria far from the study area: in the western district near Colac, and Lake Omeo at Benambra (Department of Sustainability and Environment 2004b).

Species	EPBC listing	Likelihood of Occurrence within Study Area			Comments
		West Investigation Area	North Investigation Area	South-East Investigation Area	
Spiny Rice-Flower <i>Pimelea spinescens</i> subsp. <i>spinescens</i>	Critically endangered	High	Moderate	Negligible	Recent records from study area (see Map). Relatively easily detected during general/standard field assessments. Refer to text for discussion.
Strzelecki Gum <i>Eucalyptus strzeleckii</i>	Vulnerable	Negligible	Negligible	Negligible	No records from Greater Melbourne area. Occurs east of Westernport Bay (Carter 2006) well outside the study area.
Sunshine Diuris <i>Diuris fragrantissima</i>	Endangered	Low	Negligible	Negligible	Known from only one secure site in Sunshine despite historical searches (Murphy et al. 2008). Highly unlikely to occur elsewhere due to grazing sensitivity. . Refer to text for discussion.
Swamp Everlasting <i>Xerochrysum palustre</i>	Vulnerable	Low	Low	Moderate	Scattered populations across western Victoria including one to the north and one to the south-east of Melbourne. Refer to text for discussion.
Swamp Fireweed <i>Senecio psilocarpus</i>	Vulnerable	Low	High	Negligible	Scattered populations across western Victoria including one to the north and one to the south-east of Melbourne. Refer to text for discussion.
Tall Astelia <i>Astelia australiana</i>	Vulnerable	Negligible	Negligible	Negligible	All 12 known colonies are within a relatively small area in the Powelltown-Beenak area of the Central Highlands, except for one colony in the Lavers Hill area of the Otway Ranges (Department of Sustainability and Environment 1991). No suitable habitat in the study area.
Trailing Hop-bush <i>Dodonaea procumbens</i>	Vulnerable	Negligible	Negligible	Negligible	Does not occur within the Greater Melbourne area and no suitable habitat in the study area.
Werribee Blue Box <i>Eucalyptus baueriana</i> subsp. <i>thalassina</i>	Being assessed for listing	Low	Negligible	Negligible	Not recorded in study area during recent surveys despite being highly conspicuous. Recorded outside of the Melbourne West Investigation Area.
White Star bush <i>Asterolasia asteriscophora</i> subsp. <i>albiflora</i>	Being assessed for listing	Negligible	Negligible	Negligible	This subspecies is known only from three localities in the Emerald-Avonleigh district of Victoria, which is outside the study area (Mole 2002).

5.4 LISTED MIGRATORY SPECIES AND THEIR HABITATS

5.4.1 SHOREBIRDS RECORDED WITHIN THE STUDY AREA

The shorebirds that are found in the Greater Melbourne area are primarily dependent on wetland or coastal habitats. Existing records indicate that shorebirds occur within the Melbourne West and Melbourne North Investigation Areas. It is likely that they also occur in the Melbourne South-East Investigation Area, but few surveys have been done in this area.

The most common species of shorebirds listed as migratory and/or marine under the EPBC Act that occur within the study area are:

- > Latham's Snipe *Gallinago hardwickii* (marine/migratory);
- > Masked Lapwing *Vanellus miles*;
- > Red-necked Stint *Calidrus ruficolis* (marine/migratory);
- > Sharp-tailed Sandpiper *Calidrus acuminata* (marine/migratory);
- > Black-winged Stilt *Himantopus himantopus* (marine);
- > Common Greenshank *Tringa nebularia* (migratory);
- > Red-capped Plover *Charadrius ruficapillus* (marine);
- > Curlew Sandpiper *Calidrus ferruginea* (marine/migratory); and
- > Marsh Sandpiper *Tringa stagnatilis* (marine/migratory).

No known nationally significant areas for shorebirds occur within the Investigation Areas, although migratory and resident shorebirds have been observed within the proposed development areas and it is possible that nationally significant numbers of shorebirds use some of the wetlands present.

The species most likely to occur in nationally significant numbers within the proposed development areas is Latham's Snipe.

5.4.2 WETLAND BIRDS RECORDED WITHIN THE STUDY AREA

Other than the shorebirds discussed above, a number of wetland-dependent bird species listed as marine and/or migratory under the EPBC Act that have been recorded within the Investigation Areas. These are:

- > Australasian Shoveler *Anas rhynchotis* (migratory);
- > Australian Pelican *Pelecanus conspicillatus* (marine);
- > Australian Reed-Warbler *Acrocephalus australis* (migratory);
- > Australian White Ibis *Threskiornis molucca* (marine);
- > Blue-billed Duck *Oxyura australis* (migratory);
- > Cape Barren Goose *Cereopsis novaehollandiae* (marine);
- > Cattle Egret *Ardea ibis* (migratory);
- > Crested Tern *Sterna bergii* (marine);
- > Eastern Great Egret *Ardea modesta* (marine/migratory);
- > Fairy Tern *Sterna niris* (marine);
- > Hardhead *Aythya australis* (migratory);
- > Musk Duck *Biziura lobata* (marine);
- > Pied Cormorant *Phalacrocorax varius* (migratory);
- > Purple Swamphen *Porphyrio porphyrio* (migratory);
- > Royal Spoonbill *Platalea regia* (migratory); and
- > Straw-necked Ibis *Threskiornis spinicollis* (marine).

A further 22 bird species associated with wetlands have been recorded within 10km of the development areas.

Figure 33 shows survey records of migratory species within and near the study area.

5.5 RAMSAR WETLANDS OF INTERNATIONAL IMPORTANCE

Three Ramsar wetlands listed under the EPBC Act occur within, or near, the study area (Figure 33). These are:

- > Port Phillip Bay (Western Shoreline) and Bellarine Peninsula;
- > Edithvale-Seaford Wetlands; and
- > Western Port.

These sites are described below with reference to their ecological character, defined in Ramsar Convention Resolution IX.1: “Ecological character is the combination of the ecosystem components, processes and benefits/services that characterise the wetland at a given point in time”.

5.5.1 PORT PHILLIP BAY (WESTERN SHORELINE) AND BELLARINE PENINSULA

The Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site includes parts of the shoreline, intertidal zone and adjacent wetlands of western Port Phillip Bay from Altona south to Limeburners Bay and of the Bellarine Peninsula from Point Henry to Barwon Heads (Casanelia 1999a).

The Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site includes the Werribee-Avalon area (wetlands) and part of the Point Cook and Laverton Saltworks.

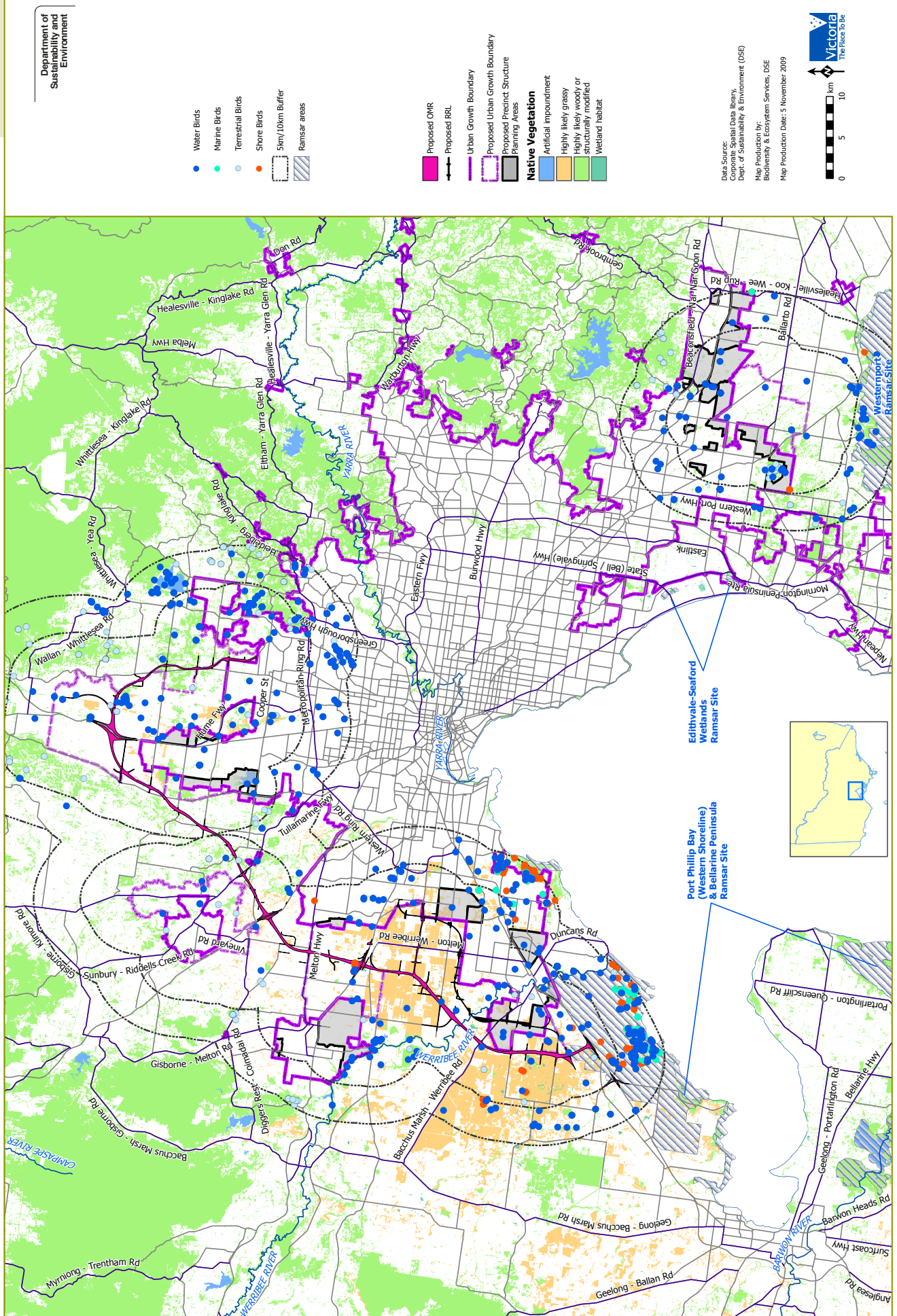
Most of the Port Phillip Bay Ramsar site is outside the study area, but some small sections around Werribee are included in the Melbourne West Investigation Area.

The ecological character of this Ramsar site is described in the 1999 update of the Ramsar Information Sheet (Department of Sustainability and Environment 1999a). A detailed description of the ecological character of the Ramsar site is currently being prepared following the National Framework and guidance for describing the ecological character of Australian Ramsar wetlands (see <http://www.environment.gov.au/water/publications/environmental/wetlands/module-2-framework.html> for reference).

The site includes a variety of wetland types ranging from shallow marine waters to seasonal freshwater swamps and extensive sewage ponds, including intertidal mudflats, seagrass beds and saltmarshes, which support a large and diverse population of migratory waders, seabirds and waterfowl and demonstrate a range of geomorphic processes. The opening of Port Phillip Bay to the ocean is very narrow, reducing tidal amplitude within the bay compared with Bass Strait. Almost four million people live around the Bay, which is used intensively for recreation.

The Port Phillip Bay Ramsar site was designated primarily in recognition of its high value as habitat for waterbirds (Department of Sustainability and Environment 2003c). It is the sixth most important area in Australia, and most important area in Victoria, for migratory waders. It contains the most important known wintering sites for the critically endangered Orange-bellied Parrot, with highest numbers occurring at The Spit, the Western Treatment Plant, Swan Bay, Swan Island (adjacent to the Ramsar site) and Lake Connewarre (Department of Sustainability and Environment 2003c).

FIGURE 33. SURVEY RECORDS OF MIGRATORY SPECIES; AND RAMSAR SITES



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The Port Phillip Bay Ramsar site met the following specific criteria when it was listed in 1982 (from Department of Sustainability and Environment 1999a and Department of Sustainability and Environment 2003c). It should be noted that the Ramsar Secretariat has subsequently revised the criteria for identifying a Ramsar wetland and an updated Ramsar Information Sheet is currently being prepared which will state the revised criteria for which the site is listed:

Criterion 1(a) *The wetland is a particularly good representative example of a natural or near-natural wetland characteristic of the appropriate biogeographical region.*

The Ramsar site includes a range of marine and inland wetlands characteristic of the Victorian Volcanic Plain bioregion as well as artificial wetlands. All eight of Victoria's wetland categories are included within the site.

Criterion 1(b) *The wetland is a particularly good representative example of a natural or near-natural wetland common to more than one biogeographical region.*

The Ramsar site contains good examples of saltmarshes, estuarine wetlands and a shallow marine embayment and nearshore areas.

Criterion 2(b) *A wetland is of special value for maintaining the genetic and ecological diversity of a region because of the quality and peculiarities of its flora and fauna.*

The Ramsar site is one of the most important sites in Victoria for migratory shorebirds. The site contains 332 indigenous flora species, including two nationally threatened and 22 state threatened species, and 285 fauna species, including ten nationally threatened and 50 state threatened species.

The vegetation of Lake Connemara State Game Reserve is very diverse, with 137 native plants being recorded. Forty-five (85 per cent) of the 53 salt marsh species which occur in Victoria occur at Lake Connemara.

Criterion 3(a) *Regularly supports 20,000 waterfowl.*

Ramsar and non-Ramsar wetlands in Port Phillip Bay regularly support more than 60,000 shorebirds during the summer months. Other waterfowl include large numbers of Black Swans, ducks, ibis and cormorants.

Criterion 3(b) *Regularly supports substantial numbers of waterfowl from particular groups.*

The Avalon-Werribee Wetlands regularly support tens of thousands of Straw-necked Ibis. In 1983, 14 per cent of the Australian population of Chestnut Teal were recorded at the Western Treatment Plant (part of these wetlands). Mud islands support 2,000 pairs of Crested Terns and up to 5,000 White-faced Storm Petrels.

Criterion 3(c) *Regularly supports one per cent of the individuals in a population of one species or subspecies.*

There are twelve species of shorebird for which the site supports more than one per cent of the flyway population (international significance) and two species for which the site supports more than one per cent of the Australian population (national significance).

5.5.2 EDITHVALE-SEAFORD WETLANDS

The Edithvale-Seafood Wetlands Ramsar site, located in Melbourne's south-east suburbs approximately 30km from Melbourne, is comprised of two separate wetlands: Edithvale and Seaford (Lane 2001).

The Edithvale-Seafood Wetlands Ramsar site contains the last remnants of the once extensive Carrum Carrum Swamp and supports very rich biodiversity, including bird species and populations of international importance (Lane 2001).

The Edithvale-Seafood Wetlands Ramsar site is not within the study area. The Melbourne South-East Investigation area is approximately 13km to the east of the Seaford wetlands and 15km to the southeast of the Edithvale wetlands.

Due to the distance of proposed new urban areas from this Ramsar site, it is not described in detail in this report. However, the ecological character is described in Department of Sustainability and Environment (2001), and KBR (2009) provides an updated site management plan. An ecological character description for the site is currently being finalised.

5.5.3 WESTERN PORT

The Western Port Ramsar site is a large bay located 60 kilometres to the south-east of Melbourne. The bay is connected to Bass Strait by a wide channel between Flinders and Phillip Island and a narrow channel between San Remo and Phillip Island (Department of Sustainability and Environment 2003d).

The ecological character of the site is described in the 1999 update of the Ramsar Information Sheet (Department of Sustainability and Environment 1999a). A detailed description of the ecological character of the Ramsar site is currently being prepared following the National framework and guidance for describing the ecological character of Australian Ramsar wetlands (see <http://www.environment.gov.au/water/publications/environmental/wetlands/module-2-framework.html> for reference)

Western Port has an unusually wide variety of habitat types, ranging through deep channels, seagrass flats, extensive mangrove thickets (accounting for more than 50 per

cent of Victoria's mangrove vegetation) and saltmarsh vegetation. These communities are very productive and relatively undisturbed, supporting a rich and diverse bird, fish and invertebrate fauna. The seagrass flats are nursery grounds for many species of fish and are used by many waterbirds that feed on the seagrass itself or associated marine invertebrates. Many sites in Western Port are of special significance as breeding, roosting or feeding sites for waterbirds, including migratory waders (Department of Sustainability and Environment 1999b).

Western Port is of national zoological significance as a foraging area and high tide roosting site for migratory waders, as well as for its population of the endangered Orange-bellied Parrot. It is of national botanical significance because of its extensive saltmarsh communities and it also has a number of sites of national and international geomorphological significance (Casanelia 1999b).

The Western Port Ramsar site met the following specific criteria when it was listed in 1982 (from Department of Sustainability and Environment 1999b and Department of Sustainability and Environment 2003d). It should be noted that the Ramsar Secretariat has subsequently revised the criteria for identifying a Ramsar wetland and an updated Ramsar Information Sheet is currently being prepared which will state the revised criteria for which the site is listed:

Criterion: 1(a) *The wetland is a particularly good representative example of a natural or near-natural wetland characteristic of the appropriate biogeographical region.*

Western Port Bay is a particularly good example of a natural wetland marine embayment with extensive intertidal flats, mangroves, saltmarsh, seagrass beds within the Gippsland Plain bioregion.

Criterion 1(b) *The wetland is a particularly good representative example of a natural or near-natural wetland common to more than one biogeographical region.*

Western Port is a very good example of a saltmarsh-mangrove-seagrass wetland system.

Criterion 3(a) *Regularly supports 20,000 waterfowl.*

Western Port regularly supports about 10,000 migratory waders and periodically supports in excess of 10,000 ducks and Black Swans.

Criterion 3(b) *Regularly supports substantial numbers of waterfowl from particular groups.*

Western Port is one of the three most important areas for migratory waders in Victoria. Wader surveys indicate that Western Port supports about 10,000 waders (approximately 12 per cent of the Victorian population).

Criterion 3(c) *Regularly supports one per cent of the individuals in a population of one species or subspecies.*

Western Port has supported more than one per cent of the population of several waterfowl species and more than five per cent of the Victorian population of the Whimbrel, Grey-tailed Tattler and Bar-tailed Godwit.

The Western Port Ramsar site is not within the study area. The Melbourne South-East Investigation area is approximately fivekilometres to the north of the Ramsar site and includes part of the catchment of the Ramsar site.

5.6 HERITAGE SITES AND COMMONWEALTH PROPERTIES

Point Cook Airbase is the only listed National Heritage place close to the study area. It is also a Commonwealth property. However, it is outside the current Urban Growth Boundary and is not included within an Investigation Area.

The Officers Mess at RAAF Williams Laverton Base is a Commonwealth Heritage Place and also a Commonwealth property. It is located within the current Urban Growth Boundary but is not within the study area.

The EPBC Act covers actions that may impact on heritage values on Commonwealth land. No Commonwealth land is included within the study area or may be impacted by the Program.

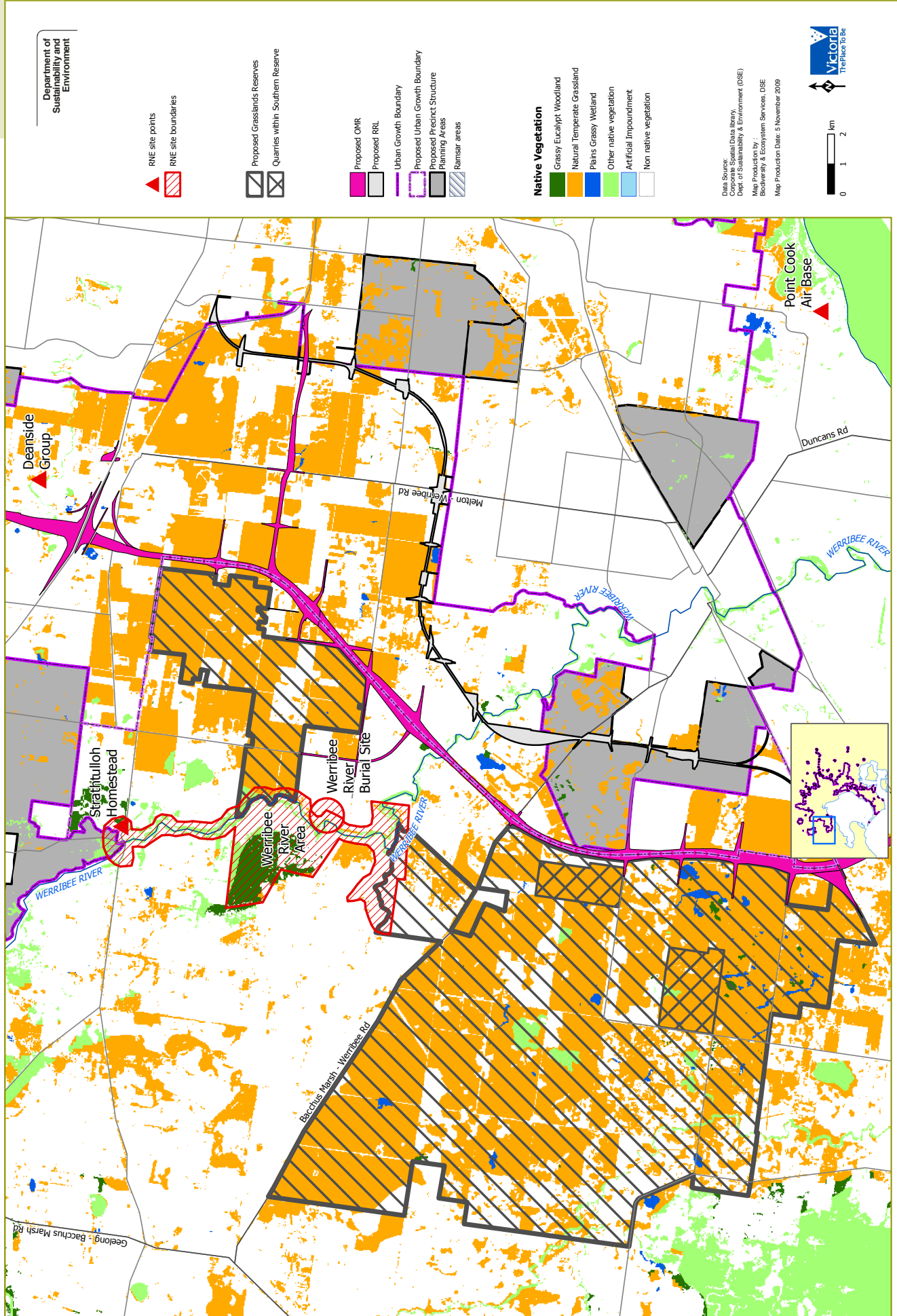
In considering a strategic assessment under the EPBC Act, the Commonwealth Minister will also consider impacts to places listed on the Register of the National Estate. A number of sites listed on the register occur within or near the study area. These are listed together with the above mentioned heritage sites in Table 3 and shown on Figures 34 and 35.

TABLE 3: HERITAGE SITES LISTED UNDER THE EPBC ACT AND REGISTER OF THE NATIONAL ESTATE (RNE) THAT HAVE BEEN IDENTIFIED AS POTENTIALLY OCCURRING WITHIN THE STUDY AREA

Heritage site	Class (RNE)	Status (RNE)	Town/ suburb	Location in study area			Comments
				West Investigation Area	North Investigation Area	South-East Investigation Area	
NATIONAL HERITAGE PLACE							
Point Cook Air Base	-	-		X	X	X	Outside study area
COMMONWEALTH HERITAGE PLACE							
Officers Mess – RAAF Williams Laverton Base	-	-		X	X	X	Outside study area
REGISTER OF THE NATIONAL ESTATE							
John Batmans Pastoral Run Outstation Sites	Historic	Indicative place	Craigieburn	X	X	X	Outside study area and within Urban Growth Boundary
O'Herns Road Farming Complex & Ford	Historic	Indicative place	Epping	X	✓	X	On edge of study area at the border between Urban Growth Boundary and Investigation Area
Camoola	Historic	Indicative place	Beveridge	X	X	X	Outside study area
Werribee River Area	Historic	Indicative place	Exford	✓	X	X	On edge of study area at the border between Urban Growth Boundary, Investigation Area and non- urban land
Summerhill Homestead and Outbuildings	Historic	Indicative place	Wollert	X	✓	X	Within study area
State School No. 1051	Historic	Registered	Mickleham	X	✓	X	On outer edge of study area
Jacksons Creek Road Bridge	Historic	Registered	Sunbury	X	X	X	Outside study area and within Urban Growth Boundary
Mickleham Post Officer (former)	Historic	Registered	Mickleham	X	✓	X	On outer edge of study area

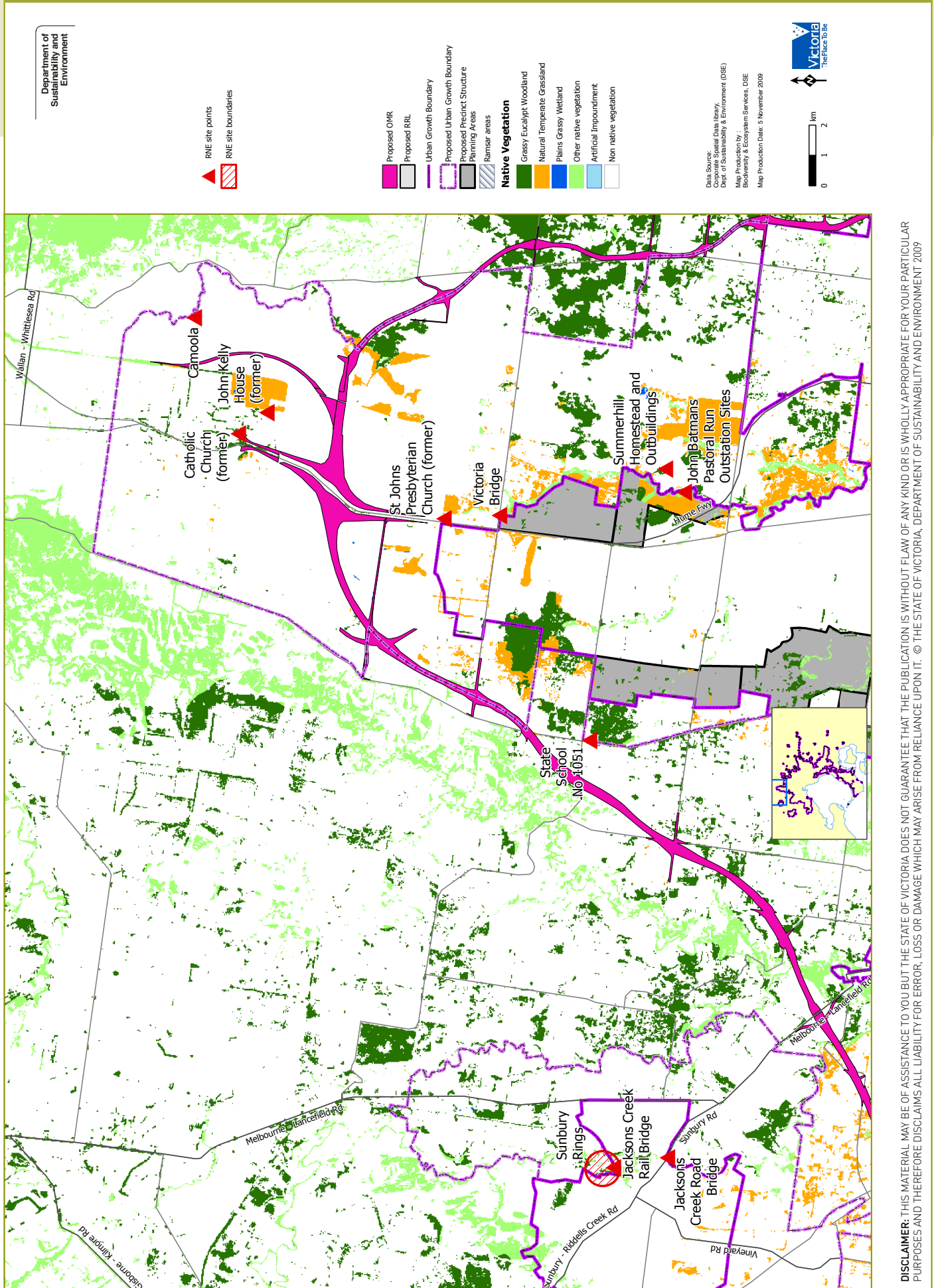
Heritage site	Class (RNE)	Status (RNE)	Town/ suburb	Location in study area			Comments
				West Investigation Area	North Investigation Area	South-East Investigation Area	
Victoria Bridge	Historic	Registered	Kalkallo	X	✓	X	On edge of study area at the border between Urban Growth Boundary and Investigation Area
St Johns Presbyterian Church (former)	Historic	Registered	Kalkallo	X	✓	X	Within study area
Strathulloh Homestead	Historic	Registered	Melton South	✓	X	X	On edge of study area at the border between Urban Growth Boundary, Investigation Area and non-urban land
Jacksons Creek Rail Bridge	Historic	Registered	Sunbury	X	X	X	Outside study area and within Urban Growth Boundary
Catholic Church (former)	Historic	Registered	Beveridge	X	✓	X	Within study area
Deanside Group	Historic	Registered	Rockbank	✓	X	X	Within study area
John Kelly House (former)	Historic	Registered	Beveridge	X	✓	X	Within study area
Sunbury Rings Aboriginal Ceremonial Site (RNE)	Information not publicly available	Information not publicly available	Information not publicly available	X	✓	X	Adjacent to study area.
Werribee River Burial Site (RNE)	Information not publicly available	Information not publicly available	Information not publicly available	X	X	X	Outside study area
Craigieburn to Cooper street Grasslands	Natural	Registered	Craigieburn	X	✓	X	Mostly within study area

FIGURE 34. SITES LISTED ON THE REGISTER OF THE NATIONAL ESTATE IN THE WESTERN INVESTIGATION AREA



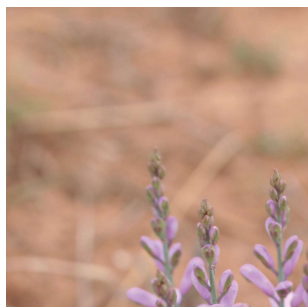
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FIGURE 35. SITES LISTED ON THE REGISTER OF THE NATIONAL ESTATE IN THE NORTHERN INVESTIGATION AREA



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6 IMPACTS AND MITIGATION



6.1 STRATEGIC MITIGATION APPROACH

This section describes the strategic mitigation approach proposed by Victoria to manage the majority of impacts likely to result from the Program. It does not deal with every mitigation measure, as these are described separately under each of the Matters of National Environmental Significance (Sections 6.2–6.7). It discusses the larger proposals, including those likely to make a significant positive difference to biodiversity conservation over the medium to long-term and at a far reaching spatial scale. The major initiative is the Western Grassland reserves, and this is discussed first and in considerable detail.

The section also discusses threatening processes and the potential interplay with climate change, as well as setting out the accounting approach for native vegetation losses and gains and threatened species offsets.

6.1.1 WESTERN GRASSLAND RESERVES

Large grassland reserves will be formally established outside the Urban Growth Boundary at the same time as the gazettal of the new Urban Growth Boundary. These proposed Western Grassland Reserves (Figure 36) are in two core areas and total approximately 15,000ha in size. They will contain the largest consolidated area of Natural Temperate Grassland remaining on the Victorian Volcanic Plain, and support several nationally threatened plant and animal species and provide potential habitat for a range of other nationally threatened species. They also include a range of other habitat types including wetlands, riparian habitats and scattered open grassy woodlands. Parts of these reserves will be made available as offsets for clearing of grasslands within the Urban Growth Boundary.

OFFSETS

The *Victorian Native Vegetation Management – A Framework for Action* (NRE 2002) and supporting technical documents (DSE 2006, 2007) establish a basis for calculating losses from permitted clearing and gains from proposed offsets.

Losses are calculated in Habitat Hectares based on the quality and extent of vegetation proposed for clearing. Offset targets are established according to the amount and significance of the proposed vegetation loss and involve the use of risk multipliers for vegetation losses of higher conservation significance. For example offsets for removal of patches of High conservation significance vegetation must provide a gain of at least 1.5 times the loss measured in Habitat Hectares. For removal of patches of Very High Conservation significance vegetation the gain required from the offset is at least twice the loss measured in Habitat Hectares.

Gains in native vegetation quality and extent are calculated in Habitat Hectares from agreed protection and management and/or revegetation actions on proposed offset sites. In general, the more complete the suite of management actions and the larger the area, the bigger the offset gains that are achievable.

By definition, gains in vegetation quality and/or quantity must be over and above the existing quality and/or quantity at a given offset site, and measured/predicted over a certain period of time. Offsets are therefore typically much bigger than the clearing site, but the actual size depends on the amount of gain that is achievable on the site including the degree to which the security can be enhanced. The Victorian approach allows for ‘trading up’ to higher conservation significance offsets where the clearing is of lower conservation significance vegetation. In such cases, the amount of offset is proportionally reduced.

Like for like criteria in the Native Vegetation Framework are graded according to the conservation significance of the vegetation to be removed. This sets rules regarding the type and quality of the vegetation in the offset site and its proximity to the clearing site, with a relatively high degree of specificity for offsets for higher conservation significance clearing. Offsets must be permanently protected by legal agreement. This is most commonly achieved using an on-title agreement under s72 of the *Victorian Conservation Forests and Lands Act 1987* or s173 of the *Victorian Planning and Environment Act 1987* or an on-title conservation covenant under the *Victorian Conservation Trust Act 1972*. The agreement sets out the way that the site is to be managed to improve the condition and/or security of the site. Additional “gain” can be achieved by elevating the security of private land, for example by converting it to a public conservation reserve.

Offsets are also required for individual large trees in addition to patches of vegetation. In grassy woodland these typically involve a requirement to permanently protect four to eight large trees for each large tree permitted to be removed, or in some cases replanting as an alternative, typically in the range of 120 to 180 new plants for each large old tree removed.

Offset arrangements for the Program

Offsets associated with the Program will need to comply with the Victorian Native Vegetation Framework and any additional requirements included in prescriptions approved by the Commonwealth Minister for Environment. All such offsets must be approved and secured prior to the commencement of the associated clearing of native vegetation or habitat.

Offsets for clearing of Natural Temperate Grassland and associated threatened species habitat will be located in the proposed Western Grassland Reserve. Grassy Eucalypt Woodland offsets will be located within the reserve to be established for the conservation of Grassy Eucalypt Woodland, south-west of Whittlesea.

Victoria will finalise a complete dataset of native vegetation type, extent and habitat score in 2010 for the Program Area, following further survey and consultation with stakeholders. The habitat scores determined and published as a result of this process will be used to calculate losses and offset liabilities for all future clearing in accordance with the Program. That is, the offset required for the removal of native vegetation will be calculated using these 2010 condition scores regardless of the condition of the vegetation at the time it is removed.

ASSESSING THE BENEFIT OF THE STRATEGIC OFFSET APPROACH FOR NATIVE GRASSLANDS IN THE WEST OF MELBOURNE

RMIT University researchers were asked by the Department of Sustainability and Environment to model the future extent and condition of native grasslands in the west of Melbourne under a range of scenarios. The aim of the investigation was to quantify where possible the net benefit of a strategically-located grassland reserve to the west of Melbourne to offset likely clearing of native grasslands within proposed Melbourne development precincts.

The researchers investigated a number of possible but realistic land use change scenarios including “no land use change” (no further urban growth and no active management of grasslands); “clearing within Melbourne precincts and randomly-located grassland offsets requiring active management”; and “clearing within Melbourne precincts and strategically-located grassland offsets (i.e. a grassland reserve) requiring active management”. The researchers also investigated the impact of timing of the reserve establishment on the overall outcome.

The figures in Appendix 7 illustrates the results of that investigation. The four curves represent the extent and condition of native grasslands in the west of Melbourne under the four scenarios described. The investigation conducted by RMIT University is further described in Appendix 7.

Modelled native grassland quality-extent under various future scenarios

The base curve is the “*No land use change*” curve. Under this scenario, no grasslands are cleared for development, however grassland extent-condition on private land continues to decline over time due to a range of entitled uses and the impact of unmanaged threats such as environmental weeds.

The results support the use of offsets to achieve net benefits over time when compared to the base case (compare *no land-use change vs randomly located offset curve*) and show the added benefit of a strategic grassland offset reserve (see *strategic offset reserve vs randomly located offset curve*). The greatest benefit occurs when creating the offset reserve as early as possible in the process, as shown in the *strategic reserve (all implemented at time zero) curve*. See Appendix 7.

Approximately 19 per cent of the native grasslands within the proposed reserves are High quality (habitat score greater than 0.6) and a further 80 per cent are Medium quality (habitat score between 0.31–0.6) (Figure 36, Appendix 1). The Western Grassland Reserves will secure at least 5,491 Habitat Hectares of existing grasslands and the increased protection and improved management of these areas is expected to generate gain of 4,217 Habitat Hectares, sufficient to offset losses from clearing of Natural Temperate Grassland, Plains Grassy Wetland and habitat of several threatened species as a result of urban development and infrastructure projects. This is explained in detail in section 6.1.5 below. These figures do not include active quarries within the grassland reserves that are likely to remove up to 620ha (275 Habitat Hectares) of Natural Temperate Grassland over the life of their operation. However the quarries will eventually be acquired as part of the grassland reserve, and following rehabilitation by the owner and management by the Crown (Parks Victoria) additional gains and habitat values will potentially be realised. It is currently unknown when the quarries will be conclude operation and be acquired for conservation.

Conservation reserves currently account for only two per cent of the current extent of Natural Temperate Grassland and the addition of this proposed 15,000ha reserve will increase the level of reservation of Natural Temperate Grassland to 20 per cent.

TABLE 4. NATIVE VEGETATION WITHIN PROPOSED WESTERN GRASSLAND RESERVES

Reserve section	Vegetation	Area (ha) by Habitat Score				Total Area (ha)	Habitat Hectares
		No Native Vegetation 0	Low 0.01–0.30	Medium 0.31–0.60	High 0.61–1		
North	Natural Temperate Grassland		56	1534	89	1679	820
	Plains Grassy Wetland			0		0	0
	Other native vegetation		0	44		44	22
	No native vegetation	311				311	0
North Total		311	56	1578	89	2034	844
South	Grassy Eucalypt Woodland		1	21	19	41	22
	Natural Temperate Grassland		52	5841	2520	8412	4453
	Plains Grassy Wetland		9	132	1	142	70
	Other native vegetation		2	178	21	201	104
	No native vegetation	3575				3575	0
South Total		3575	64	6172	2561	12371	4649
Grand Total		3886	120	7750	2650	14405	5493

Currently it is known that these proposed Western Grassland Reserves support several nationally threatened species: Golden Sun Moth (critically endangered), Striped Legless Lizard (vulnerable), Spiny Rice-flower (critically endangered), Large-headed Fireweed (vulnerable), and Clover Glycine (vulnerable). It also contains Werribee Blue Box, which is likely to be listed under the EPBC Act in the near future. It includes the most likely suitable habitat on the Volcanic Plains for Plains-wanderer (vulnerable) and potential habitat for a range of other specialist grassland species such as Button Wrinklewort (endangered) and the Grassland Earless-dragon (endangered).

The reserves take in a range of other habitats, including Buloke Grassy Woodlands, and a variety of wetland types including Plains Grassy Wetland of the Victorian Volcanic Plain, both ecological communities which have been nominated for listing under the EPBC Act. These wetlands provide habitat for existing populations of Growling Grass Frog (vulnerable) and several migratory bird species.

The proposed Western Grassland Reserves have been designed to maximise the area of habitat available to resident plant and animal species, in particular threatened species, and to enable management activities critical to the long term survival of species and vegetation to be undertaken. As a result, not all areas within the reserves support high quality native vegetation and some areas are quite degraded. Some of the key management actions that will occur within the reserves are as follows:

- > Detailed mapping and threatened species assessment to fill gaps and to plan management priorities for different areas;
- > Progressive removal of barriers to connectivity across the reserves;
- > Biomass reduction in areas of known habitat to maintain habitat quality through the use of fire, strategic grazing and slashing;
- > Rehabilitation of degraded areas through targeted weed control and native grassland establishment;
- > Ongoing control of pest animal species, in particular foxes, rabbits and hares;
- > Management of buffer areas to reduce the impact of adjoining land uses on the reserve values and to ensure appropriate management of the reserve does not adversely impact on surrounding land uses;
- > Investigate the suitability of and where feasible implement species reintroductions and establish grassland 'seed orchards' for broader local and regional grassland rehabilitation projects;
- > Ongoing monitoring of key assets including further survey and refinement of management actions as a result of new information using adaptive management principles.

It is important that some parts of the proposed reserves become available to and are appreciated by the community, particularly residents of the west where such areas are scarce. The reserves will therefore include a range of access types, with large areas off limits to members of the public due to their highly sensitive conservation requirements and other large areas where a mix of conservation and visitor appreciation can be more comfortably balanced. Some of the more degraded areas will be ideal for visitor facilities and infrastructure, and there is potential to include some iconic attractions/alternative uses such as alternative energy production, sustainable agriculture or sculpture parks where this is compatible with the achievement of biodiversity objectives.

In the future the proposed Western Grassland Reserves will be considered as potential reintroduction sites for Eastern Barred Bandicoot, bettongs and other locally extinct species. The south-western boundary of the proposed Western Grassland Reserves abuts the Mount Rothwell Conservation Research Centre (formerly owned by Earth Sanctuaries) which promotes the conservation of several such species of the Victorian Volcanic Plains.

The vast majority of the land within the proposed Western Grassland Reserves is currently in private ownership. These areas will need to be permanently protected and managed in order to create the eventual grassland reserve. To achieve this the land (shown as “proposed western grassland reserves” in the Program Report) will be reserved through applying a Public Acquisition Overlay under the *Planning and Environment Act 1987*. This gives the State Government the first right of purchase should a landowner wish to sell their property. An acquisition schedule will be prepared setting out the priorities and targets for acquisition. The land will be acquired through negotiating voluntary-sale purchase agreements where possible, and it is anticipated that this process will generate most of the sales. Where acquisition through voluntary-sale purchase is not achievable, and where supply of land is not keeping pace with the acquisition schedule or demand for offsets, compulsory acquisition under the *Land Acquisition and Compensation Act 1986* will be pursued. The land for the grassland reserves will be acquired within ten years of the Public Acquisition Overlay being applied to the land. The exception to this will be land within the two active quarries, which will be acquired at the end of the quarrying operation and some possible short-term arrangements that may be negotiated with some affected residents where this does not compromise the overall objectives of the grassland reserves.

The increased legal protection and improved management of grasslands within the reserves will create gains in native vegetation quality and extent. These gains will be made available (as Native Vegetation Credits) for purchase by developers requiring offsets for permitted clearing in accordance with the Program. The calculation of native vegetation losses and gains (in Habitat Hectares), and like for like criteria for

offsets will be in accordance with Victoria's Native Vegetation Framework and related implementation tools. In some cases, where specified by prescriptions approved by the Commonwealth Minister for the Environment, additional criteria such as offsets for threatened species may be specified in addition to native vegetation offsets in the Victorian Native Vegetation Framework. The grassland reserves will also provide a source of these threatened species offsets where relevant.

The process of creating, advertising and selling Native Vegetation Credits will utilise the well established BushBroker® program. It is expected that developers requiring offsets for clearing native grasslands in accordance with the Program will purchase Native Vegetation Credits generated from the western grassland reserves, given the readily available source of offsets this process will provide.

In order to minimise the likelihood that current habitat values will be degraded prior to the reserves coming under the management of Parks Victoria, incentives and management assistance will be offered to landholders. Where habitat values are at risk of significant degradation as a result of pests and weed infestation the *Catchment and Land Protection Act 1994* will be used to require the control of specific species in accordance with defined methodologies. Again management assistance will be offered. Resources have been allocated for this and it is intended that field rangers will be employed to identify and manage threats and provide financial assistance or expertise to manage the threats to a high standard, in partnership with the Shires of Wyndham and Melton.

Victoria will also pursue a strategy of increasing the protection and sympathetic management of remaining areas of native grassland on private land. An Environmental Significance Overlay is being developed specifically for the protection of native grasslands. This Environmental Significance Overlay will initially target the Werribee Plains hinterland of the proposed Western Grassland Reserves and will be gazetted in local planning schemes by June 2010. The Program Report shows the extent of the proposed Environmental Significance Overlay. It will afford targeted protection through the planning scheme to mapped grassland areas, and ensure that areas are assessed in detail prior to any clearing proposal being considered or approved, with a formal "referral authority" role created for the Department of Sustainability and Environment in all such cases. Decision making for any clearing applications will be made in accordance with Victoria's Native Vegetation Framework. Unless exceptional circumstances exist, clearing of most remnant native grasslands will not be permitted.

The Environmental Significance Overlay will also be used as a vehicle to target private landholders with important grassland remnants to consider joining one of Victoria's existing programs such as BushTender or BushBroker. These programs offer landholders an income in return for securing and managing their native vegetation to improve its extent and quality either permanently (BushBroker) or for a defined period (BushTender).

A program of more detailed mapping of native grasslands across the Werribee Plains, and progressively covering other key parts of the Victorian Volcanic Plain, will be undertaken with the objective of improving the effectiveness of the Environmental Significance Overlay and better targetting investment to important areas of native grassland in the landscape. Accordingly the Environmental Significance Overlay will be revised after a few years, once sufficient new data are gathered.

6.1.2 GRASSY EUCALYPT WOODLAND RESERVE

A large (at least 1200ha) Grassy Eucalypt Woodland reserve (nature conservation reserve) will be established south west of Whittlesea outside of the Urban Growth Boundary. It will be based around the core areas of Grassy Eucalypt Woodland immediately to the east of the Melbourne North Investigation Area, including an area of c. 314ha of this ecological community that has been specifically excluded from the Urban Growth Boundary (Figure 8). Following detailed investigation including community consultation, a reservation proposal and acquisition schedule will be developed and provided to the Department of the Environment, Water, Heritage and the Arts. As for the Western Grassland reserves there is a commitment to secure the reserve fully (including acquisition) by 2020.

The creation of this reserve will increase the reservation of Grassy Eucalypt Woodland from three to five per cent of it's estimated current extent.

An Environmental Significance Overlay is being developed specifically for the protection of Grassy Eucalypt Woodland, similar to the proposed overlay for native grasslands. The Program Report shows the extent of the proposed Environmental Significance Overlay, which will be gazetted in the Whittlesea planning scheme by June 2010. The area covered by the Environmental Significance Overlay will include the area within which the conservation reserve will be established.

6.1.3 SOUTH-EASTERN WETLAND RESERVES

As discussed in Section 6.6 a major area of former wetlands just outside the Melbourne South East Growth Area will be re-established. This will be up to 300ha in size and has the potential to recreate a small, but nonetheless significant area of the former Koo Wee Rup Swamp (Craigie et al. 2009). A detailed plan will be prepared that sets out the management objectives, implementation steps and responsibilities. The land for this major wetland restoration would be acquired and reserved under the *Crown Land Reserves Act 1978* with Melbourne Water appointed as the land manager. A significant portion of the site would be designated specifically for biodiversity conservation.

6.1.4 PROTECTION OF OTHER KEY SITES

Other areas including 525ha of Grassy Eucalypt Woodland and 325ha of associated Natural Temperate Grasslands in the Northern (Hume and Whittlesea) Growth Area have been excluded from urban development despite remaining within the new Urban Growth Boundary. The intention is that these areas will be protected for biodiversity conservation through a combination of planning scheme controls, private land management agreements and donation of land to the Crown (e.g. as offsets). The Program Report shows the proposed planning zones for these areas. Sites supporting Grassy Eucalypt Woodland will generally be zoned Rural Conservation, with an Environmental Significance Overlay applied for added protection.

A Biodiversity Conservation Strategy will be prepared for each of the growth areas prior to the preparation of updated Growth Area Framework Plans. The Biodiversity Conservation Strategies will set out the biodiversity values of retained land and the mechanisms by which land will be secured and managed over the long term. All such sites will be the target of negotiations with landowners regarding their future protection and management.

In the Hume-Whittlesea and Sunbury areas this network of reserved and protected areas within the urban area will provide a connection between the proposed Grassy Eucalypt Woodland reserve to the east and the Merri Creek to the west. It will also connect these grassy woodland areas to remnant patches of Natural Temperate Grassland and riparian areas of the Merri Creek. This network of grassy vegetation will incorporate much of the “Craigieburn to Cooper Street Grasslands” site on the Register of the National Estate.

The Sunbury Biodiversity Conservation Strategy will focus on retention and enhancement of the 130ha Grassy Eucalypt Woodland excluded from development in the Sunbury area.

Other sites supporting important populations of listed threatened species have been similarly excluded from the development zone within the Urban Growth Boundary and will be zoned Rural Conservation, with an Environmental Significance Overlay prepared to enhance planning scheme protection. This includes grassland at Clarke’s Road, Rockbank, sites protected for the Golden Sun Moth abutting the OMR in the west (c. 300ha of high quality native grassland) and woodlands, riparian areas and other habitat areas throughout the new urban area. These sites will be subject to additional protection and management to enhance their value to the persistence of key species, through a combination of acquisition, land management agreements and conservation covenants. Details of the network of protected areas and the mechanisms to protect them will be similarly set out in the Biodiversity Conservation Strategies for these Growth areas (Wyndham, Melton-Caroline Springs and Casey-Cardinia).

Fuller details are provided below under each taxon. All sites proposed for retention and planning scheme protection are shown in the accompanying Program Report.

6.1.5 ACCOUNTING FOR NATIVE VEGETATION LOSSES AND GAINS

Victoria has a well established offsetting approach that ensures offset “gains” are commensurate with the type and scale of “losses” (i.e. clearing) as described under “Offsets” (Section 6.1.1).

Table 5 summarises the estimates of native vegetation losses from proposed development in areas proposed for the Urban Growth Zone, the OMR/E6 Transport Corridor and Regional Rail Link. A more detailed breakdown is provided in Appendix 1.

TABLE 5. ESTIMATED LOSS OF LISTED EPBC-LISTED VEGETATION COMMUNITIES FROM PROPOSED DEVELOPMENT ASSOCIATED WITH MELBOURNE'S FUTURE GROWTH.

Vegetation	Area (ha) by Habitat Score			Total Area (ha)	Habitat Hectares	Offset Target* (Habitat Hectares)
	Low 0.01–0.30	Medium 0.31–0.60	High 0.61–1			
Grassy Eucalypt Woodland	466	242		708	188	300
Natural Temperate Grassland	897	3696	72	4665	1921	3599
Plains Grassy Wetland	6	69		75	30	58
Other native vegetation	549	489	2	1040	315	480
Totals	1918	4496	74	6488	2454	4437

*Based on determination of Conservation Significance using Ecological Vegetation Class x Habitat Score only (and does not include requirements for threatened species habitat).

Offsets for permitted clearing of Natural Temperate Grassland and Plains Grassy Wetland are proposed to be aggregated into two new, large grassland reserves located outside the Urban Growth Boundary. Estimates of native vegetation gains from these offsets are based on the creation of the two reserves and associated improved management of existing vegetation patches (Table 6) in line with the Victorian *Vegetation Gain Approach* (DSE 2006). Although the intention will be to restore large parts of the reserve from their current degraded state, gains arising from revegetation of currently non-vegetated areas have not been used in the offset calculation as the development and application of broad-scale grassland revegetation techniques are still in their infancy. Similarly, given the level of disturbance and risk of invasion from high threat weeds across much of the area, estimates of gain from proposed activities such as weed control are necessarily conservative until the scale of threat and impact of strategic management interventions can be properly assessed.

Estimated gains have been calculated using the Department of Sustainability and Environment's Gain calculator – Version 1.2 October 2008 available on the Department of Sustainability and Environment website at: <http://www.dse.vic.gov.au/>

TABLE 6. ESTIMATED GAINS OF EPBC-LISTED (OR NOMINATED) VEGETATION COMMUNITIES FROM THE CREATION OF THE WESTERN GRASSLAND RESERVES. .

Vegetation	Area (ha) by Habitat Score			Total Area (ha)	Gain* (Habitat Hectares)	Offset Target** (Habitat Hectares)	% of offset target met
	Low 0.01–0.30	Medium 0.31–0.60	High 0.61–1				
Grassy Eucalypt Woodland	1	21	19	41	13.3	300	4%
Natural Temperate Grassland	108	7375	2609	10091	4154.4	3599	100%
Plains Grassy Wetland	9	132	1	142	58.3	58	100%
Other native vegetation	2	222	21	245	Not calculated	480	
No native vegetation	0	0	0	3886	Not calculated	0	
Totals	120	7750	2650	14405	4217	4437	

* Gains calculated in accordance with Victorian Vegetation Gain Approach (DSE 2006). Includes gains from improved protection (security) and management (i.e. weed control, pest animal control, biomass management).

** Based on determination of Conservation Significance using Ecologic Vegetation Class x Habitat Score only (and does not include requirements for threatened species habitat).

Offsets for permitted clearing of Grassy Eucalypt Woodland are proposed to be aggregated into the proposed Grassy Eucalypt Woodland reserve located outside the Urban Growth Boundary, south west of Whittlesea. Due to the lack of sufficiently detailed assessment data from the proposed reserve, only very preliminary estimates of native vegetation gains from this area can be made. However it is likely that a conservation reserve for Grassy Eucalypt Woodland would need to be approximately 1,000 to 1,300 hectares in area to generate sufficient gain (and sufficient protection of large old trees) to offset losses of Grassy Eucalypt Woodland within the Program area. This is based on this area being secured as a nature conservation reserve and that the vast majority of clearing of Grassy Eucalypt Woodland that would be permitted within the Program area would be low quality.

Determining offset requirements for vegetation and threatened species

To ensure that there is a clear link between the native vegetation or habitat type that is lost through clearing and the subsequent mitigation, Victoria's Native Vegetation Framework allows a graded response from a direct link between loss and offset for vegetation of higher significance down to more flexibility for vegetation of lower significance. These like-for-like rules help determine whether a site is eligible to offset a proposed clearing site.

In the case where native vegetation proposed for loss also provides habitat for threatened species, Victoria has developed an approach that enables a suitable offset to be determined. This approach relies on first determining which of the vegetation or species habitat attributes is driving the conservation significance of the vegetation. If the highest or equal highest conservation significance rating of the clearing site is due to the vegetation (i.e. combination of Ecological Vegetation Class Bioregional Conservation Status and Habitat Score), then the like-for-like rules for the offset follow the vegetation type requirements. If the highest conservation significance rating of the clearing site is due to confirmed habitat for a rare or threatened species, then the like-for-like rules for the offset follow the species habitat type requirements (see Table 6 in DNRE 2002).

For clearing sites where the highest significance rating is triggered by more than one species, then the like-for-like rules for the offset follow the habitat type requirements for the species experiencing the greatest proportional loss of habitat as a result of the clearing at the proposed clearing site.

Proposed offset sites may potentially provide a vegetation offset and species offset for one or more species. However, the Victorian approach requires that an offset site must be allocated to either a vegetation offset or a single species habitat offset but not multiple combinations. For sites with the option of providing more than one offset type, the designation of the offset site will be linked to the offset requirement for a permitted clearing proposal. While it is recognised that vegetation offsets will also often provide habitat for a range of threatened species, allocating an offset site to one type of offset mitigates the risk of double counting of an offset site and is also used to inform appropriate management for the offset site. Identifying an appropriate management regime is of particular importance where preferred management interventions for one outcome (e.g. vegetation) may be in conflict for preferred management interventions for another outcome (e.g. a species). Examples of this in relation to the Western Grassland Reserves include potential conflicts arising from different preferred grassland biomass management regimes for vegetation outcomes (and including component flora and fauna species such as Spiny Rice-flower and Striped Legless Lizard) and species outcomes (e.g. Golden Sun-moth, Plains-wanderer). It is highly likely therefore that different parts of the grassland reserves will be managed for different outcomes.

The analysis indicates that based on preliminary modelled data, that the proposed Western Grassland Reserve should provide sufficient offsets to meet the requirement for the two EPBC-listed vegetation communities (Natural Temperate Grassland and Plains Grassy Wetland). The “unallocated” areas would then be available for threatened species offsets, where these are required in addition to native vegetation offsets. The two key species in this category are Golden Sun Moth and Spiny Rice-flower.

The Victorian approach outlined above will form the basis of the native vegetation and threatened species offsetting approach. However for three endangered species likely to be impacted within the Program – Golden Sun Moth, Spiny Rice Flower and Matted Flax-lily – the Commonwealth have requested the development of prescriptions that strengthen the mitigation approach for these species (Section 6.4.1). In each case the prescriptions require offsets for clearing of ‘high contribution habitat’ (. native habitat) to be treated as Very High conservation significance and to be driven by the habitat requirements of the species, irrespective of whether the native vegetation to be removed is also Very High conservation significance. In each of these cases the offset site must support a population of the species in question and must be located within areas of ‘high contribution habitat’. This will result in the need for both a Victorian native vegetation offset and a Commonwealth species offset in some cases, recognising that both requirements could be met at the same site.

This may also require some species offsets to be located in areas other than the Western Grassland Reserves in the future, given the likely additional demands for habitat areas, although this is currently difficult to estimate based on current data. Additional offset areas outside the Western Grassland Reserves are likely to be necessary in the case of the Golden Sun Moth, given its likely extent in the Program area and the fact that the prescription for this species also requires offsets to be found for removal of non-native (‘medium persistence’) habitat. In such cases offsets must be located in areas of ‘high contribution habitat’ (i.e. native grassland or grassy woodland). This is not considered a significant risk. The Golden Sun Moth is also assumed to be relatively widespread outside the Program area and it is likely that there is ample supply of potential offset sites.

Developing an appropriate accounting system for all the matters of National Environmental Significance within clearing and offset areas will be an important vehicle for communicating outcomes to the Commonwealth and other stakeholders. This will be prepared by Department of Sustainability and Environment as part of the overall Monitoring and Reporting Framework to be developed and submitted following approval.

PRESCRIPTIONS

Prescriptions have been developed for managing several matters of National Environmental Significance likely to be impacted as a result of the Program. The thresholds applied throughout the various prescriptions are the result of a strategic approach that explicitly considered the benefits and trade-offs of in situ (i.e. sites retained within future growth areas) and ex situ conservation (i.e. clearing of sites within future growth areas and improved protection of sites outside these areas). Appendix 7 demonstrates this approach for Natural Temperate Grasslands.

As Appendix 7 shows, this approach has involved consideration of the likely effectiveness of current and potential longer-term protection and management in maintaining or enhancing the conservation values of sites both within and outside the growth areas. This includes the requirement for species populations and habitat to be functionally connected to other species populations and habitats to increase the likelihood of longer term species persistence.

This approach builds on general ecological principles that:

- > larger areas are more likely to support stable populations of pollinators and seed dispersers.
- > larger areas are more likely to be able to cope with and recover from stochastic catastrophe.
- > (all other things being equal) larger areas are likely to retain more infraspecific genetic variability.
- > isolated areas of habitat, proximal to more extensive areas of habitat are more likely to be recolonised more readily if populations are extirpated by catastrophe/accident.

For the strategic assessment, Department of Sustainability and Environment adopted a risk averse approach informed by observations over 20 years that recognises the additional difficulties of managing particular habitat types with urban landscapes and the negative effects of increased fragmentation on these habitats and their component species populations.

This approach resulted in the creation of area thresholds (e.g. 150ha for Natural Temperate Grassland), that are considered a practical minimum area where there is a higher likelihood that conservation values and function could be maintained in the future within an urban context given typical resources and current knowledge and required management practices. Areas less than this in size are considered at greater risk of decline or require considerably more management resources, and for these reasons ultimately risk losing their conservation values and function over the long term. This is not to say that smaller areas cannot retain their values, but that the risk of failure is more likely due to either practical management constraints (e.g. biomass control), intrinsic factors (e.g. enhanced edge effects) or simply cost limitations.

In such cases it was decided that in the longer term, the conservation benefits that could be achieved by protection and management of sites outside the growth areas (as part of an offsetting requirement) would outweigh the costs of the loss of habitat within the proposed growth areas. This approach was facilitated by the strategic – rather than site by site – assessment, as these trade-offs and opportunities could be explicitly factored into our preferences.

However the thresholds are also aimed at maximising the conservation outcomes achievable within an overall constraint imposed by the requirements for Melbourne's future growth. Hence the overall social and economic drivers intrinsic to the Program (e.g. housing affordability, access to public transport, efficient urban form) also acted as constraints on the widespread retention of conservation reserves over the urban area.

Similarly, the 80 per cent protection target of 'protected confirmed high contribution habitat' that applies to a number of the species prescriptions recognises that in some circumstances, there are greater conservation benefits in better protecting and managing species populations outside the growth areas rather than aiming to protect 100 per cent of populations – some of which will be at risk of extinction – within the growth areas. This recognises that in the broader context many species populations and habitat outside the growth areas are at risk of on-going loss and decline through entitled uses and unmanaged threats and that better protection and management of a high proportion of these sites albeit traded off against the loss of some areas within the growth areas would lead to an overall greater conservation outcome. The 80 per cent figure is not scientific – it merely sets a high standard for conservation of the most important habitats, while allowing for some overall flexibility in the interests of operational practicality.

6.1.6 DEALING WITH CLIMATE CHANGE

The future climate of the Port Phillip and Westernport region is expected to be hotter and drier than it is today.

By 2030, average annual temperatures will be around 0.8°C warmer compared to 1990 figures, particularly in summer, and the number of days over 30°C is also expected to increase (Department of Sustainability and Environment 2008). Reductions in the total average annual rainfall of around four per cent are expected, with the greatest percentage reductions occurring in spring (seven per cent). By 2070, under a higher emissions growth scenario, Melbourne's temperatures would resemble those of present day Echuca in North Central Victoria, while annual rainfall would be similar to present day Seymour (c. 100km north of Melbourne) (Department of Sustainability and Environment 2008).

The consequences of these changes on biodiversity are difficult to predict, however it is very likely that there will be changes at different levels, from individuals to ecosystems. Species may alter in terms of distribution, abundance, behaviour and the timing of events such as migration or breeding. The most susceptible species will be those with restricted or specialised habitat requirements, poor dispersal abilities or small populations. It is likely that current threats impacting on threatened species and communities and other matters of National Environmental Significance will be exacerbated, although the extent to which this is the case is very difficult to predict.

Climate change is one of many pressures that face threatened species and communities and the likely effects are very difficult to separate from other threatening processes.

To manage this risk and uncertainty we need to deal with it as part of an adaptive management approach, and maximise opportunities to build resilience into ecosystems (NBSRTG 2009). The conversion of a large area of private land to public management in the form of new grassland reserves will give us the best opportunity to take adaptive management measures as required if and when climate change responses become more apparent. According to Taylor and Figgis (2007, cited in NBSRTG 2009) this securing and enhancing of important habitats is the “most important and immediate step” that can be taken to increase such resilience. Examples of the type of action that may be required in the future as part of an adaptive management approach would include the potential to add an additional area or a buffer to the habitat of a particular threatened species.

The native grasslands to the immediate west of Melbourne occupy a rainshadow area cast by the You Yangs/Brisbane Ranges that largely limits tree growth in the area. These grasslands have historically received between 500–550mm annual rainfall with the result that they share strong floristic, structural and faunal assemblage affinities with grasslands north of the Great Dividing Range in Victoria, in particular within the Wimmera and Victorian Riverina bioregions. These “northern” grasslands occupy areas receiving between 450–550mm annual rainfall. They are largely replaced by chenopod grasslands below these annual means. A rainfall reduction of the order described above would therefore appear to be within the climate envelope of the vegetation community if comparisons with northern Victoria are a useful guide.

In addition to the inherent capacity of the vegetation community to accommodate climate change, the proposed reserve occupies a north-south rainfall gradient of 500–550mm rainfall per annum, meaning that there is scope for plants and animals to adjust within the reserve as rainfall reductions occur.

It is expected that this scenario will similarly play out for Grassy Eucalypt Woodland. The grassy woodlands to the north of Melbourne are representative of a vegetation type that extends across the Victorian Volcanic Plain. This vegetation also shares close affinities (including dominant eucalypt species) with grassy woodlands north of the Great Dividing Range including in the Victorian Riverina. As for native grasslands, building resilience to the likely pressures resulting from climate change will best be accommodated by securing and enhancing a substantial portion of the ecological community in a conservation reserve as is proposed to the north of Melbourne.

6.1.7 THREATENING PROCESSES

The *Environment Protection and Biodiversity Conservation Act* (1999) protects Australia's native species and ecological communities by providing for, amongst other matters, recognition of key threatening processes. In addition, where relevant the EPBC Act provides for the development of threat abatement plans that provide for the research, management, and any other actions necessary to reduce the impact of a listed key threatening process on native species and ecological communities.

Assessment of the currently EPBC-listed key threatening processes indicates that *Land Clearance* and possibly *Loss of terrestrial climatic habitat caused by anthropogenic emissions of greenhouse gases* are matters of relevance to the Program.

Land Clearance

The published EPBC advice recommends that:

1. a threat abatement plan is not considered a feasible, effective or efficient way to abate the process; and
2. each State and Territory needs an appropriate response to this Key Threatening Process and further advises the Minister that the Commonwealth should encourage and support land management quality assurance and planning mechanisms at the appropriate scales to ensure the conservation of biodiversity, especially threatened species and ecological communities.

Victoria introduced clearing controls in 1989, which effectively halted broad-scale clearing across the state. The release of the Victorian Native Vegetation Framework (DNRE 2002) and its subsequent incorporation into the Victoria Planning Provisions in 2003 introduced methods for assessing the quality, quantity and significance of native vegetation across the state and established the three step approach of 'avoid, minimise and offset'. The Program is making use of appropriate planning mechanisms at a variety of scales as described in this report and will need to satisfy Victorian planning requirements, including the requirements of the Victorian Native Vegetation Framework.

As such, the Program satisfies the recommendations in the published EPBC *Land Clearance* advice, in particular quality assurance and planning mechanisms at the appropriate scales to ensure the conservation of biodiversity, especially threatened species and ecological communities.

Loss of terrestrial climatic habitat caused by anthropogenic emissions of greenhouse gases

The published EPBC advice recommends that:

1. the Commonwealth, States and Territories have actions underway to abate this Key Threatening Process and therefore recommends that a threat abatement plan is not considered a feasible, effective or efficient way to abate the process; and
2. along with the issues of emissions reduction, the adaptation requirements of species and communities likely to be affected by climate change should be given greater priority.

As discussed in Section 6.1.6, future climate modelling indicates that Victoria's annual rainfall may decrease by 5–10 per cent over the next 50 years. Such a reduction would appear to be within the climate envelope of the Western Grassland Reserves and component wetlands. In addition, the reserve occupies a north-south rainfall gradient of 500–550mm per annum meaning that there is scope for plants and animals to adapt within the reserve as rainfall reductions occur.

As such, the Program satisfies the recommendations in the published EPBC advice, in particular giving priority to adaptation requirements of species and communities.

Threat abatement plans

In addition to the above, the establishment of the Western Grassland Reserves will address a number of EPBC-listed key threatening processes and contribute to their threat abatement plans, in particular:

- > competition and land degradation by rabbits; and
- > predation by European Red Fox.

Establishment and management of the Western Grassland (and other) Reserves will seek to eradicate these species from the area and a community education campaign will be important for gaining the support and cooperation of surrounding landholders to achieve this objective. The combined effect will be to promote recovery of native species and ecological communities affected by these pest species in keeping with the relevant threat abatement plans.

6.2 COMPONENTS OF BIODIVERSITY, ECOLOGICAL AND PHYSICAL ENVIRONMENTAL PROCESSES

The study area is considered to have been highly altered from its natural state by its land-use history. Further land-use change from predominantly rural to urban is likely to further exacerbate effects on biodiversity and ecological processes in most areas. However, the creation of well managed urban areas may in some cases provide benefits when compared with the current rural land uses. This is particularly so in the south-east, where the quality of water entering Westernport is difficult to regulate and is often poor because of the highly modified drainage pattern and intensive agricultural land use.

Extending the urban area to the west, north and south-east will further compromise ecological processes persisting in those areas. In the south-east, some road reserves and minor drainage lines are known to afford narrow avenues of connected habitat for the Southern Brown-bandicoot, albeit tenuous ones (Practical Ecology 2009). This connectivity within the south-east will more than likely be removed as a result of urban development. The mitigation emphasis will be on maintaining and restoring connectivity at a sub-regional level, focusing on larger areas of habitat and major strategic linkages. The challenge for monitoring will be finding practical ways to assess the degree of ecological function remaining in this part of the landscape, and identifying how urban development and the mitigation strategies influence the net result.

Creating reserves for both grassland and grassy woodland communities provides an opportunity to re-establish natural ecosystem processes, such as appropriate fire regimes, and secure habitat for threatened species.

6.3 IMPACTS ON LISTED AND NOMINATED COMMUNITIES AND PROPOSED MITIGATION

Mitigation of impacts is based on a mitigation hierarchy of avoidance, minimisation, rehabilitation, re-establishment and offset. This is similar to international approaches to mitigation (see for example Business and Biodiversity Offsets Program 2009) and mirrors the key steps set out in Victoria's Native Vegetation Framework.

Avoidance occurred as part of the detailed planning process to determine the Investigation Areas, extent of potential Urban Growth Boundary, future urban areas and the location of associated infrastructure. Avoidance also occurred as part of the previous process to locate the Urban Growth Boundary in 2005 (*Melbourne 2030*). These processes were designed to exclude larger areas of high conservation value native vegetation from the Urban Growth Boundary.

Minimisation occurred in setting the new Urban Growth Boundary within the Melbourne West Investigation Area, and in determining which areas were to be excluded and permanently protected and which areas would be designated for urban development (e.g. through rezoning proposals as set out in the Program Report). However, in other Investigation Areas and in the proposed Precinct Structure Planning areas where this level of detail is not yet available, minimisation will occur primarily as part of the downstream Precinct Structure Planning process, which is a requirement for all areas designated urban. As this will mostly occur after this strategic assessment, any reductions in extent of clearing as a result of the Precinct Structure Planning process are not reflected in this document. Therefore, the strategic assessment represents a worst case scenario in terms of scale of clearing.

Rehabilitation or on-site management of particular assets will be a natural consequence of the minimisation process once retained areas are defined. Management of retained areas is absolutely critical if the assets for which they were retained are to be protected and enhanced in the long term.

In some cases, where unavoidable impacts will occur and it is not considered practical or desirable to retain and manage an asset on-site, *re-establishment* and management elsewhere may be deemed necessary. Translocation may sometimes be involved.

Finally, and as discussed in detail in Section 6.1, Victoria has a well established and robust offsetting approach that ensures that offset gains are commensurate with the type and scale of losses (DNRE 2002). Offsets are rigorously defined and take account of the extent, quality and conservation significance of the loss using the Habitat Hectare metric and multipliers where relevant as well as counts of large trees. As discussed in Section 6.1 Victoria will permanently protect 15,000ha of significant areas of native grassland to the west of Melbourne by acquiring it as a Crown land reserve and this will be used to offset unavoidable clearing of native vegetation and habitat within the urban area. A similar, but smaller reserve will be established to conserve Grassy Eucalypt Woodland and provide a source of offsets for permitted clearing of this ecological community.

6.3.1 NATURAL TEMPERATE GRASSLAND OF THE VICTORIAN VOLCANIC PLAIN

The greatest threats to the Natural Temperate Grasslands of the Victorian Volcanic Plain are land clearing and degradation in quality. This is primarily due to weed invasion, and also to closing over of inter-tussock spaces and the subsequent senescence of plants. This results in loss of diversity and occurs where there is inadequate biomass reduction due to lack of appropriate fire or grazing regimes.

Native Temperate Grasslands of the Victorian Volcanic Plain is a vegetation type that cannot effectively be replanted or regenerated elsewhere, although research is continuing and some positive results have been demonstrated in small scale trials. Targeted and effective long term management of existing grasslands is a critical requirement to maintain the quality (and therefore most of the values) of this critically endangered ecological community. Most (93 per cent) of Natural Temperate Grassland of the Victorian Volcanic Plain is found on private land, and in general the quality of these unsecured sites is deteriorating. Four main conservation reserves have been established across the Victorian Volcanic Plain: Craigieburn Grasslands Reserve (340ha); Derrimut Grassland Reserve (154ha); Boral Deer Park Reserve (90ha); and Laverton Grassland reserve (52ha). All of these are either within the study area or within the existing urban area. Conservation reserves currently account for only two per cent of the current extent of native temperate grassland.

SIGNIFICANT IMPACT THRESHOLD

The Commonwealth's *Significant Impact Guidelines* (Department of the Environment and Heritage 2006) apply as no specific guidelines are yet available for the natural temperate grasslands of the Victorian Volcanic Plain.

ACTUAL/LIKELY IMPACTS

Actions associated with *Melbourne @ 5 Million* are likely to have significant impact on the Natural Temperate Grasslands of the Victorian Volcanic Plain, particularly in Melbourne's west. Loss of extent as a result of direct clearing for housing, roads and other infrastructure will be the primary impact. It is likely that up to 3,278ha of this native grassland will be cleared over the next 20–30 years as a result of the revised Urban Growth Boundary and associated infrastructure projects. Of this proposed grassland removal, around 525ha would be cleared for the proposed OMR/E6 Transport Corridor and 95ha for the proposed Regional Rail Link. An additional 769ha of this Natural Temperate Grassland occurs within proposed precincts adjoining the Melbourne West and Melbourne North Investigation Areas and much of this is likely to be removed also, subject to the outcomes of the Precinct Structure Planning process. Hence, a total of up to 4,667ha could be cleared as a result of all projects within the Program. Using the measurement system developed in Victoria's Native Vegetation Framework, which combines vegetation extent and quality into a Habitat Hectare measure, the maximum amount of clearing is estimated at 1,922 Habitat Hectares. The estimated offset requirement as a result of this clearing (assuming a precautionary, worst case scenario) is 3,599 Habitat Hectares (includes multipliers based on conservation significance). Appendix 1 provides a detailed breakdown of these loss statistics.

The expected maximum total clearing of 4,667ha of Natural Temperate Grassland is allocated as follows across the three major projects:

Regional Rail Link	95ha (37 Habitat Hectares)
OMR/E6 Transport Corridor	525ha (241 Habitat Hectares)
Urban development in new growth areas	3,278ha (1,354 Habitat Hectares)
Urban development in proposed precincts (existing growth areas)	769ha (290 Habitat Hectares)
Total	4,667ha (1,922 Habitat Hectares)

MITIGATION OBJECTIVES

- > Retain 15,000ha of the largest consolidated area of native grassland remaining in the Western Grassland Reserves, and additional areas in the north (in association with Grassy Eucalypt Woodland habitat). The Western Grassland Reserves will be purchased by the Victorian Government and will become a National Park (or similar conservation reserve) outside the urban area.
- > Manage native grassland reserves to improve their quality over the long term and maximise habitat condition for threatened and other resident species (for example, through removal of barriers to dispersal and active maintenance of open-tussock structure). This will generate gain to offset the loss from clearing.
- > Monitor and manage adaptively.

MITIGATION STRATEGY

Avoid: A major objective of *Melbourne @ 5 Million* and the Victorian Transport Plan has been to avoid the development of native grasslands west of Melbourne. The current Urban Growth Boundary, Investigation Areas, the proposed Urban Growth Boundary revision, and related infrastructure have been located to avoid the majority of known native grasslands.

Avoidance is difficult to quantify precisely: however, large areas of native grassland were specifically excluded from the Melbourne West Investigation Area. It is very likely that several thousand hectares of additional native grassland would have been proposed for clearing had this deliberate avoidance not occurred, particularly in the areas proposed as the Western Grassland Reserves south of Melton and west of Werribee.

Minimise: Considerable effort has already been applied to minimising native grassland clearing in the Melbourne West Investigation Area by fine-tuning the proposed location of the Urban Growth Boundary, OMR/E6 Transport Corridor, Regional Rail Link and exclusion areas.

Approximately 1136ha of Natural Temperate Grassland will be included within the non-urban areas of the western (Wyndham and Melton-Caroline Springs) Growth Area, at least 642ha of which (and probably a total of 760ha) will be initially protected in relevant conservation zones. The conservation outcomes from the remaining areas excluded from urban development and designated Farming Zone are less certain at this stage.

A further 661ha of Natural Temperate Grassland will be retained and excluded from urban development in the Melbourne North Growth Area, of which 532ha will be secured in Conservation Zones. A proportion of this area is expected to provide habitat for populations of Golden Sun Moth that will be confirmed through subsequent site surveys. The remaining 129ha excluded from urban development will be designated Farming Zone to cover a range of uses such as quarry buffers and utility easements. Some biodiversity benefit will be gained from these areas but it is difficult to estimate at this point.

These retention figures exclude grassland that occurs within active quarry areas within the Program area, within which grasslands totalling 724ha in the Wyndham and Melton-Caroline Springs Growth Areas and 59ha in the Hume and Whittlesea Growth Area are likely to be progressively cleared under separate State and Commonwealth approval arrangements. These quarries with existing approvals are not subject to this Strategic Impact Assessment.

Given this minimisation, the creation of the proposed Western Grassland Reserves nearby and the important social and economic outcomes required from the western Growth Area, further minimisation of grassland clearing is unlikely to be achieved in the west.

However, the Precinct Structure Planning process will provide additional minimisation, particularly within the existing Urban Growth Boundary and for areas of native grassland that provide important habitat for threatened species. Surveys to confirm the presence or likely presence of threatened species and the management needs at that location will be conducted.

A prescription based on *Victoria's Native Vegetation Management – A Framework for Action* (DNRE 2002) has been developed to guide all future decisions regarding retaining or clearing natural temperate grassland of the Victorian Volcanic Plain within the study area. The Native Vegetation Framework provides a robust, risk based approach to marrying conservation objectives with clearing decisions.

The prescription is described below.

PRESCRIPTION FOR NATURAL TEMPERATE GRASSLAND

Preamble

Between the proposed new Urban Growth Boundary and the existing Urban Growth Boundary clearing of native grasslands has already been avoided and minimised. Further areas will only be retained within these areas if required to meet another relevant prescription (e.g. Spiny Rice-flower, Matted Flax-lily, Golden Sun Moth).

Inside current Urban Growth Boundary the Precinct Structure Planning process will seek to avoid and minimise impacts on native grasslands, as required by the *Native Vegetation Management Framework*. Priority will be given to retention of areas of native grassland that support other nationally significant species, where these different assets can be effectively managed within the retained area over the medium to long term.

Prescription

- > Grasslands will be retained between the proposed new Urban Growth Boundary and the existing Urban Growth Boundary if the site contains an endangered or critically endangered orchid species.
- > Inside the current Urban Growth Boundary native grasslands within precincts will be retained if they are manageable and demonstrably able to retain their values in the long term, that is, part of a contiguous area of native vegetation under the same type of management typically of at least 150ha including adjacent areas outside the precinct.
- > All permitted clearing of native grasslands will be offset in accordance with the Victorian *Native Vegetation Management Framework* and offsets will be secured prior to commencement of clearing. Offsets for clearing of Natural Temperate Grassland will be sourced from the proposed Western Grassland Reserves.

This prescription will be used in the Precinct Structure Planning process, as required by the *Precinct Structure Planning Guidelines* and in approvals required for transport infrastructure and future quarries.

Offset: If a site supporting natural temperate grasslands of the Victorian Volcanic Plain is approved for clearing, the primary mitigation measure will be offsets. These will be sourced from credits generated by the establishment and management of the proposed 15,000ha Western Grassland Reserves, outside the Urban Growth Boundary (Figure 36). The process to acquire the reserves will commence with the gazettal of the new Urban Growth Boundary. The reserves will eventually become a National Park (or equivalent). These reserves contain the largest consolidated area and some of the highest quality areas of the grasslands known, and support several nationally threatened flora and fauna species (Figure 36).

Section 6.1.1 provides additional information on the proposed Western Grassland Reserves.

OTHER MITIGATION AND RELATED PROCESSES

The proposed natural temperate grassland reserves will consolidate a large and adequate area of native grassland into public ownership and management. Victoria will also pursue a strategy of increasing the protection and sympathetic management of remaining areas of native grassland on private land.

This will be achieved by mapping additional private land remnants on the Victorian Volcanic Plain, applying Environmental Significance Overlays to protect remnant grasslands and targeting market based incentive programs to relevant landowners through programs such as BushTender and BushBroker. These programs offer landholders an income in return for securing and managing their native vegetation to improve its extent and quality either permanently (BushBroker) or for a defined period (BushTender).

MITIGATION OUTCOME

Mitigation aims to achieve a demonstrable net gain in the extent and quality of natural temperate grasslands of the Victorian Volcanic Plain, as measured by the Habitat Hectare system. Losses that occur in areas of urban development will be offset by the additional security and improved quality provided by establishment and management of the large new reserves. The predicted net impact on the grasslands as a result of this Program is therefore likely to be positive over the long term. This is discussed further in Section 6.1.1.

The outcomes sought are:

- > The creation of large (at least 15,000ha) consolidated areas of permanently protected native grasslands outside the Urban Growth Boundary in Melbourne's west, managed to improve their quality and offset losses from clearing associated with urban development and transport Infrastructure.
- > A number of smaller reserves within the Urban Growth Boundary at Clarkes Road, Truganina Cemetery, Craigieburn and associated with Merri Creek in the north, some within the urban context, providing additional protection for key sites and connectivity between related habitat types, particularly grassy woodlands, stony knolls and floodplain grasslands.
- > The long term sustainability and persistence of the Natural Temperate Grasslands of the Victorian Volcanic Plain ecological community through permanent protection and enhancement of the ecological functions and values of the largest consolidated remaining area of grasslands.

6.3.2 GRASSY EUCALYPT WOODLAND OF THE VICTORIAN VOLCANIC PLAIN

The greatest threats to the grassy woodlands of the Victorian Volcanic Plain are land clearing for agriculture and urban development, fragmentation of existing remnants and degradation of quality through weed invasion and inappropriate management. Most of this community (92 per cent) occurs on private land and in general the quality of these unsecured sites is deteriorating, depending on the intensity of grazing and other agricultural practices. Only three per cent of the current extent of this community exists within conservation reserves. Of the few conservation reserves containing this community, the largest are the Woodlands Historic Park Reserve (200ha), just beyond the Melbourne North Investigation Area, and Mount Ridley Flora and Fauna Reserve (100ha) and Amaroo Reserve (20ha) within the existing urban area.

SIGNIFICANT IMPACT THRESHOLD

Grassy Eucalypt Woodland of the Victorian Volcanic Plain was recently listed under the EPBC Act, therefore the Commonwealth's *Significant Impact Guidelines* (Department of the Environment and Heritage 2006) apply. No specific guidelines are yet formally available for the Grassy Eucalypt Woodland of the Victorian Volcanic Plain.

ACTUAL/LIKELY IMPACTS

The actions associated with the Program are likely to result in significant impact on Grassy Eucalypt Woodland of the Victorian Volcanic Plain at some sites in the north. The primary impact will be the loss of extent as a result of direct clearing for housing, roads and other infrastructure. It is likely that up to 709ha of Grassy Eucalypt Woodland will be cleared over the next 20 to 30 years, mostly in the Melbourne North Investigation Area. Using the measurement system in Victoria's Native Vegetation Framework, which combines vegetation extent and quality into a Habitat Hectares measure, the maximum amount of clearing is estimated at 187 Habitat Hectares.

The allocation of the expected clearing of 709ha of Grassy Eucalypt Woodland across the various projects is outlined below.

Regional Rail Link	N/A
OMR/E6 Transport Corridor	125ha (33 Habitat Hectares)
Urban development in new growth areas	449ha (118 Habitat Hectares)
Urban development in proposed precincts (existing growth areas)	135ha (36 Habitat Hectares)
Total	709ha (187 Habitat Hectares)

MITIGATION OBJECTIVES

1. Retain large and better quality areas of grassy eucalypt woodland in a network of areas within the Melbourne North Growth Area, ensuring maximum connectivity between reserves and private land areas.
2. Progressively secure the long-term protection of retained areas of Grassy Eucalypt Woodland on private land within the Melbourne North Growth Area by donation to the Crown or by private land management agreements.
3. Establish a large reserve of at least 1,200ha south-west of Whittlesea that includes areas of Grassy Eucalypt Woodland excluded from the urban growth boundary;
4. Manage retained and reserved Grassy Eucalypt Woodland to improve their quality over the long term and maximise habitat condition for threatened and other resident species; and
5. Monitor and manage adaptively.

MITIGATION STRATEGY

Avoid: The location of the current Urban Growth Boundary, Investigation Areas, the proposed Urban Growth Boundary revision and related infrastructure have been sited to ensure that more than half of the area of known Grassy Eucalypt Woodland will not be developed for urban uses. This includes an area of approximately 700ha supporting 314ha of Grassy Eucalypt Woodland within the Investigation Area which has been excluded from the Urban Growth Boundary altogether.

Minimise: Fine-tuning the proposed location of Urban Growth Boundary and OMR/E6 Transport Corridor and, in particular, the proposed exclusion areas in the Melbourne North Investigation Area has significantly minimised impacts on Grassy Eucalypt Woodland. Approximately 773ha of Grassy Eucalypt Woodland has been protected from urban development within the growth area. Additional minimisation will occur as part of the Precinct Structure Planning process required for all proposed urban areas, particularly in the south-east of the Melbourne North Investigation Area. Although this report assumes a worst case scenario in assessing the extent of Grassy Eucalypt Woodland that will be cleared as part of the Program, there will be an opportunity to minimise impacts to the grassy woodland through sympathetic design responses that retain areas of grassy woodland in public areas (such as reserves for conservation and passive recreation).

PRESCRIPTION FOR GRASSY EUCALYPT WOODLAND

Preamble

The Precinct Structure Planning process will seek to avoid and minimise impacts on Grassy Eucalypt Woodland, as required by the *Native Vegetation Management Framework*. It will take into account avoidance and minimisation efforts that are already complete, in particular in areas between the new Urban Growth Boundary and the existing Urban Growth Boundary where avoidance has already been achieved. Priority will be given to retention of areas of woodland that support other nationally significant species, where these different assets can be effectively managed within the retained area over the medium to long term.

Eighty (80 per cent) of all Grassy Eucalypt Woodland (i.e. that meet the Commonwealth thresholds) within the Urban Growth Boundary will be retained and managed in a secure conservation reserve.

Prescription

- Areas of Grassy Eucalypt Woodland (i.e. that meet the Commonwealth size and condition thresholds for the community) should not be cleared and should be retained and managed in a secure conservation reserve. If clearing is required for construction of state significant infrastructure (e.g. OMR/E6 Transport Corridor), or if Department of Sustainability and Environment determines that the 80 per cent target (above) has been reached, offsets will be obtained after reasonable minimisation efforts have been concluded.
- Retention of degraded Grassy Eucalypt Woodland areas (i.e. below the Commonwealth condition threshold for meeting the Grassy Eucalypt Woodland definition) will be incorporated into open space where practical (as trees in parks and roadsides).
- All permitted clearing of grassy woodland will be offset in accordance with the Victorian Native Vegetation Framework. Offsets for clearing of Grassy Eucalypt Woodland will be sourced from the Northern Grassy Woodland Reserves including retained areas within the Growth Area. No clearing of Grassy Eucalypt Woodland within the Program area may occur until the Northern Grassy Woodland reserve has been established.

This prescription will be used in the Precinct Structure Planning process, as required by the *Precinct Structure Planning Guidelines* and in approvals required for transport infrastructure.

Offset: Offsets will be the primary mechanism for mitigating the impacts of vegetation approved to be cleared after the minimisation process is complete. The proposed Northern Grassy Woodland Reserves and retained areas of Grassy Eucalypt Woodland on private land within the Melbourne North Growth Area will be used as offsets for clearing elsewhere within the Urban Growth Boundary. Land for offset sites within the Growth Area would either be donated to the Crown or the land owner would enter into a permanent management agreement to secure the long-term protection of the native vegetation. Land within the proposed Northern Grassy Woodland Reserves will be acquired by Government or in some cases secured using a permanent management agreement or conservation covenant. This will compliment areas of retained and reserved Grassy Eucalypt Woodland on public land that will be managed to improve their quality over the long term and maximise habitat condition for threatened and other resident species.

The total size of Grassy Eucalypt Woodland retained on public and private land within the Melbourne North Growth Area is 773ha. This includes 581ha that will be in secure conservation zoning. The remaining 192ha that will be included in the Farming Zone includes quarry buffers, utility easements and a range of other uses, some but not all of which will be compatible with protection and management of this ecological community. Hence the 581ha of this community that will be initially secured for conservation represents a likely minimum.

In addition to this the proposed Northern Grassy Woodland Reserves will be at least 1,200ha in size and located south-west of Whittlesea outside the Urban Growth Boundary.

MITIGATION OUTCOMES

The intention is that there will be no net loss of Grassy Eucalypt Woodland of the Victorian Volcanic Plain as measured by the Habitat Hectare measure of extent and quality over the short to medium term. Losses in extent that occur in areas of urban development will be offset by areas retained nearby or outside the Urban Growth Boundary. Over the longer term it is expected that there will be an overall gain in Grassy Eucalypt Woodland once the reserves are established and management to improve understorey condition and structure take effect.

A Biodiversity Conservation strategy that sets out the particular arrangements for each retained area within the Urban Growth Boundary including the land manager, conservation objectives (where relevant) and mechanisms to achieve them will be prepared.

The outcomes sought are:

- > A large conservation reserve outside the urban Growth Boundary south-west of Whittlesea of at least 1,200ha in size.
- > Eighty per cent of all Grassy Eucalypt Woodland within the Urban Growth Boundary retained and managed in secure conservation reserves.
- > A network of small and medium sized conservation reserves and permanently protected private land habitat in the Hume-Whittlesea Growth Area associated with Merri Creek and Darebin Creek floodplains. These will consolidate and connect key areas of grassy woodland and associated habitats (stony knolls, plains grassland, floodplain grasslands and riparian areas);
- > A network of small connected conservation reserves in the Sunbury area to protect Grassy Eucalypt Woodland and associated habitats.
- > Improved quality of retained areas of vegetation inside and outside the Urban Growth Boundary including supplementary planting to improve structure.

6.3.3 TEMPERATE LOWLAND PLAINS GRASSY WETLAND

This ecological community nominated for listing under the EPBC Act occurs within the study area and is likely to be impacted as a result of actions undertaken as part of the Program. Given the status of this ecological community it remains unclear precisely what will be included within the Commonwealth's definition hence it has not been treated in detail in this report.

Using Victoria's Ecological Vegetation Class number 125 as the surrogate (as indicated by the nomination description) it is estimated that 110ha of Temperate Lowland Plains Grassy Wetland will be impacted. Approximately the same amount (105ha) will be retained and protected within the Urban Growth Boundary.

This vegetation type is often difficult to map with certainty given its dependence on seasonal conditions. The present prolonged dry conditions are likely to have masked the true extent of this vegetation within development and non-development areas.

The likely extent of unavoidable impact is therefore not yet known with certainty. Further surveys will be undertaken during the transport planning and Precinct Structure Planning process to determine the extent and location of this vegetation at potential impact sites.

A prescription will be developed by the Department of Sustainability and Environment to the satisfaction of the Commonwealth to inform requirements for the Precinct Structure Planning process and also for the OMR/E6 Transport Corridor and Regional Rail Link projects should the ecological community be located in these areas. This

prescription will guide mitigation and management decisions including whether to retain the vegetation on site.

In situations where clearing is permitted, offsets may be able to be sought from the proposed Western Grassland Reserves or the area proposed for wetland re-establishment outside the Melbourne South East Growth Area, as Temperate Lowland Plains Grassy Wetland is known to occur at both those locations.

6.4 IMPACTS ON LISTED THREATENED SPECIES AND THEIR HABITATS AND PROPOSED MITIGATION

6.4.1 SPECIES THAT INHABIT GRASSLANDS AND GRASSY WOODLANDS

PLAINS-WANDERER

As indicated in Section 5.2.1, although it cannot be ruled out, the Plains-wanderer is unlikely to have persisted within the study area, although it would have been present historically. The last confirmed record was to the immediate west of the Melbourne West Investigation Area. According to Birds Australia (2009) “the two large tracts of remnant volcanic plains grassland west of the boundary of the Western Investigation Area are critical to retain habitat for this species in southern Victoria. These areas are of immense significance to the Plains-wanderer and should be formally reserved in the National Reserve System. Failure to achieve this may result in ongoing habitat loss and degradation which may lead to the loss of the Plains-wanderer from the broader region.”

The Western Grassland Reserves proposed in Section 6.1.1 will be managed for a range of values, including Plains-wanderer. With active management to maintain and increase areas of suitable habitat for the species, Plains-wanderers are likely to continue to be recorded in the area, and numbers will increase over the medium term. The added pressure of increased urban development and human population near these areas will be mitigated by the sheer size of the reserved areas (approximately 15,000ha). As most known Plains-wanderer populations exist on private land (Department of Sustainability and Environment 2003), managing the proposed Western Grassland Reserves for this species will contribute significantly to its recovery across its range.

It is not considered likely that actions under the Program will cause a significant impact on the Plains-wanderer.

GRASSLAND EARLESS DRAGON

As indicated in Section 5.2.1 there is a small possibility that this species still occurs within the study area, but it is more likely to be locally extinct within the study area. If the species does persist close to Melbourne it is most likely to be in the grasslands to the west of the study area, including within the proposed Western Grassland Reserves, although areas of native grassland in the north (such as Craigieburn Grasslands reserve) cannot be ruled out.

Based on the absence of recent records of the species in the vicinity of the study area, actions under the Program are not likely to cause a significant impact on the Grassland Earless Dragon. It is also unlikely the species will be detected during urban development.

However, surveys targeting the Grassland Earless Dragon will be undertaken within proposed precincts as an additional precaution. If the species is found during these Precinct Structure Planning surveys, a prescription will be developed by the Department of Sustainability and Environment to the satisfaction of the Commonwealth before Precinct Structure Planning or other relevant development planning is finalised. This prescription will guide mitigation and management decisions. Once approved it will be used to guide management of this species in these development planning processes for the remainder of the Program.

Given the endangered status of this species in Australia (and critically endangered in Victoria), it is likely that any populations located within proposed precincts will be retained and managed on site (e.g. within the precinct area). However, there may be situations identified within the prescription where this is impractical or not desirable, in which case translocation (or 'salvage') of animals for captive maintenance and/or research may need to be considered. This will also be the most likely scenario for animals located during construction (but not detected during surveys). It should be noted that the National Recovery Team does not support translocation as a mitigation measure and points out that translocated animals do not readily re-establish.

If translocation is necessary, animals will be caught and translocated to secure habitat elsewhere (e.g. proposed Western Grassland Reserves, Craigieburn Grassland Reserve), under the direction of the Department of Sustainability and Environment with advice from the National Recovery Team. A fully costed translocation plan must be prepared to the satisfaction of Department of Sustainability and Environment, which will include details of monitoring and management arrangements in the target habitat. A protocol to guide translocation will be prepared by the Department of Sustainability and Environment in conjunction with the National Recovery Team.

The progressive reservation and management of the proposed Western Grassland Reserves will incorporate a program of targeted surveys for the Grassland Earless Dragon.

STRIPED LEGLESS LIZARD

The greatest threats to the species are loss and degradation of habitat. Striped Legless Lizard is predominantly a grassland specialist and its decline is closely related to the depletion of temperate grasslands: 99 per cent of Victoria's lowland native grasslands have been destroyed or drastically altered/severely degraded since European settlement. The species cannot tolerate intense grazing, ploughing or pasture improvement (such as rock removal). It is also intolerant of fire unless it occurs when the soil is cracked and there is opportunity to escape the fire front (Department of Sustainability and Environment 2003). Fragmentation is a long term threat to extant populations due to the poor mobility of populations where physical barriers (such as major roads and bare ground) are present.

SIGNIFICANT IMPACT THRESHOLD

The Commonwealth's *Significant Impact Guidelines* (Department of the Environment and Heritage 2006) apply in this case as no specific guidelines are yet available for the Striped Legless Lizard, although a draft Striped Legless Lizard policy workshop that took place in Melbourne in December 2008 will also inform the decision-making process.

The *Significant Impact Guidelines* use the concept of an important population in some of the impact criteria. The draft outcomes of the recent Striped Legless Lizard policy workshop indicate that there may be a number of important populations that will be impacted by the Program, although these remain poorly defined. This may change in the future as more information is gathered.

ACTUAL/LIKELY IMPACTS

The actions associated with the Program are likely to impact directly on Striped Legless Lizard habitats and extant populations, particularly in the west and possibly in the north. Although current knowledge indicates that significant impacts on important populations are unlikely, they cannot be ruled out. It is therefore assumed that an important population may be found at a location impacted by urban development in the future, and which would make impacts significant: that is, above the thresholds specified in Department of the Environment and Heritage (2006).

As up to 4,667ha of native grassland may be cleared over the next 20–30 years, it can be assumed that, taking a precautionary approach, most of this area is potential habitat for Striped Legless Lizard.

Most populations of Striped Legless Lizard are small. Even though some of these are within small, secure areas of remnant grassland, these are considered inadequate for conserving Striped Legless Lizard populations in the long term (Department of Sustainability and Environment 2003).

The optimal size of a reserve to secure a population of Striped Legless Lizard is unknown. However, the Department of Sustainability and Environment (2003) suggests that a population of 300 individuals may be “viable” in a reserve of 140ha such as Derrimut Grassland Reserve, as long as general mortality rates are low and the site can be managed specifically for the species.

Given that multiple reserve management objectives are always present and some are competing, maintaining a sustainable population would probably require an area considerably larger than this (Department of Sustainability and Environment 2003), especially if fire management and ecological burning regimes are in place.

MITIGATION OBJECTIVES

1. Retain largest (best) areas of habitat in grassland reserves, and a proportion of smaller sites scattered across the range;
2. Manage retained areas of native grassland to improve the quality and connectivity of existing habitat for Striped Legless Lizard (such as by removing barriers and actively manage open-tussock grassland structure);
3. Monitor and manage adaptively; and
4. Consider translocation of doomed populations into large secure reserves.

These objectives and the strategy set out below will make a significant contribution to the most critical of the actions identified in the National Recovery Plan, i.e. *establish a series of reserves and other managed areas such that viable populations are maintained across the known distribution of the species* (Smith and Roberston 1999).

MITIGATION STRATEGY

Avoid: The current Urban Growth Boundary, Investigation Areas, the proposed Urban Growth Boundary revision, and related infrastructure have been located to avoid the majority of known native grasslands. This includes large areas of known Striped Legless Lizard habitat.

Minimise: Fine-tuning the proposed location of Urban Growth Boundary, OMR/E6 Transport Corridor, Regional Rail Link and exclusion areas in the Melbourne West and Melbourne North Investigation Areas has further minimised impacts on the species.

Additional minimisation will occur as part the Precinct Structure Planning process required for all proposed urban areas: particularly in the north where additional areas of native grassland and grassy woodland vegetation will be retained and managed for a range of values including Striped Legless Lizard after surveys confirm the likely presence of species and the management needs at that location. As with Volcanic Plains Grassland (Natural Temperate Grassland), further minimisation of Striped Legless Lizard habitat is less likely in the Melbourne West Investigation Area, given the extent

of effort that has already been applied to this task and the degree and importance of the social and economic outcomes required from this area. However, further minimisation will occur within proposed precincts inside the existing Urban Growth Boundary.

A prescription has been developed to guide all future decisions about retaining or clearing of Striped Legless Lizard within the study area. It is based partly on Victoria's Native Vegetation Framework.

The prescription is described below.

PRESCRIPTION FOR STRIPED LEGLESS LIZARD

Preamble

Between the proposed new Urban Growth Boundary and the existing Urban Growth Boundary impacts on native grasslands and Striped Legless Lizard habitat have already been avoided and minimised. Further areas will only be retained if required to meet a relevant prescription (e.g. Spiny Rice-flower, Matted Flax-lily, Golden Sun Moth).

Inside current Urban Growth Boundary the Precinct Structure Planning process will seek to avoid and minimise impacts on native grassland and grassy woodland (Striped Legless Lizard habitat), as required by the *Native Vegetation Management Framework*. Priority will be given to retention of areas of native grassland that support other nationally significant species, where these different assets can be effectively managed within the retained area over the medium to long term.

The price of the offset for clearing of native vegetation that is Striped Legless Lizard habitat will include a cost premium specifically to assist with the targeted management and monitoring of Striped Legless Lizard in the grassland or grassy woodland offset reserves, the cost calculated on a pro rata basis according to the size of habitat area removed.

Translocation is considered a last resort and is not a substitute for any of the other mitigation steps described in this prescription. Animals must only be translocated to areas of suitable habitat within secure conservation reserves (either on or off site), preferably to the proposed Western Grassland Reserves, Craigieburn Grassland Reserves or proposed Northern Grassy Woodland Reserves, unless the Department of Sustainability and Environment agrees (after consulting with the National Recovery Team) that a better outcome is likely to be achieved elsewhere.

Prescription

- > Native vegetation that is Striped Legless Lizard habitat will be retained between the proposed new Urban Growth Boundary and the existing Urban Growth Boundary if the site contains an endangered or critically endangered orchid species.
- > Inside the current Urban Growth Boundary areas of native vegetation that is Striped Legless Lizard habitat within precincts will be retained if they are manageable and demonstrably able to retain their values in the long term, that is, part of a contiguous habitat under the same type of management of at least 150ha including adjacent areas outside the precinct.
- > All permitted clearing of Striped Legless Lizard habitat that is native vegetation will be offset in accordance with the Victorian Native Vegetation Framework and offsets will be secured prior to commencement of clearing. Offsets for clearing of native vegetation that is Striped Legless Lizard habitat will be sourced from the Western Grassland Reserves, the proposed Northern Grassy Woodland Reserves or areas reserved in the Hume and Whittlesea Growth Areas as appropriate.
- > In addition, if individual Striped Legless Lizards occur within an area of habitat (native or non-native) that will be cleared, a fully costed translocation plan must be prepared to the satisfaction of the Department of Sustainability and Environment and following any protocol to guide the preparation of such plans agreed between the Department of Sustainability and Environment and the National Recovery Team. Any translocation attempted must be fully documented and monitored.

This prescription will be used in the Precinct Structure Planning process, as required by the *Precinct Structure Planning Guidelines* and in approvals required for transport infrastructure and other development approvals for the Program.

Offset and reservation: An estimated 4,667ha of potentially suitable habitat for Striped Legless Lizard will be cleared as a result of Melbourne's urban growth. The impacts of this clearing will be mitigated at a strategic level by establishing two large grassland reserves to the west of Melbourne as described in Section 6.1. The proposed reserves are already known to support Striped Legless Lizard at several locations (Figure 2) and will become the largest known area of Striped Legless Lizard habitat under dedicated conservation management in Australia.

In addition, a Northern Grassy Woodland Reserve of at least 1,200ha is proposed to the north of Melbourne and a network of retained native grasslands, grassy woodlands, stony

knolls and riparian areas associated with the Merri Creek corridor in the north (Hume -Whittlesea Growth Area) will be progressively protected through targeted acquisition in combination with surrender of land and protection as offsets. Some of these areas are likely to support populations of Striped Legless Lizard.

The National Recovery Plan utilizes the concept of geographically or ecologically distinct population clusters as the basis of a framework for reservation of the species habitat across its range. Although only in draft form, the potential clusters include two of relevance to this study area: West Melbourne, Keilor, Weribee Plains and North Melbourne, Craigieburn Volcanic Plains. The proposed Western Grassland Reserves, in combination with other retained areas of habitat within the western urban area, is very likely to achieve the reservation goal of the Recovery Plan in relation to the West Melbourne cluster. The progressive reservation of important areas in the north of Melbourne, including the proposed reserve outside the urban area, will be an important step to ensure the overall protection goals for Striped Legless Lizard habitat in the North Melbourne cluster are achieved. These areas will compliment the existing reserves in the Hume and Whittlesea Growth Area including Craigieburn Grassland Reserve and Cooper Street Grasslands Reserve.

The proposed Western Grassland Reserves will be managed specifically for the long term success of Striped Legless Lizard and other grassland dependent fauna and flora. Key management measures for Striped Legless Lizard will include:

- > Active vegetation management (maintaining structure) and manipulation of abiotic components (provision of shelter) in areas of suitable habitat to maintain habitat quality;
- > Progressive removal of barriers to connectivity across the reserves; and
- > Ongoing monitoring including further survey and the ability to alter management actions as a result of new information.

The proposed Western Grassland Reserves will be at a scale and level of consolidation that will enable the land manager (Parks Victoria) to manage for Striped Legless Lizard as a priority, in combination with managing for other grassland values.

MITIGATION OUTCOMES

The establishment and management of the proposed Western Grassland Reserves will make a significant contribution to meeting Conservation Objective 4 of the National Recovery Plan and its seven sub-objectives. The additions of the proposed Northern Grassy Woodland Reserve outside the urban area, the protected and managed areas of habitat to compliment existing reserves within the Urban Growth Boundary in the north, and the linking of these wherever practicable, will also contribute to these objectives and will consolidate protection of the important North Melbourne cluster, albeit on a smaller scale than the reserves in the west.

If mitigation measures are successful, the net impact on this species is likely to be positive given the level of reservation and focused management that will result from the Program. However, given that the lack of current data and the time that will elapse before evidence that the trajectory for the species is improving can be seen, the approach taken must manage uncertainties and acquire new information.

The outcomes sought are consistent with the National Recovery Plan and are as follows:

- > Large areas of conservation reserves and other permanently protected habitat managed to enable Striped Legless Lizard to be sustained over the long term through a series of connected populations;
- > Significant contribution to recovery plan objectives including reservation and management of habitat sufficient to protect the West Melbourne and North Melbourne clusters (*sensu* Smith and Robertson 1999);
- > A selection of smaller reserves within the urban context that provide insurance against the risk of catastrophic events and contribute important research and management knowledge;
- > A program of research and monitoring undertaken to provide a basis for adaptive management of the Striped Legless Lizard; and
- > Salvage and translocation options assessed, feasibilities determined and protocol developed for translocation

GOLDEN SUN MOTH

The greatest threats to the Golden Sun Moth are loss and degradation of habitat, primarily because of weed invasion, and also because of the closing of inter-tussock spaces that can result from inadequate biomass reduction. Fragmentation is a long term threat to extant populations due to the poor mobility of the species: the females are generally poor fliers. An area of more than 200m of unsuitable habitat effectively isolates populations. Although the species has been recorded at very small sites (as small as 40m x 40m) (Dear 2006), populations at such sites are prone to extinction from stochastic events. The species appears unable to recolonise once extinct from a site (DEC 2006) and even if this was possible the lack of mobility of the species would indicate that isolated sites would be less likely to be recolonised.

SIGNIFICANT IMPACT THRESHOLD

The Commonwealth's draft *Significant Impact Guidelines* for the Golden Sun Moth provide the following thresholds as a guide for determining whether an action is likely to result in a significant impact:

- > Loss or degradation of more than 0.5ha from a habitat area of more than 10ha;
- > Any loss or degradation from a habitat area of less than 10ha; and
- > Fragmentation by more than 200m of an existing population (for example, by buildings, fences, breaks).

ACTUAL/LIKELY IMPACTS

Actions associated with *Melbourne @ 5 Million* are likely to have significant impact on the Golden Sun Moth at some sites, particularly in the west, and possibly in the north. Up to 4,667ha of native grassland may be cleared over the next 20 to 30 years. Although not all of this area has been surveyed for the species, it can be assumed that most of this is potential habitat if a precautionary approach is taken. The species also utilises grassy woodland, of which 683ha is likely to be cleared, and non-native grassy areas.

Of the approximately 50 known sites, around half are less than 10ha in size, most are in urban areas already approved for development and less than 10 are in conservation reserves. Those that are in reserves are in small Council reserves established as part of existing developments, the sizable Craigieburn Grassland Reserve (320ha) and a series of small, isolated reserves within the urban area, such as:

- Cooper Street Grassland Reserve (40ha);
- Derrimut Grassland Reserve (152ha);
- Woodlands Heritage Park (40ha);
- Altona Reserve (4ha);
- Amberfield Reserve (2ha);
- Highlands Craigieburn (40ha); and
- Amaroo Reserve (20ha).

Given the species' lack of mobility, populations at small isolated sites are less likely to persist in the long term compared to large, connected sites, without intensive management inputs.

MITIGATION OBJECTIVES

1. Retain largest (best) habitat areas in the proposed Western Grassland Reserves, plus a proportion of smaller sites scattered across the range according to the following statewide target:
 - > Protection (through appropriate agreed management) of at least 80 per cent of the total area of places where 'high contribution to species persistence' and 'confirmed habitat' intersect (see Figure 38);
2. Manage retained areas of native grassland to improve the quality and connectivity of existing habitat, such as by removing barriers and actively managing open-tussock grassland structure. Connect suitable unoccupied habitat to occupied habitat;
3. Monitor and manage adaptively; and
4. Undertake broader targeted surveys for the species across its historic range to provide context for land use decisions.

MITIGATION STRATEGY

Avoid: The current Urban Growth Boundary, Investigation Areas, the proposed Urban Growth Boundary, and related infrastructure have been located to avoid the majority of known native grasslands. This includes large areas of known Golden Sun Moth habitat.

Minimise: Fine-tuning the proposed location of Urban Growth Boundary, OMR/E6 Transport Corridor, Regional Rail Link and exclusion areas in the Melbourne West Investigation Area Investigation Area has further minimised impacts on the species. Additional minimisation will happen as part the Precinct Structure Planning process required for all proposed urban areas, particularly in the north. This process will result in sympathetic design and construction techniques and retain additional areas of vegetation, some of which will managed for Golden Sun Moth (after surveys confirm the presence of the species and the management needs at that location).

A prescription has been developed to guide all future decisions about retaining or clearing Golden Sun Moth habitat within the study area. This prescription will be used in the Precinct Structure Planning process, as required by the Precinct Structure Planning Guidelines and in approvals required for transport infrastructure, extractive industries and other development approvals within the Program.

The prescription and the background to it is described below.

The finalization of the Urban Growth Boundary and areas proposed for urban development have been undertaken in conjunction with best available data on Golden Sun Moth distribution and associated native vegetation habitat data. Where these data have been sufficient to apply the proposed prescription for Golden Sun Moth, this has been done. The result of this process is that three additional areas of high quality native grassland have been excluded from the Urban Growth Zone and instead zoned Rural Conservation Zone. These sites, shown in the program Report, total approximately 300ha and will be managed for protection of the Golden sun moth at these sites. These may not be the only additional sites protected within areas proposed for urban development, however until further detailed site data are collected to enable the prescription to be applied to a site or a precinct, this remains unknown.

BACKGROUND TO THE PRESCRIPTION

The prescription relies on knowing the current spectrum of habitat in order of contribution to the persistence of the species across the State, and being able to compare this with information about confirmed sites as new survey data comes to hand. A similar 'habitat matrix' approach is used for other species, such as the Matted Flax-lily and Spiny Rice-flower.

Using this spectrum of habitat information (Figure 38), decision makers will seek to achieve:

The protection across the relevant bioregion (through appropriate agreed management) of at least 80 per cent of the total area of places where 'high contribution to species persistence' and 'confirmed habitat' intersect (see Figure 38).

ABOUT THE SPECTRUM OF HABITAT APPROACH

The approach developed by the Department of Sustainability and the Environment combines known records (and pseudo-absences) of Golden Sun Moth with a range of environmental variables to develop a habitat probability model for Victoria. A threshold that included 95 per cent of confirmed records was then set against this raw model to estimate likely habitat for Golden Sun Moth across the State (see Appendices 2 and 3 for further details).

Information on habitat condition and connectivity requirements for Golden Sun Moth was then used to assign the likely habitat model into classes by their likely contribution to species persistence (from low to high).

The three species persistence categories, currently based on modelled information, are described in Appendix 3 and summarised as follows.

High: Areas of native vegetation (grassland, grassy woodland) within potentially well connected Golden Sun Moth habitat (at least 10,000ha) where connected habitat is separated by breaks in habitat of <200m. Native vegetation here essentially means that native species comprise at least 25 per cent of the understorey vegetation cover. This may include areas currently mapped as medium but upgraded as a result of on ground native vegetation survey.

Medium: Areas of non-native vegetation within well connected Golden Sun Moth habitat as above. May include areas currently mapped as high but downgraded as a result of on ground native vegetation survey.

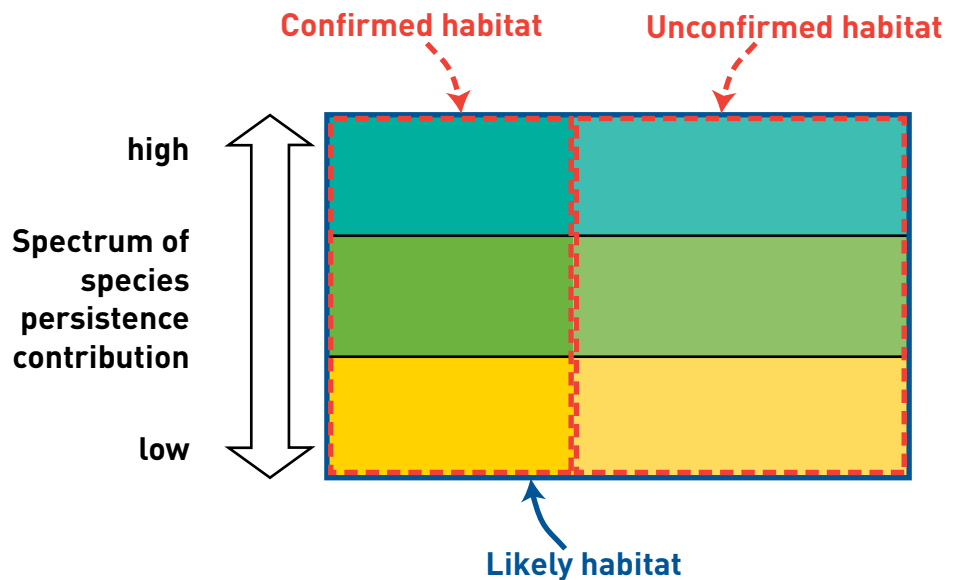
Low: Native or non-native vegetation within less connected habitat (less than 10,000ha).

The Golden Sun Moth habitat spectrum (Figure 38) shows all likely potential habitat (including native and non-native) for the Golden Sun Moth divided into their likely contribution to species persistence classes. Any of the habitat shown in Figure 38 could support a population of Golden Sun Moth. The position of each habitat in a class can be confirmed or questioned depending on whether Golden Sun Moth has actually been recorded.

The map does not indicate the likelihood of occurrence at any site. However, it does use the habitat spectrum to indicate which sites are likely to contribute more to the persistence of the species over time (once the species has been confirmed as occurring at the site).

The diagram below illustrates this process.

MATRIX OF HABITAT FOR GOLDEN SUN MOTH



Current examples of sites providing the greatest contribution to species persistence include the Craigieburn Grasslands Reserve, Cooper Street Grasslands Reserve and Salisbury Bushland Reserve (Nhill). Much of the proposed new Western Grassland Reserves west of Melbourne would also fall into this category once secured. At the lower end of the scale are sites such as those on private industrial zoned land in Altona and Laverton North, in suburban Melbourne.

The current percentage of confirmed 'high contribution to species persistence' habitat protected is approximately 15 per cent.

The Growth Areas Authority will be undertaking intensive, targeted surveys for Golden Sun Moth in peri-urban areas and Green Wedges over the next two years or more, and the Department of Sustainability and Environment will undertake surveys elsewhere in regional Victoria over a similar time period. This will enable more sites to be designated along the spectrum of their contribution to species persistence.

Following these surveys the Department of Sustainability and Environment will prepare a sub-regional strategy and revised prescription for the Golden Sun Moth in consultation with the Growth Areas Authority and relevant municipalities to the satisfaction of the Commonwealth. It will use the site data collected (after at least two years of survey) on native vegetation condition and Golden Sun Moth presence to address the sub-regional habitat requirements for the species, factoring in habitat condition and connectivity, as well as Victoria's progress towards the overall protection goal.

A key output of this sub-regional strategy will be a map showing potential retention zones (including the three retention zones already protected as described above). An

interim map of potential retention zones (western Melbourne only) is being prepared by Department of Sustainability and Environment and will be available soon. The potential retention zones will analyse the connectivity between areas that are confirmed Golden Sun Moth and 'high contribution to species persistence' habitat, and have <25 per cent cover of high threat weeds on the site. The output will be a map showing these sites that are connected by breaks in habitat of <200m. The map of 'high contribution to species persistence' habitat will also be revised and updated and published by the Department of Sustainability and Environment as part of the sub-regional strategy.

The detailed design responses developed in the Precinct Structure Planning process will be consistent with the prescription (below) until a revised prescription is prepared as part of the sub-regional strategy. This prescription will only apply to areas within the existing Urban Growth Boundary and the Regional Rail Link corridor.

PRESCRIPTION FOR GOLDEN SUN MOTH

Preamble

This prescription must be read in conjunction with any sub-regional strategy for Golden Sun Moth prepared by the Department of Sustainability and Environment in conjunction with the Growth Areas Authority and approved by the Commonwealth.

Before approving clearing of confirmed Golden Sun Moth habitat, decision makers must first check with the Department of Sustainability and Environment to determine the current level of protection across the relevant bioregion of confirmed 'high contribution' habitat.

In this case, protection means the same as it does for a Victorian native vegetation offset: that is, a permanent binding management agreement or public conservation reserve which targets the conservation of the species.

Surveys of Golden Sun Moth will be undertaken by Growth Area Authority and Department of Sustainability and Environment across the Bioregion over the next two years according to a standard methodology set out in the *Biodiversity Precinct Structure Planning Kit*. If Golden Sun Moth is recorded at a site, habitat within the whole land parcel in which it is recorded will be designated as 'confirmed'. The native vegetation data collected during site surveys will be used by the Department of Sustainability and Environment to confirm the relevant habitat classes (contribution to species persistence) actually on that site with reference to (Figure 38). For example areas currently mapped as non-native habitat may be found to be native (at least 25 per cent relative cover of native species) and upgraded to the High category, and vice versa.

Once this step has been undertaken, the area to be reconciled with the 80 per cent protection target across the bioregion is then the area of 'high contribution to species persistence' habitat on the land parcel as a whole.

Areas retained for Golden Sun Moth that meet the 100ha threshold below could be either scattered habitat within a broader public open space network or condensed habitat surrounded by urban development. Any retained habitat must be able to be practically managed given the current and future land use context and the thresholds below have been chosen partly for this reason. This would include identification of a practical biomass reduction regime (where required) that can be implemented in the long-term and that manages risk of collateral damage to the Golden Sun Moth population on the site (e.g. as a result of fire or slashing).

Prescription

Prior to permitting clearing, surveys to confirm presence or absence of Golden Sun Moth must be undertaken according to a standard methodology set out in the Biodiversity Precinct Structure Planning Kit and relevant native vegetation data must be collected to enable application of this prescription, in any areas shown as habitat on Figure 38 of this report or as updated by the Department of Sustainability and Environment.

Clearing of native vegetation on a land parcel confirmed to support Golden Sun Moth may not occur until there is:

protection across the relevant bioregion (through appropriate management) of at least 80 per cent of the total area of places where 'high contribution to species persistence' and 'confirmed habitat' intersect,

as confirmed by the most recent publicly available report compiled by the Department of Sustainability and Environment;

or

If the 80 per cent target of 'protected confirmed high contribution habitat' has not been reached across the bioregion (as advised by the Department of Sustainability and Environment) such clearing may be permitted in the following circumstances:

1. If the clearance is unavoidable for the provision of infrastructure of state significance; **or**
2. If the native habitat that could otherwise be retained within the land parcel contains >25 per cent cover of high threat perennial grassy weeds; **or**
3. If the habitat proposed to be cleared is not located within an area of at least 100ha comprising native habitat patches less than 200m apart (e.g. as shown on Department of Sustainability and Environment's interim map of potential retention zones for Golden Sun Moth in western Melbourne).

Non-native habitat (shown as 'medium' and 'low' contribution habitat on Figure 38 or as updated by DSE) and areas of non-habitat on that land parcel may be cleared, subject to native vegetation or other requirements (see below).

If clearing of high contribution habitat is permitted, an offset must be found and secured prior to development being approved. In these cases offsets will be determined by treating the vegetation to be removed as Very High conservation significance as a result of its habitat values for the Golden Sun Moth, and the relevant like for like criteria followed including a requirement that the offset site must contain a population of Golden Sun Moth. Offsets in these cases must be located within areas of 'high contribution to species persistence' habitat, currently shown on Figure 38.

Prior to clearing of confirmed 'medium' contribution habitat an equivalent area of native vegetation confirmed to support Golden Sun Moth must be found and secured.

Prior to commencement of clearing of confirmed 'low contribution' habitat the proponent must commission surveys and confirm the presence of an area of confirmed Golden Sun Moth habitat outside the Urban Growth Boundary equivalent to that proposed to be cleared.

Any sites retained as a result of this prescription must be managed to the standards specified for a native vegetation offset under Victoria's Native Vegetation Framework in terms of security and management.

Sites retained as a result of this prescription will be managed in the same way as a native vegetation offset. A fully costed management plan must be prepared by the proponent in order to achieve this, providing for ten years of active management, permanent protection of the site and a land manager responsible to undertake the work. The tenure of the site may remain as it is or the proponent may choose to donate the site to the Crown.

Offset: The priority of the approach is to retain confirmed populations within high contribution habitat. However, there are additional considerations in applying this approach to ensure the desired outcomes are practically deliverable. In order to retain sites for Golden Sun Moth protection, consideration needs to be given to the management requirements of the site. Victoria's approach to native vegetation management is to avoid investing in management of grassy sites that have high levels of high threat weeds due to the increased difficulties and costs, and significantly increased risk of failure.

In addition, a key consideration in retaining habitat in an urban context is whether biomass reduction can be undertaken in order to maintain suitable conditions for the Golden Sun Moth. The use of fire is generally impractical in an urban context and unless the site is very large presents a high risk of destroying the population. Grazing is also problematic in an urban context due to animal welfare concerns unless the site is large and set up to exclude dogs and people. Slashing can be effective but is only practical in non-rocky sites and requires management of issues such as vehicle hygiene and weed spread. It is also unknown what impact slashing may have on a population of Golden Sun Moth, particularly at a small isolated site.

As a result, there will be situations where such high contribution habitat is permitted to be cleared. In these cases offsets will be required for Golden Sun Moth habitat, calculated in accordance with Victoria's Native Vegetation Framework. This includes permanent legal protection of the offset site, including a management regime and land manager. The result of this will be an offset secured prior to the habitat clearing that, depending on the security arrangements, will be an area of native vegetation larger than the clearing site (often several times larger) supporting a confirmed population of Golden Sun Moth and managed to sustain the population at the site.

If confirmed Golden Sun Moth habitat which is not classed as making a high contribution to species persistence is cleared, a contribution to the overall protection goal is still required. Therefore, in the case of confirmed 'medium contribution habitat' an equivalent area of native vegetation confirmed to support Golden Sun Moth must be found and secured prior to the clearing. For clearing of 'low contribution habitat', the proponent must commission surveys to confirm a similar area of Golden Sun Moth habitat (and species presence) outside the Urban Growth Boundary, but securing management of the site is not required.

The Department of Sustainability and Environment will be responsible for formal accounting of the 80 per cent protection goal. All permanently protected 'high contribution' habitat will be counted towards this goal if it achieves the same standard of protection as for an offset under Victoria's Native Vegetation Framework. This could include areas protected within the Urban Growth Boundary as part of precinct planning, offsets for clearing of Golden Sun Moth habitat inside or outside the Urban Growth Boundary and areas within conservation reserves (not used for native vegetation offsets) including the large new reserves to be established west of Melbourne.

The proposed 15,000ha Western Grassland Reserves are already known to support Golden Sun Moth at several locations (see Figure 36) (Gilmore et al. 2009 Figure 4). Additional areas in the Melbourne North Investigation Area and west of Melbourne are also likely to be protected or reserved as required by the prescription. This will help retain genetic diversity across the species' range, in conjunction with offsets secured outside urban Melbourne.

These reserves will be managed specifically for the long term success of Golden Sun Moth and other grassland dependent fauna and flora. Key management measures for Golden Sun Moth will include:

- Reducing biomass and controlling weeds in areas of known habitat to maintain habitat quality;
- Progressively removing barriers to connectivity across the reserves; and
- Conducting ongoing monitoring including further surveys and maintaining the ability to alter management actions as a result of new information.

The Department of Sustainability and Environment will prepare further guidance outlining the assessment and accounting process, data standards and curation arrangements for Golden Sun Moth, to be published as part of the Sub-Regional Strategy for the Golden Sun Moth.

OTHER MITIGATION AND RELATED PROCESSES

Translocation may be considered where sites have been approved for removal and areas of suitable but unoccupied habitat exist within secure conservation reserves. However, there is little evidence that this is an effective technique. Any translocation attempted will be fully documented and monitored.

Further survey work will be needed to inform the Golden Sun Moth habitat matrix. The current best practice survey protocols in the *Biodiversity Precinct Structure Planning Kit* provide a standardised methodology for Golden Sun Moth surveys. As indicated above, surveys will be undertaken as follows:

- The Growth Areas Authority will undertake targeted surveys of Golden Sun Moth across its historic range within peri-urban areas, Green Wedges and proposed precincts;
- The Department of Sustainability and Environment will undertake surveys of Golden Sun Moth across its historic range in areas of rural and regional Victoria; and
- Before proponents are permitted to clear confirmed Golden Sun Moth habitat, they will be required to confirm equivalent areas of habitat outside the Urban Growth Boundary through survey.

MITIGATION OUTCOMES

If mitigation measures are successful, the net impact on this species is likely to be positive over the long term. However, given the lack of current data combined with the time lapse needed before evidence that the trajectory for the species is improving can be seen, an approach that manages uncertainties and acquires new information is required.

The outcomes sought are:

- Large areas of permanently protected habitat managed in a way that enables Golden Sun Moth to be sustained over the long term through a series of connected populations;
- A selection of smaller reserves and protected areas under targeted management in areas with the greatest contribution to species persistence, providing insurance against risk of catastrophic events in the large reserves;

- > Permanent protection and management of 80 per cent of highest priority habitat for the species across the bioregion (confirmed sites contributing most to species persistence); and
- > Significantly improved information on Golden Sun Moth distribution within Victoria to support important research and management knowledge.

ADAMSONS BLOWN-GRASS

As indicated in Section 5.2.1, there is a small possibility that this species is still extant within the study area, and could be found within the Melbourne West Investigation Area during detailed surveys. However, this is not likely. If the species does persist close to Melbourne, it is more likely to be found in the proposed grassland reserves further west.

Actions under the Program are not considered likely to cause a significant impact on this species.

However, if the species is found during more detailed surveys for Precinct Structure Planning, or during construction, a prescription will need to be developed by Department of Sustainability and Environment to the satisfaction of the Commonwealth to guide mitigation and management decisions.

Once agreed, this prescription will be used in the Precinct Structure Planning process as required by the *Precinct Structure Planning Guidelines* and in approvals required for transport infrastructure and guide decision making for this species for the remainder of the Program.

BUTTON WRINKLEWORT

Given its particular habitat and management requirements, the Button Wrinklewort is unlikely to persist on any private land within the study area. The two known sites – a rail reserve and a cemetery – will both be protected from impacts associated with the Program and will not be developed.

Actions under the Program are therefore unlikely to cause a significant impact on this species, and additional populations are unlikely to be detected during more detailed surveys for Precinct Structure Planning.

However, surveys will be undertaken and if plants are found, a prescription will need to be developed by the Department of Sustainability and Environment to the satisfaction of the Commonwealth to guide mitigation and management decisions.

Once agreed, this prescription will be used in the Precinct Structure Planning process as required by the *Precinct Structure Planning Guidelines* and in approvals required for transport infrastructure and will guide decision making for this species for the remainder of the Program.

CLOVER GLYCINE

Clover Glycine has not been recently recorded within the study area, but may be present as few targeted surveys have been undertaken in large parts of the study area. It is most likely to be found within the Melbourne West Investigation Area but could also be found in the Melbourne North Investigation Area.

Although current information indicates that actions under the Program are not likely to significantly impact this species, this may change as a result of surveys for the species over coming years as part of Precinct Structure Planning, transport infrastructure and other development planning. Department of the Environment and Heritage guidelines (2006) indicate that an impact will be considered significant if the population impacted meets the criteria for an important population.

If the Clover Glycine is found during surveys, a prescription will be developed by the Department of Sustainability and Environment to the satisfaction of the Commonwealth before the Precinct Structure Planning or other development planning process is finalised. This prescription will guide mitigation and management decisions including whether to retain the species on site. Once approved it will be used to guide management of this species in these development planning processes for the remainder of the Program.

CURLY SEDGE

As outlined in Section 5.1.2, Curly Sedge is a very restricted plant in Victoria. In Melbourne, it is only associated with Curly Sedge Creek, which runs through the Craigieburn Grasslands Reserve. Important population sites within the Melbourne North Investigation Area will be protected from development. The Craigieburn Grassland reserves are already permanently protected and managed for their conservation values.

The area to the north along Curly Sedge Creek has scattered Curly Sedge plants along its margins. This area and its associated native grasslands will be excluded from urban development and managed for its conservation values in the long term.

The continuation of Curly Sedge Creek to the south of Craigieburn Grasslands Reserve also has scattered plants along its margins: however, the surrounding area is very degraded. This area south of O'Hearns Road will also be excluded from urban development and its potential contribution to the retained environment network will be determined in the Biodiversity Conservation Strategy prepared for the growth area.

Any use of this area (such as recreation) will need to be managed to ensure that the creek and an appropriate buffer are suitably protected. This will be resolved in the Biodiversity Conservation Strategy that will be developed for the Hume-Whittlesea Growth Area as an input to the Growth Area Framework Planning process.

Management arrangements will also be put in place to ensure the ongoing conservation of Curly Sedge along the creek and its margins. This will require monitoring and appropriate hydrological and vegetation management.

If these management measures are taken it is unlikely that Curly Sedge will be significantly impacted by actions under the Program.

LARGE-FRUIT GROUNDSEL

This species shares some habitat preferences with Button Wrinklewort and is unlikely to occur on private land in the study area, unless it is on a site well protected from grazing.

Within the Melbourne West Investigation Area it has been found within the Melbourne-Bendigo Railway Reserve and on one private land site on the north side of the railway at Rockbank, where it is scattered through rocky native grassland.

This site is not proposed to be excluded from development and further investigation will be required at the Precinct Structure Planning stage to determine the extent and location of the population at this site and the ability retain part of the population on private land in conjunction with management of the remainder of the population in the adjacent rail reserve or the non-urban network. Such a strategy may reduce impacts below the significant threshold (Department of the Environment and Heritage 2006). However it is quite possible that a significant impact may occur on this species if removal of a substantial proportion of this population is unavoidable.

Additional populations of this species are not likely to be located on private land within the study area, however targeted surveys will be undertaken as a precaution.

A prescription will be developed by the Department of Sustainability and Environment to the satisfaction of the Commonwealth to inform the Growth Area Framework Planning and Precinct Structure Planning process at this Rockbank site. This prescription will guide mitigation and management decisions including whether to retain the species on site.

Once agreed, this prescription will be used in the Precinct Structure Planning process as required by the *Precinct Structure Planning Guidelines* and in approvals required for transport infrastructure and other development and will guide decision making for this species for the remainder of the Program.

There is some potential for the species to regenerate in the proposed Western Grassland Reserves to the west, perhaps from wind-blown propagules, once grazing stops and the sites are managed accordingly. However, whether this will occur naturally is unknown. This species has also been salvaged from development sites in the west of Melbourne and nursery grown stock will be available for planting into the grassland reserves where considered appropriate.

MATTED FLAX-LILY

There are some records of Matted Flax-lily within the southern edge of the Melbourne North Investigation Area and in adjacent precincts (Figure 20). Additional populations may also be found during more detailed surveys in the Melbourne North and possibly Melbourne South-East Investigation Areas and adjacent precincts, although the generally degraded condition of grassland and grassy woodland habitat in these areas indicates that populations are more likely to be small.

No plants were detected during consultant surveys within the Investigation Areas. Around 120 populations are known, but none of the 17 listed as important in the draft recovery plan (Carter in prep) are within the study area.

The species is presumed to have been much more widespread in the past, but is now generally reliant on small areas of habitat, with little connectivity between them. The key threats are habitat destruction or disturbance, weed invasion and fragmentation of populations. Fragmentation is exacerbated by the fact that the species is dependent on native bees for its pollination, and does not appear to reproduce from seed in the wild (Carter in prep). Much remains unknown about the species and the long term management of extant populations. Translocation has been undertaken where necessary, apparently with success, and reintroducing the species to secure areas of suitable habitat is an important recovery action (Carter in prep).

IMPACTS

Current knowledge of Matted Flax-lily and application of the Commonwealth's Significant Impact Guidelines (Department of the Environment and Heritage 2006) indicate that actions under Program are likely to result in significant impact at some sites in the north. It is assumed that such impacts would be on very small populations in degraded habitat.

Further detailed information will be collected to determine the extent of the impact.

MITIGATION

Avoid, minimise: As for other grassland and grassy woodland species, known and likely habitats were avoided in locating the current Urban Growth Boundary, Investigation Areas, proposed Urban Growth Boundary and related infrastructure. The Precinct Structure Planning process will enable impacts to be minimised further, after surveys confirm the presence of Matted Flax-lily.

A prescription has been developed to guide all future decisions about retaining or clearing Matted Flax-lily within the study area, should such a decision be required.

PRESCRIPTION FOR MATTED FLAX-LILY

Preamble

Before approving clearing of confirmed Matted Flax-lily habitat, decision makers must first check with the Department of Sustainability and Environment to determine the current level of protection across the relevant bioregion of confirmed 'high contribution' habitat.

In this case, protection means the same as it does for a Victorian native vegetation offset: that is, a permanent binding management agreement or public conservation reserve which targets the conservation of the species.

As part of the Precinct Structure Planning process, land will be further surveyed for native vegetation and threatened species (including Matted Flax-lily) according to a standard methodology set out in the *Biodiversity Precinct Structure Planning Kit*.

If Matted Flax-lily is recorded at a site, habitat within the whole land parcel in which it is recorded will be designated as 'confirmed'.

The native vegetation data collected during site surveys will be used by the Department of Sustainability and Environment to confirm the relevant habitat classes (contribution to species persistence) actually on that site with reference to (Figure 40). For example areas currently mapped as non-native habitat may be found to be native (at least 25 per cent relative cover of native species) and upgraded to the High category, and vice versa. This map will be publicly available and periodically updated.

Once this step has been taken, the area to be reconciled with the 80 per cent protection target across the bioregion is then the area of 'high contribution to species persistence' habitat on the land parcel as a whole.

Prescription

Prior to permitting clearing, surveys to confirm presence or absence of Matted Flax-lily must be undertaken according to a standard methodology set out in the Biodiversity Precinct Structure Planning Kit and relevant native vegetation data must be collected to enable application of this prescription, in any areas shown as habitat on Figure 39 of this report or as updated by the Department of Sustainability and Environment.

Clearing of native vegetation on a land parcel confirmed to support Matted Flax-lily may not occur until there is:

protection across the relevant bioregion (through appropriate management) of at least 80 per cent of the total area of places where 'high contribution to species persistence' and 'confirmed habitat' intersect,

as confirmed by the most recent publicly available report compiled by the Department of Sustainability and Environment;

or

If the 80 per cent target of 'protected confirmed high contribution habitat' has not been reached across the bioregion (as advise by the Department of Sustainability and Environment) such clearing may be permitted In the following circumstances.

1. If the clearance is unavoidable for the provision of infrastructure of state significance; **or**
2. If the native habitat that could otherwise be retained within the land parcel contains >25 per cent cover of high threat perennial grassy weeds.

If clearing of high contribution habitat is permitted, an offset must be found and secured prior to the development approval. In these cases offsets will be determined by treating the vegetation to be removed as Very High conservation significance as a result of its habitat values for the Matted Flax-lily, and the relevant like for like criteria followed including a requirement that the offset site must contain a population of Matted Flax-lily.

The remaining 'medium' and 'low' contribution habitat and areas of non-habitat on that land parcel may be cleared, subject to native vegetation or other requirements.

Any sites retained as a result of this prescription must be managed to the standards specified for a native vegetation offset under Victoria's Native Vegetation Framework in terms of security and management.

If Matted Flax-lily plants are approved for removal at a site, a fully-costed translocation plan that satisfies the Department of Sustainability and the Environment must be prepared. Plants must be translocated to areas of suitable habitat within secure conservation reserves (either on or off site), preferably to the proposed northern grassland woodland reserve unless a better outcome is likely to be achieved elsewhere. Translocation must follow the *Guidelines for the Translocation of Threatened Plants in Australia*, 2nd Ed (or as updated). Any translocation attempt will be fully documented and monitored.

This prescription will be used in the Precinct Structure Planning process, as required by the Precinct Structure Planning Guidelines and in approvals for other developments associated with the Program

This prescription is similar in its approach to that used for Golden Sun Moth, as it relies on having a map showing the current spectrum of habitat as a reference point (refer Golden Sun Moth discussion above for further background). The spectrum of habitat for Matted Flax-lily is shown in Figure 39 and the three species persistence categories, currently based on modelled information, are described in Appendix 4.

Sites retained as a result of this prescription will be managed in the same way as a native vegetation offset. A fully costed management plan must be prepared by the proponent in

order to achieve this providing for ten years of active management, permanent protection of the site and a land manager responsible to undertake the work. The tenure of the site may remain as it is or the proponent may choose to donate the site to the Crown.

Offset: The priority of the approach is to retain confirmed populations within high contribution habitat. However there are additional considerations in applying this approach to ensure the desired outcomes are practically deliverable. In order to retain sites for Matted Flax-lily protection consideration needs to be given to the management requirements of the site. Victoria's approach to native vegetation management, is to avoid investing in management of grassy sites that have high levels of high threat weeds due to the increased difficulties and costs, and significantly increased risk of failure.

As a result there will be situations where such high contribution habitat is permitted to be cleared. In these cases offsets will be required for Matted Flax-lily habitat, calculated in accordance with Victoria's Native Vegetation Framework.

This includes permanent legal protection of the offset site, including a management regime and land manager. The result of this will be an offset secured prior to the habitat clearing that, depending on the security arrangements, will be an area of native vegetation larger than the clearing site (often several times larger) supporting a confirmed population of Matted Flax-lily and managed to sustain the population at the site.

A Northern Grassy Woodland Reserve of at least 1200ha in size will be established outside the Urban Growth Boundary (Section 6.1.2). In addition a network of retained grassland and grassy woodland areas will be established inside the northern Growth Area at the same time as the gazettal of the new Urban Growth Boundary. Many of these retained areas, which total approximately 773ha in size (within the Urban Growth Boundary), will be managed specifically for the long term success of the threatened species and ecological communities present in them. It is not known whether Matted Flax-lily is present in the proposed reserves, but suitable habitat is available it is considered likely. Additional survey will be undertaken to confirm whether this is the case. In addition the Western Grassland Reserves may support a population of the species and will be managed for the conservation of any resident or translocated populations. Suitable areas of habitat within secure reserves including the Northern Grassy Woodland Reserve will be identified as recipient sites for plants translocated from development areas.

MITIGATION OUTCOMES

Despite potential significant short term impacts on the Matted Flax-lily, the longer term prognosis is favourable, given the extent of actively managed, permanently protected grassland and grassy woodland habitat to be secured as a result of the Program.

The outcomes sought are:

- > Large areas (greater than 1,200ha) of permanently protected grassy woodland habitat managed in a way that enables Matted Flax-lily to be sustained over the long term through a series of connected populations and adaptive management regimes;
- > A selection of smaller reserves and protected areas under targeted management within the urban context and in areas with the greatest contribution to species persistence, providing insurance against risk of catastrophic events and important research and management knowledge; and
- > Improved information regarding the distribution and location of important populations inside and outside Melbourne.

SMALL GOLDEN MOTHS

As described in Section 5.3.1, Small Golden Moths are known in only two populations, both in Melbourne. The smaller population is located at the Laverton Airbase, outside the study area, and the completed planning process for that site has ensured protection of some plants. The largest population, on private land along Clarke Road in the Melbourne West Investigation Area, will be excluded from urban development, permanently protected and managed to maintain this critically important population. This will be achieved either through a Crown purchase of the land or by entering into a binding agreement with the landowners that provides for the dedicated management of this site for the conservation of the species in perpetuity (in conjunction with stewardship or offset payments). The first step in this process will be the designation of this land as Rural Conservation Zone within the Melton planning scheme with an accompanying Environmental Significance Overlay.

If these arrangements are successfully put in place at an early stage, actions under the Program are not likely to result in a significant impact on this species.

If additional populations of Small Golden Moths are located during subsequent surveys, a prescription will need to be developed by the Department of Sustainability and Environment to the satisfaction of the Commonwealth before Precinct Structure Planning is finalised. This prescription will guide mitigation and management decisions including whether to retain the species on site.

Once agreed, this prescription will be used In Precinct Structure Planning and transport infrastructure planning and will guide decision making for this species for the remainder of the Program. Given the critically endangered status of this species, it is likely that any subsequent populations will be managed on site.

SPINY RICE-FLOWER

The greatest threats to the Spiny Rice-flower are vegetation clearing (including cultivation and direct mechanical disturbance from vehicles) and degradation of habitat, particularly as a result of weed invasion and inappropriate grazing or fire regimes.

The species appears to be tolerant of, and may even benefit from, slight disturbance; however, absent or heavy grazing and frequent or intense fire appear detrimental (Department of Environment, Water, Heritage and the Arts 2009). Habitat fragmentation is also a significant long term threat to the survival of the species as most populations are small and isolated and rely on male and female plants for reproduction, and seed germination (which requires fire and rain) is rare.

Within the Strategic Assessment area Spiny Rice-flower has been found within the Melbourne West Investigation Area and within both the proposed Western Grassland Reserves.

SIGNIFICANT IMPACT THRESHOLD

The Commonwealth's draft *Significant Impact Guidelines* for the Spiny Rice-flower (Department of Environment, Water, Heritage and the Arts 2009c) indicate that the following events are likely to result in a significant impact:

- > Fragmentation of a population (such as through buildings, fences, breaks in habitat);
- > Loss of more than five individuals from a population; and
- > Any loss of individuals from a population at the edge of the species' range.

Note that according to the Commonwealth's draft Significant Impact Guidelines a population of Spiny Rice-flower refers to "a collection of individual plants occurring close together but separated geographically from other such collections. Land use and management practices may limit the geographic extent of populations" (Department of Environment, Water, Heritage and the Arts 2009c).

ACTUAL/LIKELY IMPACTS

The actions associated with the Program are likely to result in a significant impact at some sites in the west, although further detailed information is needed to determine the extent of the impact. As populations close to Melbourne are at the south-eastern extent of the species' range, any loss may be considered a significant impact.

It is likely that up to 4,667ha of native grassland may be cleared over the next 20 to 30 years in the west and north of Melbourne. This figure includes the Melbourne North Investigation Area, which includes some potential habitat for the species, even though it has never been recorded there. Although not all of this grassland is habitat for the

Spiny Rice-flower, and much of the area has been surveyed with very few populations of Spiny Rice-flower found, if a precautionary approach is taken, it should be assumed that additional populations will be located during surveys.

Only nine of the 184 known sites in Victoria are in conservation reserves, and most are small, isolated reserves within the urban area. These reserves include half the known populations in western Melbourne.

In the Melbourne area, inside and outside the proposed Urban Growth Boundary, Department of Sustainability and Environment data indicates that there are approximately 46 known populations of which 33 are estimated to support 30 or less plants, three support 30 to 100 plants and seven support 100 to 600 plants (ranging from 252 to 600). Three of these larger populations occur within the actual study area for the Program. These are Truganina Cemetery (375 plants), Ravenhall Grasslands (500 plants) and a private property on Greigs Road, Rockbank (at least 400 plants). The first two will be protected as a result of the Program. The Greigs Road site is being considered for inclusion in the northern section of the proposed Western Grassland Reserve, (already known to include smaller populations of the Spiny Rice-flower) however this addition is not yet certain. The southern section of the proposed Western Grassland Reserve contains the fourth of the larger populations, along Kirks Bridge Road (400 plants), as well as other smaller populations. The other three large populations are:

- > At a protected and managed grassland site owned by Melbourne Water to the south of the proposed Western Grassland Reserve;
- > At a secure reserve in Rockbank negotiated as a result of a development proposal and in the process of becoming Crown Land; and
- > At a proposed residential development at Burnside for which State and Commonwealth approvals are yet to be sought.

The prescription that has been developed for managing the retention of Spiny Rice-flower is likely to result in the retention of the Greigs Road population, and Victoria proposes to adopt a similar approach for the Burnside population, although it is not included within the strategic assessment area. Hence five of the seven larger populations are or will be protected, and protection of the sixth and seventh sites is likely.

Of the three populations of between 30 and 100 plants, two are already protected and managed in public or private reserves and the other is still under negotiation as part of an existing residential development.

Given the low levels and slow rate of recruitment of Spiny Rice-flower it is likely that populations at small, isolated sites will not persist in the long term without intensive

management inputs. Unless pollinators are identified and their habitat requirements successfully managed, this is likely to include hand pollination, and certainly seed germination and replanting activities, to reduce genetic problems such as inbreeding and bolster populations. Ecological burning is effective in stimulating recruitment but is often difficult to undertake at small sites. As the plants are long-lived, any decline in managed populations will not be seen for a long time, but this also means that there is time to identify and manage key populations.

MITIGATION OBJECTIVES

1. Retain largest (best) habitat areas in the proposed Western Grassland Reserves, plus a proportion of smaller sites scattered across the range;
2. Ensure that population clusters are protected and managed appropriately by reserving representative populations within the clusters and managing their habitat appropriately;
3. Manage retained areas of native grassland to improve quality and connectivity of existing habitat by removing barriers and actively managing open-tussock grassland structure. Connect suitable unoccupied habitat with occupied habitat;
4. Monitor and manage adaptively; and
5. Undertake broader targeted surveys for the species across its historic range to provide context for land use decisions.

MITIGATION STRATEGY

Avoid: The current Urban Growth Boundary, Investigation Areas, the proposed Urban Growth Boundary revision and related infrastructure have been located to avoid the majority of known native grasslands. This includes some areas of known Spiny Rice-flower habitat, although additional areas have since been located during surveys.

Minimise: Fine-tuning the proposed location of Urban Growth Boundary, OMR/E6 Transport Corridor, Regional Rail Link and exclusion areas in the Melbourne West Investigation Area has minimised impacts on the species. Impacts will be further minimised through the Precinct Structure Planning process required for all proposed urban areas, and through the management prescription below. This will result in sympathetic design and construction techniques and, where possible, additional areas of vegetation will be retained and managed for Spiny Rice-flower (after surveys confirm the presence of the species and the management needs at that location) where population size or other attributes warrants this.

A prescription to guide all future decisions about retaining or clearing of Spiny Rice-flower habitat within the study area has been developed. It takes a similar approach to that of the Golden Sun Moth, in that it relies on having a current map of habitat in order

of contribution to the persistence of species across the State, and being able to compare this with new survey data as it comes to hand. In the lower classes of the matrix are sites where protection from physical or chemical disturbance remains at risk, such as those on unsecured private agricultural land, land already approved for urban development and some roadside/rail sites. The map of the three species persistence categories, currently based on modelled information, is shown in Figure 40 and the three categories are described in Appendix 5.

Sites retained as a result of this prescription will be managed in the same way as a native vegetation offset under Victoria's Native Vegetation Framework. A fully costed management plan must be prepared by the proponent in order to achieve this providing for ten years of active management, permanent protection of the site and a land manager responsible to undertake the work. The tenure of the site may remain as it is or the proponent may choose to donate the site to the Crown.

PRESCRIPTION FOR SPINY RICE-FLOWER

Preamble

Before approving clearing of confirmed Spiny Rice-flower habitat, decision makers must first check with the Department of Sustainability and Environment to determine the current level of protection across the relevant bioregion of confirmed 'high contribution' habitat.

In this case, protection means the same as it does for a Victorian native vegetation offset: that is, a permanent binding management agreement or public conservation reserve which targets the conservation of the species.

As part of the Precinct Structure Planning process, land will be further surveyed for native vegetation and threatened species (including Spiny Rice-flower) according to a standard methodology set out in the *Biodiversity Precinct Structure Planning Kit*. If Spiny Rice-flower is recorded at a site all the vegetation within the land parcel in which it is recorded will be designated as 'confirmed habitat'.

The native vegetation data collected during site surveys will be used by the Department of Sustainability and Environment to confirm the relevant habitat classes (contribution to species persistence) actually on that site with reference to (Figure 40). For example areas currently mapped as non-native habitat may be found to be native (at least 25 per cent relative cover of native species) and upgraded to the High category, and vice versa.

Once this step has been undertaken, the area to be reconciled with the 80 per cent protection target across the bioregion is then the area of 'high contribution to species persistence' habitat on the land parcel as a whole.

Prescription

Prior to permitting clearing, surveys to confirm presence or absence of Spiny Rice-flower must be undertaken according to a standard methodology set out in the Biodiversity Precinct Structure Planning Kit and relevant native vegetation data must be collected to enable application of this prescription, in any areas shown as habitat on Figure 40 of this report or as updated by the Department of Sustainability and Environment.

Clearing of native vegetation on a land parcel confirmed to support Spiny Rice-flower may not occur until there is:

protection across the relevant bioregion (through appropriate management) of at least 80 per cent of the total area of places where 'high contribution to species persistence' and 'confirmed habitat' intersect,

as confirmed by the most recent publicly available report compiled by the Department of Sustainability and Environment;

or

1. If the clearance is unavoidable for the provision of infrastructure of state significance; **or**
2. If the native vegetation that would otherwise be retained within the land parcel contains >25 per cent cover of high threat perennial grassy weeds and the population of Spiny Rice-flower is less than 200 plants; **or**
3. If the vegetation removal will impact on no more than 20 per cent of the Spiny Rice-flower plants within a land parcel that supports at least 200 Spiny Rice-flower plants ; **or**
4. If the vegetation removal will impact on no more than 50 per cent of the Spiny Rice-flower plants within a land parcel that supports more than five and less than 200 plants; **or**
5. If there are no more than five Spiny Rice-flower plants within the land parcel.

If clearing of high contribution habitat is permitted, an offset must be found and secured prior to development being approved. In these cases offsets will be determined by treating the vegetation to be removed as Very High conservation significance as a result of its habitat values for the Spiny Rice-flower, and the relevant like for like criteria followed including a requirement that the offset site must contain a population of Spiny Rice-flower.

The remaining 'medium' and 'low' contribution habitat and areas of non-habitat on that land parcel may be cleared, subject to native vegetation or other requirements.

Any sites retained as a result of this prescription must be managed to the standards specified for a native vegetation offset under Victoria's Native Vegetation Framework in terms of security and management.

Before Spiny Rice-flower plants are approved for removal, a fully costed translocation plan must be prepared to the satisfaction of the Department of Sustainability and Environment and in consultation with the *Pimelea spinescens* Recovery Team. Translocation must be to areas of suitable habitat within secure conservation reserves (either on or off site), preferably to the proposed Western Grassland Reserves unless a better outcome is likely to be achieved elsewhere. Translocation must follow the Translocation Protocol prepared by the *Pimelea spinescens* Recovery Team (Mueck 2009) (or as updated) and Guidelines for the Translocation of Threatened Plants in Australia, 2nd Ed (or as updated). Any translocation attempted will be fully documented and monitored.

Figure 40 illustrates the current spectrum for Spiny Rice-flower.

This prescription will be used in the Precinct Structure Planning process, as required by the Precinct Structure Planning Guidelines and in approvals required for other development in the Program.

Offset: The priority of the approach is to retain confirmed populations within high contribution habitat. However, there are additional considerations in applying this approach to ensure the desired outcomes are practically deliverable. In order to retain sites for Spiny Rice-flower protection, consideration needs to be given to the management requirements of the site. Victoria's approach to native vegetation management is to avoid investing in management of grassy sites that have high levels of high threat weeds, due to the increased difficulties and costs, and significantly increased risk of failure.

In addition, a key consideration in retaining habitat in an urban context is whether biomass reduction can be undertaken in order to maintain suitable conditions for the Spiny Rice-flower. The use of fire is preferred but is generally impractical in an urban context.

As a result there will be situations where such high contribution habitat is permitted to be cleared. In these cases offsets will be required for Spiny Rice-flower habitat, calculated in accordance with Victoria's Native Vegetation Framework.

This includes permanent legal protection of the offset site, including a management regime and land manager. The result of this will be an offset secured prior to the habitat clearing that, depending on the security arrangements, will be an area of native vegetation larger than the clearing site (often several times larger) supporting a confirmed population of Spiny Rice-flower and managed to sustain the population at the site.

Initially, the proposed new Western Grassland Reserves will more than likely act as offsets, subject to the confirmation of Spiny Rice-flower populations in 'high contribution' habitat areas. The proposed Western Grassland Reserves are already known to support Spiny Rice-flower at several locations (Figure 36). If sufficient area of habitat confirmed as supporting Spiny Rice-flower is not found within the proposed Western Grassland Reserves, alternative offset sites will be required.

These reserves will be managed specifically for the long term success of the threatened species and ecological communities that are present. They will provide the largest and most secure area of habitat for Spiny Rice-flower in the state. Additional surveys will be undertaken to determine the extent of populations within the reserve. These data will be shared with the *Pimelea spinescens* Recovery Team. Population data, monitoring results and trends will be included within periodic reports provided to the Commonwealth.

Suitable areas of habitat within the reserves will also be identified as potential recipient sites should plants be translocated from development areas.

MITIGATION OUTCOMES

There will be significant impacts as a result of the Program in the short-term to medium. However over time, if mitigation measures are successful, the net impact on this species is likely to be positive. This will be a consequence of protecting and managing all moderate to large populations and securing a very large area of habitat (currently private agricultural land) specifically to protect and manage for Spiny Rice-flower. The lack of current data and the time lapse before evidence that the trajectory for the species is improving can be seen (as a result of positive management in the reserved areas), require an approach that manages for uncertainties and acquires new information.

The outcomes sought are:

- > Large (approximately 15,000ha) areas of permanently protected habitat managed in a way that enables Spiny Rice-flower to be sustained over the long term through a series of connected populations;
- > Protection of all known and future populations containing 200 plants or more;
- > A selection of small reserves within the urban context providing insurance against the risk of catastrophic events, and important research and management knowledge; and
- > Improved information regarding the distribution and location of important populations inside and outside Melbourne.

SWAMP FIREWEED

This species has only been recorded at one location within the Melbourne North Investigation Area, being Hearne Swamp, just north-east of Beveridge. There are several tens of records of the species at this site (Brett Lane, ecological consultant, pers. comm.) However, it may well be present elsewhere, including in the south-east where there is a record of the species near Clyde. It is also likely within areas of grassy wetland to the north and west of Melbourne and could occur within the proposed Western Grassland Reserve.

As discussed in the OMR/E6 report, the proposed railway connection into the main north-south railway line passes through one of the sites within the swamp where this species has been recorded. It is therefore likely that some of the population of this species at Hearne Swamp will be affected.

The likely extent of unavoidable impact is not yet known and further investigation will be required at the appropriate stage prior to commencement of construction to determine

the extent and location of the population at this site and the ability retain all or part of the population in a secure site.

A prescription will be developed by the Department of Sustainability and Environment to the satisfaction of the Commonwealth to inform requirements for the OMR/E6 project and the Precinct Structure Planning process should the species be located in proposed urban areas. This prescription will guide mitigation and management decisions, including whether to retain the species on site.

6.4.2 SPECIES THAT PREDOMINANTLY INHABIT NON-GRASSY ENVIRONMENTS

GREY-HEADED FLYING-FOX

Colonies and satellite roosting sites are the major concerns for possible impacts on this species.

The study area does not include the two existing colonies, any known satellite sites or any specific foraging areas that are important for this species. The actions associated with the Program are therefore unlikely to impact on Grey-headed Flying-fox habitats and extant populations.

SOUTHERN BROWN BANDICOOT

The greatest threats to the species are habitat loss and habitat degradation from alteration of the vegetation structure by rabbits, weeds or fuel reduction burning; predation by foxes and cats; and fragmentation and isolation, particularly of small populations.

SIGNIFICANT IMPACT THRESHOLD

The Commonwealth's *Significant Impact Guidelines* (Department of the Environment and Heritage 2006) apply in this case, as no specific guidelines are yet available for the Southern Brown Bandicoot.

ACTUAL/LIKELY IMPACTS

Impacts on Southern Brown Bandicoot will only occur within the Melbourne South-East Investigation Area. Direct impacts resulting from future urban development inside the new Urban Growth Boundary are likely, but will be of a relatively local scale if key mitigation measures are taken.

This because likely areas of habitat are proposed to be excluded from the urban area and some of the remaining habitat in reserves/corridors is able to be retained. Degraded but still suitable habitat within the Melbourne South-East Investigation Area (in the north-west quarry and the Dandenong-Leongatha Railway Reserve) will more than likely be removed or further degraded over time.

Indirect impacts are likely to be of greater consequence to the species unless managed extremely well, as intensive urban development is expected to happen close to the more important retained areas of habitat in the future.

It is likely that significant impacts as defined by Department of the Environment and Heritage (2006) will occur in the short to medium term. The scale of such impacts depends on how well habitat connectivity is effectively maintained and enhanced, particularly outside the proposed Urban Growth Boundary. This will be considered and agreed during the Growth Area Framework Planning phase scheduled to follow the current Urban Growth Boundary review.

The degree of impact will also depend on how well these areas can be managed to minimise the impacts of nearby human occupation. If connectivity can be maintained through careful planning and management in the long term, impacts on the species can be kept to a local scale or even reduced further.

MITIGATION OBJECTIVES

1. Exclude major areas of suitable habitat from development;
2. Retain, upgrade and connect existing habitats within proposed precincts and outside the Urban Growth Boundary, including the important population at the Royal Botanic Gardens Cranbourne;
3. Secure and manage retained habitat and linkages to conserve Southern Brown Bandicoot;
4. Monitor retained and new habitat and adjust management accordingly; and
5. Carefully plan and construct urban development within precincts to minimise impacts on species (such as employing road design and other techniques that facilitate road crossings, and restricting cat, dog and human access in particular areas).

MITIGATION STRATEGY

Avoid: The current Urban Growth Boundary, South-East Investigation Area and proposed zoning within the proposed Urban Growth Boundary have been located to avoid the key area of Southern Brown Bandicoot habitat (a large quarry area in the south-west of the Investigation Area). Although this has been included within the proposed Urban Growth Boundary, it has not been designated as an area for urban development (refer Program Report). After quarrying is complete, the site will be retained in the long term for biodiversity protection and potentially other sympathetic land-uses.

Minimise: Impacts will be minimised through the Precinct Structure Planning process, which is required for all proposed urban areas. Where impacts to Southern Brown Bandicoot need to be further minimised, a precinct will be designed to include a network of retained habitat areas and sympathetic design and construction techniques (in

conjunction with further surveys to assess the habitat retention needs of Southern Brown Bandicoot).

Excluding urban development from waterways and their associated buffers will minimise some impacts to the Southern Brown Bandicoot. Although these areas are the most important habitats for the species, they do assist with local dispersal. Impacts will be minimised by dedicated management of retained areas to maintain habitat values for Southern Brown Bandicoot, including in areas that are nearby and outside the Urban Growth Boundary.

Offset/other mitigation: Protecting and managing Southern Brown Bandicoot habitat within the proposed network of retained areas inside and outside the Urban Growth Boundary will help with the long term conservation of the species in general, and the important population stretching from Melbourne to Wilsons Promontory in particular. This is probably the most important component of the mitigation strategy.

A sub-regional conservation strategy has been developed for the former Koo Wee Rup Swamp area (Schmidt et al. 2008) to the east of the Melbourne South-East Investigation Area. An assessment of regional biodiversity links (Practical Ecology 2008) has also identified options for increasing habitat connectivity for Southern Brown Bandicoot in and around the Royal Botanic Gardens Cranbourne, to the immediate west of the Melbourne South-East Investigation Area. An overall map of modelled habitat suitability for the Southern Brown Bandicoot is provided in Figure 41.

These studies will be used to develop a targeted Sub-Regional Strategy that includes the Melbourne South-East Investigation Area, retained habitat areas and linkages to the east, south and west (including between Botanic Ridge Precinct and the Quarry to the south west of the South-East Investigation Area).

The Sub-Regional Strategy will be developed by the Department of Sustainability and Environment in consultation with the Growth Areas Authority and relevant municipalities to the satisfaction of the Commonwealth. It will address the sub-regional connectivity between and within important populations over the long term. Implementation of the key strategic protection and management measures (such as planning scheme measures and land acquisition) will start before or in conjunction with Precinct Structure Planning. The Sub-Regional Strategy will be prepared prior to and as a key input into the Growth Area Framework Plans.

The Sub-Regional Strategy will identify management arrangements for retained areas, particularly those outside the Urban Growth Boundary. The detailed design responses developed in the Precinct Structure Planning process will be consistent with and guided by this Sub-Regional Strategy.

The following prescription will guide all future decisions about retaining, clearing or modifying Southern Brown Bandicoot habitat within the study area.

PRESCRIPTION FOR SOUTHERN BROWN BANDICOOT

Preamble

In the south east of Melbourne the following objectives should apply to management of Southern Brown Bandicoot in relation to urban development planning:

- > Retain, upgrade and connect existing habitats within proposed precincts and outside the Urban Growth Boundary, including the important population at the Royal Botanic Gardens Cranbourne;
- > Secure, manage and monitor retained habitat and linkages to conserve Southern Brown Bandicoot and adjust management accordingly; and
- > Carefully plan and construct urban development within precincts to minimise impacts on species (such as employing road design and other techniques that facilitate road crossings, and restricting cat, dog and human access in particular areas).

Prescription

Precinct planning design should not commence until surveys to confirm suitable habitat and likely occurrence of Southern Brown Bandicoot in an area are complete (irrespective of whether the species is actually detected). Surveys to be consistent with *Biodiversity Precinct Planning Kit methodology*.

A Southern Brown Bandicoot Conservation Management Plan must be prepared to the satisfaction of the Department of Sustainability and Environment prior to the exhibition of the Precinct Plan, or prior to other development approval.

The plan must demonstrate how, in areas that are highly likely to be used by Southern Brown Bandicoot:

- > Habitat will be retained, connected and managed so the population can function over the long term. This may consider and include habitat both on and off-site (including outside the precinct) but must not rely on translocation of individual animals;
- > Monitoring will be employed for 30 years, extending well beyond the life of the Program so its effectiveness can be determined;
- > Habitat and threatening processes will be appropriately managed and be responsive to the results of monitoring; and
- > Actions related to development will be sequenced to ensure there is no net loss of habitat and local population (using best efforts).

The plan may conclude that retaining relatively small islands of habitat within the precinct is unsustainable and instead, may focus more on management activities adjacent to or beyond the precinct. Even if this approach is taken the mitigation objective is still relevant

The conservation management plan must be consistent with, and respond to, any relevant Sub-Regional Strategy for the Southern Brown Bandicoot approved by the Department of Sustainability and the Environment.

This prescription will be used in the Precinct Structure Planning process, as required by the *Precinct Structure Planning Guidelines* and in approvals required for transport and other development consistent with the Program.

MITIGATION OUTCOMES

If mitigation measures are successful, and habitat quality and function is effectively enhanced, net impact may be minor for the species over the longer term – however, this will remain uncertain for many years.

The outcomes sought are:

- > Functioning sustainable populations of Southern Brown Bandicoot with connectivity between populations; and
- > Protection and enhancement of all populations of Southern Brown Bandicoot including the population at the Royal Botanic Gardens Cranbourne.

AUSTRALIAN PAINTED SNIPE

Both locations within the study area where Painted Snipe have been recorded will be excluded from the Urban Growth Boundary and included within the proposed Western Grasslands Reserve (Figure 36). A third site, to the west of the Melbourne West Investigation Area is also within the area of the proposed grassland reserve.

It is possible that the species uses areas within the proposed Urban Growth Boundary that will be progressively developed. However, suitable habitats for the species in this area are few and are generally more likely to be present further west (or elsewhere).

Overall, significant impacts on the Painted Snipe are not likely to result from actions under the Program, assuming that known or newly discovered habitat for the species is protected and managed appropriately. The proposed Western Grassland Reserves, with their scattering of grassy wetlands, includes known habitat for the species. These reserves will be managed to conserve Painted Snipe in addition to a range of other values.

Proposed reserves associated with Merri Creek and environs in the north, and the large area of retained and recreated wetlands associated with the Melbourne South-East Investigation Area also provide potential habitat. Suitable habitat within these reserves will be managed for Painted Snipe, and created wetlands will be designed for this and other significant wetland species.

If the species, or likely habitat, is detected during fauna surveys, a prescription will be developed by the Department of Sustainability and Environment to the satisfaction of the Commonwealth before the Precinct Structure Planning process is finalised. This prescription will guide mitigation and management decisions relating to the site.

Once agreed, this prescription will be used in the Precinct Structure Planning process and transport infrastructure planning and will guide decision making for this species for the remainder of the Program.

SWIFT PARROT

The Swift Parrot is a passage migrant through the study area, using woodlands that support lerp and flowering eucalypts as they pass through during autumn and winter (Birds Australia 2009). The Melbourne North Investigation Area contains such habitat and the species has been recorded in the area.

The key impact from the Program will be the removal of red gum grassy woodland – suitable habitat for the Swift Parrot – in the south of the Melbourne North Investigation Area as urban development in the area progresses. However, the relatively small reduction in habitat available to the species is unlikely to have a significant impact.

Retaining connected intact woodland vegetation is important for the Swift Parrot, as it requires suitable foraging sites in the Greater Melbourne region to meet its energy demands before and after migrating across Bass Strait to Tasmania (Birds Australia 2009). Creation of the Northern Grassy Woodland Reserve and protecting extensive adjacent woodland areas further east will be a positive action for the Swift Parrot. In the longer term the balance between clearing of grassy woodland (approximately 700ha) to permanent protection and active management of grassy woodland (approximately 2000ha) as a result of the Program is likely to provide a net benefit to the species.

GROWLING GRASS FROG

The greatest threats to the species are the loss and degradation of habitat (wetland vegetation or hydrology), introduction of barriers to movement between habitats, and fish predators and chytrid fungus.

The eggs and young of the Growling Grass Frog may be susceptible to predation by introduced species of fish. Of particular concern is the Eastern Gambusia *Gambusia holbrooki*, which is believed to have contributed to the decline of the Green and Golden Bell Frog *Litoria aurea* (Clemann and Gillespie 2007).

Adults move up to two kilometers between waterbodies, sometimes moving up to one kilometer in 24 hours through vegetated areas such as paddocks and drainage lines (Clemann and Gillespie 2007). Viable populations rely on a matrix of aquatic and terrestrial habitat across the landscape (Department of the Environment, Water, Heritage and the Arts 2008).

SIGNIFICANT IMPACT THRESHOLD

The Commonwealth's draft Significant Impact Guidelines for the Growling Grass Frog identifies that significant impact is likely to result from:

- > Loss or degradation of terrestrial habitat within 200m of water body;
- > Alteration to hydrology or aquatic vegetation;
- > Fragmentation of existing population; and
- > Introduction of predatory fish.

These events relate to important *populations* which are defined as any viable population that is functioning with sufficient connectivity and with a variety of habitats and locations available (Department of the Environment, Water, Heritage and the Arts 2009e).

ACTUAL/LIKELY IMPACTS

An important population of Growing Grass Frogs is located along the Merri Creek in the Donnybrook area (Robertson et al. 2002; Heard et al. 2004; Clemann and Gillespie 2007), and a population also occurs along the nearby Darebin Creek. It is assumed that the Melbourne South-East Investigation Area and adjacent precincts to the east also support an important population, although this has not been formally confirmed. There are also important populations in the west, particularly around Kororoit Creek in the Melbourne West Investigation Area east of Melton. The other significant population is found further south west, around Little River and other waterways and wetlands in the proposed Western Grassland Reserves.

Significant impacts on some important populations are expected, particularly in the short to medium term, as well as local scale impacts at some sites. The degree and scale of such impacts will depend on how well habitat connectivity is maintained and enhanced in key areas, and on ensuring that this connectivity is put in place before major new developments start.

MITIGATION OBJECTIVES

1. Protect the Merri Creek important population;
2. Identify and protect other important populations including in the Pakenham area and south east growth area, and along Kororoit Creek in the west;
3. Retain, upgrade and connect or buffer some existing habitats within proposed precincts, with up to 200m buffers around retained/constructed waterbodies where practicable and up to 100m buffers along connecting waterways (subject to recommendations from the Sub-Regional Strategy);
4. Create new habitat within precincts;
5. Manage suitable habitat within the proposed Western Grassland Reserves and proposed south eastern wetlands specifically for Growling Grass Frog;
6. Manage hydrology and aquatic vegetation carefully to avoid the introduction of predatory fish; and
7. Monitor retained and new habitat, and adjust management accordingly.

MITIGATION STRATEGY

Avoid: At a strategic level, avoiding impacts on Growling Grass Frog habitat by excluding it from the Investigation Areas and associated infrastructure and urban development areas is difficult. This is due in part to the relatively widespread distribution of the species across Melbourne. However, the two largest areas of potential habitat for Growling Grass Frog – in the south-west and north-east corners of the Melbourne South-East Investigation Area – have been excluded from development (Practical Ecology 2009).

Minimise: Excluding urban development from waterways and their associated buffers will minimise impacts on the Growling Grass Frog. Impacts will be minimised further as part of the Precinct Structure Planning process required for all proposed urban areas, especially in the north and south-east, where wetland areas and associated vegetation will be retained and sympathetic design and construction techniques used (after surveys confirm the presence of the species and the management needs at that location).

Impacts will also be minimised by the careful treatment of water and the ability to manipulate the hydrological regime to maintain habitat values.

Offset/other mitigation: Protecting and managing Growling Grass Frog habitat within the proposed Western Grassland Reserves will help with the long term conservation of the species. Along with Westgate Park (Australian Government 1997), the proposed Western Grassland Reserve will be one of the few conservation reserves supporting the species west of Melbourne.

The Melbourne South-East Investigation Area and adjacent areas will contain extensive areas of retained and constructed floodplain and wetlands that serve multiple objectives: water retention and quality; waterbird habitat; Growling Grass Frog habitat; and passive recreation.

A sub-regional conservation strategy developed for the Pakenham area (next to the Melbourne South-East Investigation Area Investigation Area) (Hamer and Organ 2006) will be broadened to consider the Investigation Area and adjacent precincts to the west, as well as areas outside the Urban Growth Boundary to the east and south.

The strategy will be developed by the Department of Sustainability and Environment in consultation with the Growth Areas Authority and relevant municipalities to the satisfaction of the Commonwealth and will address the sub-regional connectivity between and within important populations over the long term. Key strategic protection and management measures (such as planning scheme measures and land acquisition) will be implemented before or in conjunction with Precinct Structure Planning. The detailed design responses developed in the Precinct Structure Planning process will be consistent with and guided by this Sub-Regional Strategy.

PRESCRIPTION FOR GROWLING GRASS FROG

Preamble

The following objectives should apply to management of Growling Grass Frog in relation to urban development planning:

- > Protect important Merri Creek population;
- > Identify and protect other important populations including in the Pakenham area and south east growth area, and along Kororoit Creek;
- > Retain, upgrade and connect or buffer some existing habitats within proposed precincts;
- > Create new habitat within precincts;
- > Manage hydrology and aquatic vegetation carefully to avoid the introduction of predatory fish; and
- > Monitor retained and new habitat, and adjust management accordingly.

Prior to planning for precinct design surveys to confirm the presence of suitable habitat or the likely occurrence of Growling Grass Frog in an area (irrespective of whether the species is actually detected) to be completed. Surveys to be consistent with *Biodiversity Precinct Planning Kit methodology*.

Prior to exhibition of the Precinct Plan, or prior to other development approval, a Growling Grass Frog Conservation Management Plan must be prepared for precincts (or other development areas) containing suitable habitat for Growling Grass Frog to the satisfaction of the Department of Sustainability and Environment. The plan must demonstrate how, for an important population (or potentially important population):

- > Habitat will be retained and/or created and managed with sufficient connectivity so the population can function over the long term. This may consider and include habitat both on and off-site but must not rely on translocation;
- > Monitoring will be employed to determine effectiveness;
- > Habitat and threatening processes will be appropriately managed in a way that is responsive to the results of monitoring; and
- > Actions relating to proposed development will be sequenced to ensure there is no net loss of habitat and local population.

The conservation management plan must be consistent with, and respond to, any relevant Sub-Regional Strategy for the Growling Grass Frog approved by the Department of Sustainability and the Environment.

This prescription will be used in the Precinct Structure Planning process, as required by the *Precinct Structure Planning Guidelines* and in approvals required for transport and other development.

MITIGATION OUTCOMES

If mitigation measures are successful, and habitat quality and function is effectively enhanced, net impact may be minor or potentially even positive for the species over the longer term – however, this will remain uncertain for many years.

The outcomes sought are:

- > Functioning sustainable populations of Growling Grass Frog with connectivity between populations; and
- > Protection and enhancement of important populations.

AUSTRALIAN GRAYLING

The only area of concern for the Australian Grayling is in the Melbourne South-East Investigation Area, where the species is known to be present in Cardinia Creek. Although the species is somewhat sensitive to reduced water quality (Backhouse et al. 2008), there is no reason to expect this will occur as a result of the Program. Cardinia Creek will be protected with a buffer up to 200m wide in total and managed to maintain the high conservation values of the creek corridor. This will require revegetation and woody weed removal as riparian vegetation along this section of the creek is degraded (Practical Ecology 2009). Given the proposed best practice stormwater management it is more likely that water quality will improve rather than deteriorate, when compared the present semi-agricultural catchment. The size of the buffer will be determined during the Precinct Structure Planning phase for precincts inside the existing Urban Growth Boundary and by the Growth Area Framework Planning phase for precincts outside the current Urban Growth Boundary. It is not expected that the Program will result in a significant impact on the Australian Grayling.

DWARF GALAXIAS

The Dwarf Galaxias has not been recorded within the study area, however Department of Sustainability and Environment fish experts believe it may be present in swamps and wetlands within the Melbourne South-East Investigation Area.

Given this uncertainty it is important that this species be specifically targeted with surveys during Precinct Structure Planning investigations. Should the species be located during surveys, a prescription will be developed by Department of Sustainability and Environment to the satisfaction of the Commonwealth before the Precinct Structure Planning process is finalised. This prescription will guide mitigation and management decisions for relevant sites, and may direct that some populations be retained and managed on site (for example, in a retained wetland within the precinct), while others be translocated to secure habitat nearby, depending on the context and the importance of the population.

Once agreed, this prescription will form part of the *Precinct Structure Planning Guidelines* and will guide decision making for this species for the remainder of the Program.

The large area of retained and recreated wetlands associated with the Melbourne South-East Investigation Area will be managed for a range of significant wetland species including Dwarf Galaxias.

MAROON LEEK-ORCHID

Section 5.2.2 describes a population of Maroon Leek-orchid found within the railway reserve around Clyde. Part of this population is within the Melbourne South-East Investigation Area, and it extends further south east beyond the Investigation Area.

The population is well known and is managed, but faces a range of threats. This section of the railway line will not be used for urban development or infrastructure and will be retained primarily for biodiversity protection. It is critical that this section of the railway line be protected and managed to conserve the population of this species, as few other populations are known in the wild.

Given the other significant values along this short section of disused rail reserve (including Swamp Everlasting, potentially Swamp Fireweed and use of this area by Southern Brown Bandicoot), the potential to establish the area as a conservation reserve will be explored as part of preparing the Biodiversity Conservation Strategy for the south-east and subsequent revised Casey-Cardinia Growth Area Framework Plan. In addition, a Conservation Management Plan will be prepared to the satisfaction of the Commonwealth (Department of the Environment, Water, Heritage and the Arts) and Department of Sustainability and Environment as part of preparing a Precinct Structure Plan for the area.

The plan must demonstrate how the population of Maroon Leek-orchid and other values along the railway reserve will be protected and managed over the long term, in light of nearby urban development. The plan must include implementation measures, responsibilities and monitoring. Managing this site will more than likely require the use of ecological burning from time to time. The Growth Area Framework plan and Precinct Structure Plans will need to be responsive to this requirement.

As the site containing the Maroon Leek-orchid will be excluded from development, it is not likely that the Program will result in significant impacts to this species. However, this outcome assumes the ongoing implementation of management actions in line with the Conservation Management Plan to conserve the population over the long term.

RIVER SWAMP WALLABY-GRASS

This species has only been recently recorded once within the Melbourne West Investigation Area (in a farm dam) but may well be present elsewhere. It is most likely

to be found within the proposed western grassland reserve, but could appear within the Melbourne West Investigation Area and potentially in the Melbourne South East and Melbourne North Investigation Areas in other farm dams or permanent swamps.

Based on current information, actions under the Program are not likely to result in a significant impact on this species unless additional populations are located during detailed surveys for Precinct Structure Planning. For an impact to be considered significant in this context, the population impacted must meet the criteria for an important population.

Should the species be found elsewhere during surveys, a prescription will be developed by Department of Sustainability and Environment to the satisfaction of the Commonwealth, before the Precinct Structure Planning is finalised. This prescription will guide mitigation and management decisions about the species, including whether to retain it on site.

Once agreed, this prescription will be used in the Precinct Structure Planning process and transport planning process and will guide decision making for this species for the remainder of the Program.

SWAMP EVERLASTING

Swamp Everlasting has been recorded within the rail reserve on the south east edge of the Melbourne South-East Investigation Area, but may potentially be present in shallow wetlands elsewhere, including within the other Investigation Areas. It may also occur within the proposed Western Grassland Reserves.

Current information indicates that actions under the Program are unlikely to result in a significant impact on this species unless additional populations are located during detailed surveys for Precinct Structure Planning.

For an impact to be considered significant in this context, the population impacted must meet the criteria for an important population.

The population within the rail reserve will be protected from urban development and a Conservation Management Plan developed for this section of the rail line as part of preparing the Precinct Structure Plan for the area (see discussion of Maroon Leek-orchid, above).

Should the species be found elsewhere during surveys, a prescription will be developed by Department of Sustainability and Environment to the satisfaction of the Commonwealth, before the Precinct Structure Planning is finalised. This prescription will guide mitigation and management decisions about the species, including whether to retain it on site.

Once agreed, this prescription will be used in the Precinct Structure Planning process and transport planning process and will guide decision making for this species for the remainder of the Program.

OTHER PLANT SPECIES

Table 2 lists several other plant species that are relatively cryptic or seasonal and may be present within the study area. These are all orchids or smaller herbaceous plants.

Three orchids could potentially be present within the Cranbourne area, although this is not considered very likely:

- > Cream Spider-orchid *Arachnorchis orientalis* (syn. *Caladenia fragrantissima* ssp. *orientalis*);
- > Green-striped Greenhood *Pterostylis chlorogramma*; and
- > Metallic Sun-orchid *Thelymitra epipactoides*.

In the Melbourne West Investigation Area and western grasslands the Sunshine Diuris *Diuris fragrantissima* is considered very unlikely but remains a possibility.

The following three herbs of grassland and grassy wetlands may also potentially be present within higher quality areas in the Melbourne West and Melbourne North Investigation Area:

- > Austral Toadflax *Thesium australe*;
- > Basalt Peppercress *Lepidium hyssopifolium*; and
- > Swamp Fireweed *Senecio psilocarpus*.

Searches for all seven of these species will be undertaken as part of Precinct Structure Planning investigations. In the case of the orchids, surveys are quite specialised and suitably qualified botanists will need to search for the species at the appropriate time of year. This is July–August for Green-striped Greenhood and October–November for the other orchid species.

Should any of these species be found during surveys, a prescription will be developed by Department of Sustainability and Environment to the satisfaction of the Commonwealth, before the Precinct Structure Planning process is finalised. This prescription will guide mitigation and management decisions, including whether to retain the species on site. In the interim it should be assumed that any orchids listed under the EPBC Act as endangered or critically endangered will be retained and managed on site unless the Commonwealth advises otherwise.

Once agreed, the prescription will be used in the Precinct Structure Planning process and transport planning process and will guide decision making for this species for the remainder of the Program.

6.5 IMPACTS ON LISTED MIGRATORY SPECIES AND THEIR HABITATS

Wetland habitat loss and degradation is considered a significant threat to migratory waterbirds.

SIGNIFICANT IMPACT THRESHOLD

The Commonwealth's Significant Impact Guidelines (Department of the Environment and Heritage 2006), which use the concepts of important habitat and ecologically significant proportion of a population for migratory species, apply.

No known nationally significant areas for shorebirds occur within the Investigation Areas (Birds Australia 2009). However, it is possible that nationally significant numbers of shorebirds use some of the wetlands in and adjacent to the Investigation Areas, particularly those within the proposed Western Grassland Reserves and those associated with Merri Creek in the north. The most likely migratory species that could be using such areas in significant number is Latham's Snipe (Birds Australia 2009).

There are six sites known within 10km of the study areas where this species has been recorded in significant numbers (more than 18 birds). However, none of these are actually within the study area and it is not known whether these sites have retained their values for the species (Birds Australia 2009).

ACTUAL/LIKELY IMPACTS

The actions associated with the Program may impact on migratory bird species either through direct loss of wetland habitat or the disturbance and modification of habitat that may occur from increased urban development. However, current knowledge of bird usage and habitats within the study area indicate that it is not likely that impacts on migratory species will be significant.

It is estimated that 670ha of wetland habitat is contained within the study area although this includes some large, artificial impoundments. Of this, around 60ha will be protected from urban development and included within the retained environment network. Although much of the remaining wetland habitat could be directly impacted by urban development, it will be subject to the Precinct Structure Planning process on a site by site basis, which will provide the opportunity to identify and retain significant wetland areas. Any loss of wetland carries risks of losing habitat used by nationally significant numbers of Latham's Snipe, and loss of wetlands throughout the area could also result in significant cumulative impacts to shorebirds (Birds Australia 2009).

Birds' responses to urban development vary. Increased disturbance, for instance, from increased visitation by people, or the absence of an adequate buffer to urban areas, will

make a wetland unsuitable habitat for some birds (Birds Australia 2009). For instance, the Australasian Bittern would likely need a disturbance free buffer of 300m, with no pedestrian or dog access, to continue using an area (Birds Australia 2009).

If not carefully managed, run-off into existing Ramsar or other wetlands has the potential to reduce or alter benthic fauna communities which shorebirds rely upon for food (Birds Australia 2009).

MITIGATION OBJECTIVES

1. Avoid loss of wetlands where possible including ephemeral wetlands and surrounding habitat;
2. Provide buffers of 100m around identified significant wetlands;
3. Limit indirect disturbances (such as dogs) within 200m of identified significant wetlands;
4. Retain and manage a variety of wetland types throughout the urban and non-urban areas of Melbourne;
5. Recreate new wetlands for multiple objectives including bird habitat; and
6. Limit run-off pollution to wetlands.

MITIGATION STRATEGY

Avoid: The current Urban Growth Boundary, Investigation Areas, the proposed Urban Growth Boundary revision, and related infrastructure have been located to avoid many wetlands, including all those known to support nationally significant numbers of migratory species.

Minimise: Fine-tuning the location of the proposed Urban Growth Boundary and OMR/E6 Transport Corridor and, in particular, the proposed exclusion areas in the Melbourne North Investigation Area has further minimised impacts on migratory species. Large areas supporting wetlands have been either excluded from the proposed new Urban Growth Boundary (such as the proposed Western Grassland Reserves) or designated as protected areas within it (such as within the Melbourne North Investigation Area). Additional minimisation of impacts will occur as part the Precinct Structure Planning process required for all proposed urban areas, especially in the Melbourne South-East and Melbourne North Investigation Areas. The Precinct Structure Planning process affords opportunities to minimise impacts to wetlands and retain them through sympathetic design responses that incorporate areas of current natural wetland and potential inundation in public areas (such as by providing reserves for conservation and passive recreation).

The Precinct Structure Planning process will include additional detailed flora and fauna surveys, including within wetland areas. To keep impacts on migratory species to a minimum the following prescription will apply.

PRESCRIPTION FOR MIGRATORY SPECIES

Preamble

The following objectives should apply to management of migratory species in relation to urban development planning:

- > Avoid loss of wetlands where possible including ephemeral wetlands and surrounding habitat;
- > Provide buffers of 100m around key wetlands;
- > Limit indirect disturbances (such as dogs) within 200m of identified significant wetlands;
- > Retain and manage a variety of wetland types throughout the urban and non-urban areas of Melbourne;
- > Recreate new wetlands for multiple objectives including bird habitat;
- > Limit run-off pollution to wetlands; and
- > Advice in Birds Australia (2009) relating to detail of buffers, constraints and opportunities for a range of wetlands should be followed where relevant.

Prescription

Wetlands will be surveyed and assessed as part of flora and fauna investigations for Precinct Structure Planning and other development planning.

Any potentially significant wetlands found within a proposed precinct or development area will be assessed against the Commonwealth's Significant Impact Guidelines (Department of the Environment and Heritage 2006). If a nationally important population of a migratory species is found or considered likely to use the area, the site will be excluded from development with a buffer of 200m and a Conservation Management Plan will be developed to the satisfaction of the Commonwealth and the Department of Sustainability and Environment.

Retained and constructed wetlands will be designed (using specialist ecological input) and managed wherever possible to maximise opportunities for migratory bird species, by excluding dogs and other disturbances in identified areas and imposing a minimum buffer of 100m.

Should surveys detect use of a wetland by the Australian Bittern, the buffer around the wetland (or the majority of the wetland) should be increased to 300m.

This prescription will be used in the Precinct Structure Planning process, as required by the *Precinct Structure Planning Guidelines* and in approvals required for transport infrastructure and other development.

Offset: Impacts on wetlands to be cleared will in part be offset by the creation and dedicated management of conservation reserves supporting a range of wet and dry habitats. The proposed Western Grassland Reserves are the largest and most significant of these: they contain many wetlands of varying types. These wetlands will be managed for migratory and threatened species (such as birds, frogs, and plants). A network of small and large reserves will also be formally established inside and outside the proposed Urban Growth Boundary in the Melbourne North and Melbourne South-East Investigation Areas, including a major new area of recreated wetlands adjacent to the Melbourne South-East Investigation Area.

Section 6.1.3 provides additional information on these new reserves.

MITIGATION OUTCOMES

There will be losses, hydrological modification and degradation of some wetlands within the study area. However, areas of existing wetlands will also be protected within new conservation reserves and open space networks and their management will improve. Many new wetlands will also be created within and adjacent to precincts. All wetlands supporting a nationally significant number of migratory species will be protected. The predicted net impact on migratory species is likely to be neutral or slightly positive over the long term.

The outcomes sought are:

- > Managing a network of small and large conservation reserves including a diversity of wetland areas for their migratory species and other wetland values, particularly in areas distant from urban development; and
- > Improved management and design of retained and constructed wetlands to maximise habitat opportunities for migratory species.

6.6 IMPACTS ON RAMSAR WETLANDS OF INTERNATIONAL IMPORTANCE

SIGNIFICANT IMPACT THRESHOLD

The Commonwealth's *Significant Impact Guidelines* (Department of the Environment and Heritage 2006) apply. Approval under the EPBC Act is required for an action that impacts significantly on the ecological character of a Ramsar wetland, irrespective of whether the action is within or outside the Ramsar site boundaries.

The ninth Conference of the Contracting Parties to the Ramsar Convention (CoP 9 2005), established the following revised definition of ecological character:

“Ecological character is the combination of the ecosystem components, processes and benefits/services that characterise the wetland at a given point in time”
(Resolution IX.1, Annex A: Ramsar Convention November 2005).

The same resolution established the following revised definition of ‘change in ecological character’ for the purposes of implementation of Article 3.2:

“For the purposes of implementation of Article 3.2, change in ecological character is the human-induced adverse alteration of **any ecosystem component, process, and/or ecosystem benefit/service.**”

The significant impact criteria (summarised from Department of the Environment and Heritage 2006) include:

- > Direct disturbance or destruction;
- > Substantial hydrological change;
- > Substantial change in water quality;
- > Serious change to the habitat of a dependant species; and
- > Introduction of an invasive species.

Existing issues recognised for the Port Phillip Bay Ramsar site include monitoring by Melbourne Water of the impacts of improved water quality from the Werribee Sewage Farm and Western Treatment Plant (as a result of Victorian Environment Protection Authority licence requirements) to determine if waterbird usage of certain areas has decreased as a result of lower nutrient levels. If it has, the operational parameters for achieving the licence conditions may be varied as required. Other factors affecting the ecological character of the site at selected locations include pest plants and animals, livestock grazing and visitor impacts (Department of Sustainability and Environment 1999c).

Western Port has a surface area of 68,000ha and a catchment of 3,240sqkm. Many of the inflowing streams are largely straight drainage channels that transport unnaturally large volumes of water and sediment to northern Western Port, with consequent erosion and sediment impacts. Other factors affecting the ecological character within this Ramsar site include impacts on intertidal areas due to vehicle access and grazing of stock, construction of levee banks and drains and presence of *Spartina* at the mouth of the Bass River which has the potential to cover large intertidal areas. There is also a risk of oil spills associated with port development and shipping, and occasional dredging and dredge spoil disposal (Department of Sustainability and Environment 1999b).

ACTUAL/LIKELY IMPACTS

The northern extension of the Port Phillip Bay Ramsar area is close to the southern edge of the Melbourne West Investigation Area Investigation Area. However, the nearest area of this Ramsar site that includes a nationally important shorebird site is several kilometres to the south of the existing Geelong-Melbourne Freeway.

The OMR/E6 Transport Corridor is located partly within the Port Phillip Bay Ramsar area at its southern end. The property boundary of the Western Treatment Plant (owned and managed by Melbourne Water) was used in 1982 to define the boundary of that component of the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site. The area within the site boundary is not all wetland and includes substantial areas of exotic pasture and some native grassland. The nearest major wetland is Ryan's Swamp, some 500m south of the Princes Freeway. OMR/E6 Transport Corridor report refers to a small, seasonal Cane-grass swamp (Paul and Belfrage's Swamp) just west of the proposed OMR/E6 Transport Corridor interchange with the Princes Freeway. This will not be directly affected by works but best practice construction environmental management measures will need to be adopted to prevent accidental disturbance to these wetlands or sediment laden runoff from reaching the wetland. Further investigation will be undertaken prior to more detailed planning of the OMR. This will gather important information to determine optimal management approaches.

The Western Port Ramsar site is approximately five kilometers south of the Investigation Area, and the Edithvale-Seaford Wetlands Ramsar site considerably further. Given the distance from each of the Ramsar sites, there will be no direct impacts as a result of the Program.

However, there are indirect impacts on Ramsar sites and their ecological character that could result from the Program. These relate to potential water quality and hydrological changes, and potential impacts on dependent species and their habitats.

Run-off from urban areas into Ramsar wetlands has the potential to reduce benthic fauna communities which shorebirds rely upon for food, if not carefully managed (Birds Australia 2009). Craigie et al. (2009) emphasise the importance of managing sediment to Western Port, and suggest that management of Total Suspended Solids (TSS) and Total Phosphorous (TP), perhaps more so than Total Nitrogen (TN), is a key issue for stormwater quality treatment.

Elevated levels of disturbance as a result of increased visitation is a risk of urban development close to important shorebird sites and is discussed by Birds Australia (2009). This is a particular issue for the Melbourne West Investigation Area given its proximity to the Port Phillip Bay Ramsar site.

MITIGATION OBJECTIVES

1. Improve water quality entering the Western Port Ramsar site;
2. Maintain or improve water quality entering the Port Phillip Bay Ramsar site;
3. Maintain the current hydrological regime of Ramsar sites receiving inflow waters from the expanded urban area; and
4. Limit indirect disturbances (e.g. dogs) to identified significant wetlands (200m buffer).

MITIGATION STRATEGY

Avoid: In locating the Investigation Areas, the proposed Urban Growth Boundary, the previous Urban Growth Boundary (2005) and related infrastructure, Ramsar sites were excluded from potential urban areas.

Minimise. The strategy is based on minimisation and mitigation of indirect impacts. The key elements relate to managing urban run-off (quantity, quality, periodicity) and increased visitation by humans / their vehicles and pets.

Hydrology and water quality

Downstream hydrological impacts will be addressed as part of the Precinct Structure Planning and subsequent development approval processes.

As set out in the *Precinct Structure Planning Guidelines*, an Integrated Water Management Plan is a prerequisite for a Precinct Structure Plan and subsequent urban development. The Integrated Water Management Plan must include:

- > A plan that sets out potential water sensitive urban design elements and planned flood capacity and conveyance;
- > An estimate of the amount of stormwater that can be harvested for use within the development; and
- > Water sensitive urban design options (i.e. swale, rain garden, etc) that should apply to the precinct.

The *Precinct Structure Planning Guidelines* include nine standards to guide this work, including:

- > The urban run-off system is designed and managed in accordance with the requirements of the relevant water authority;
- > Existing natural waterways, wetlands and their riparian vegetation are incorporated into urban run-off systems where appropriate;
- > Development is designed to ensure that the health of the downstream waterway does not decline as a result of urban development;

- > Artificial lakes, ponds or other permanent water bodies provide an urban water management function, protect and enhance natural systems and are cost effective; and
- > Urban run-off is not discharged to areas of native bushland unless such discharge cannot be avoided, will be managed and will be beneficial to the vegetation.

Clause 56.07 (Integrated Water Management) of all planning schemes (http://www.dse.vic.gov.au/planningschemes/aavpp/56_07.pdf) also provides objectives and standards relevant to the urban setting, including that the urban stormwater management system must be:

- > Designed to meet the current best practice performance objectives for stormwater quality as contained in the Urban Stormwater – Best Practice Environmental Management Guidelines (CSIRO 1999) as amended; and
- > Designed to ensure that flows downstream of the subdivision site are restricted to predevelopment levels unless increased flows are approved by the relevant drainage authority and there are no detrimental downstream impacts.

Urban development can only be approved if it complies with the Precinct Structure Planning requirements and those of the relevant planning scheme, which include the above standards. Local Government, the State Environment Protection Authority and Melbourne Water all have a role in monitoring and enforcing compliance with these requirements and in meeting published water quality standards.

According to Condina et al. (2005) as cited in Craigie et al. (2009) meeting “best practice” for stormwater quality would not be sufficient to allow discharge to Western Port, and treatment additional to current best practice will be required on all new urban development to contain the impacts of development and achieve some reduction in the existing high loads to Western Port. Craigie et al. (2009) therefore discuss the use of a large (c. 300ha) area of former swamp in the Melbourne South-East Investigation Area that could be re-established as a major waterway/wetland/floodplain enhancement project. This would create a sizable retarding storage system with significant water quality and biodiversity benefits.

The extensive wetland system could not only provide stormwater quality and quantity benefits but could also reduce flood risk to agricultural areas directly east of the Investigation Area and potentially provide additional supply of treated stormwater for irrigation purposes. In addition, the creation of a major wetland in this area would go some way to restoring representative swamp scrub habitat, which once covered an area of 45,000ha in the Western Port basin.

Investigation of the feasibility of this wetland/floodplain restoration project will be undertaken with a view to implementing it in conjunction with urban development in the Melbourne South-East Growth Area. Following appropriate rezoning of the land, and subject to investigation of funding and other implementation requirements, Melbourne Water would take over management responsibilities.

Drainage and water quality is less of an issue for the Port Phillip Bay Ramsar site and best practice as described above is considered adequate for managing downstream impacts. This is especially so given much of the current inflows occur via the highly regulated Werribee Sewage Farm and Western Treatment Plant.

Given the best-practice urban stormwater design that is proposed, together with the additional mitigation in the form of a large recreated wetland/floodplain area in the south-east, it is not anticipated that the hydrology or water quality will be impacted at any of the Ramsar sites close to the study area.

Increased visitor pressure

Increased visitation in sensitive areas will need to be carefully managed. Birds Australia (2009) recommend a 200m exclusion area for dogs and pedestrians surrounding significant shorebird sites within Ramsar areas. This will be needed in particular around parts of the Port Phillip Bay Ramsar site (e.g. Altona area) and possibly in parts of Western Port.

The following specific management measures will be taken:

- > Increase monitoring of foxes and domestic predators in areas of the Port Phillip Bay Ramsar site within two kilometers of new urban areas, and take adaptive management measures as required; and
- > Exclude dogs and pedestrians from significant shorebird sites (200m buffer) within two kilometers of new urban areas.

These steps will be taken prior to urban development commencing in relevant areas.

MITIGATION OUTCOMES

It is not therefore considered likely that actions resulting from the Program will impact significantly on the ecological character of Ramsar wetlands close to the study area.

6.7 IMPACTS BY PROJECT ON MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE

The estimated impacts of each major element of the Program on Matters of National Environmental Significance (MNES) are summarised here. Detailed reports on the research, investigation, and selection of areas (Urban Growth Boundary) or alignments (Regional Rail Link, Outer Metropolitan Ring/E6 Transport Corridor) have been produced (State of Victoria 2009a, b, and c).

Impacts on each individual MNES from the Program are described in other sections of the *Strategic Impact Assessment Report* (DSE 2009) under each matter.

Mitigation of the impacts from these projects is also described elsewhere in the *Strategic Impact Assessment Report* (DSE 2009) under each matter and under Section 6.1 Strategic Mitigation Approach.

6.7.1 PROPOSED EXPANDED URBAN GROWTH BOUNDARY

The expanded Urban Growth Boundary will extend the existing growth areas of Casey-Cardinia; Hume; Melton-Caroline Springs; Whittlesea and Wyndham. It will designate the Shire of Mitchell and the Sunbury area (within the Hume municipality) as growth areas.

Table 7 shows the amount of land that is considered to be suitable for development within the expanded Urban Growth Boundary.

TABLE 7: LAND SUITABLE FOR DEVELOPMENT WITHIN PROPOSED GROWTH AREAS

Growth area extension	Total land inside expanded Urban Growth Boundary (ha)	Total land suitable for development (ha)
Melbourne West	17,480	10,710
Melbourne North	21,235	10,135
Melbourne South-East	4,930	3,770

The remaining land is significantly constrained and not suitable for development due to a range of reasons including:

- > Land that is floodprone, including major drainage lines;
- > Land that is of high biodiversity and landscape value, such as volcanic cones;
- > Easements or sites for major public infrastructure such as electricity, gas, sewerage treatment, and major transport corridors; and
- > Buffers around industries with adverse amenity potential and quarries.

The impacts of the expanded Urban Growth Boundary includes losses to areas of ecological communities and on listed species. The estimated losses to communities are shown in Table 8. Further detail is provided in Appendix 1.

TABLE 8. LOSSES FROM DEVELOPMENT*

Vegetation	Area (ha) by Habitat Score				Total Area (ha)	Habitat Hectares	Offset Target**
	No Native Vegetation 0	Low 0.01–0.30	Medium 0.31–0.60	High 0.61–1			
Grassy Eucalypt Woodland		440301	146		449	118	109
Natural Temperate Grassland		607	2329	41	3278	1354	2541
Plains Grassy Wetland			64		64	65	52
Other native vegetation		256	179	2	445	125	191
No native vegetation	23,564				40,167	0	0
Grand Total	23,564	1165	3019	41	27,790	1624	2969

* Note – does not include losses proposed within existing quarries.

**Based on determination of Conservation Significance using Ecological Vegetation Class x Habitat Score only (and does not include requirements for threatened species habitat).

Significant impacts are likely for seven EPBC Act listed species. The expanded Urban Growth Boundary is likely to result in direct impact on Striped Legless Lizard habitats and extant populations, particularly in the west and possibly in the north. Actions are also likely to have significant impact on the Golden Sun Moth at some sites, particularly in the west, and possibly in the north, due to the removal of habitat in excess of the Commonwealth criteria. There will be significant impacts on some important populations of the Growling Grass Frog, particularly in the short to medium term, as well as local scale impacts at some sites and potential impacts on the Southern Brown Bandicoot. The degree and scale of such impacts on these two species depends on how habitat connectivity is maintained and enhanced in key areas, and on ensuring that this happens before work starts on major new developments. This will be considered and agreed during the Growth Area Framework Planning phase scheduled to follow the current Urban Growth Boundary review. Significant impacts are also likely on two plant species: Matted Flax-lily and Spiny Rice-flower. Prescriptions have been developed for these and other species to guide decision makers on whether to retain on site or remove and offset during the development planning process, in a manner that minimises net impacts. For some species, such as the Swamp Fireweed, the scale of impact cannot be determined until further detailed information has been collected.

6.7.2 PRECINCTS WITHIN THE EXISTING URBAN GROWTH BOUNDARY

The Program includes precincts within the existing Urban Growth Boundary where Precinct Structure Plans are exhibited after 26 May 2009.

Figure 1 shows the location of precincts within Melbourne's five existing growth areas of Casey-Cardinia, Melton-Caroline Springs, Hume, Whittlesea and Wyndham that form part of the Program.

The impacts of the expanded Urban Growth Boundary includes losses to areas of ecological communities and on listed species. The estimated losses to communities is shown in Table 9. Further detail is provided in Appendix 1.

TABLE 9: LOSSES WITHIN CURRENT URBAN GROWTH BOUNDARY

Investigation Area	Vegetation	Area (ha) by Habitat Score				Total Area (ha)	Habitat Hectares	Offset Target
		No Native Vegetation 0	Low 0.01–0.30	Medium 0.31–0.60	High 0.61–1			
Melbourne North	Grassy Eucalypt Woodland		71	50		121	33	53
	Natural Temperate Grassland		2	75	0	77	37	72
	Other native vegetation		37	41		78	25	40
	No native vegetation	1,864				1,864	0	0
Melbourne North Total		1,864	111	166	0	2,140	95	166
Melbourne West	Grassy Eucalypt Woodland		216	203	2	421	132	199
	Natural Temperate Grassland	6,118				6,118	0	0
	Plains Grassy Wetland		5	1		5	1	2
	Other native vegetation		13	1		14	3	4
	No native vegetation		230	461	0	692	253	458
Melbourne West Total		6,118	216	203	3	6,539	132	199
Melbourne South-East	Other native vegetation		35	50		85	26	41
	No native vegetation	6,106				6,106	0	0
Melbourne South-East Total		6,106	283	512	0	6,902	283	506
Grand Total		14,088	610	881	2	15,581	510	870

As for areas within the expanded Urban Growth Boundary, significant impacts are likely for six EPBC Act listed species within the existing Urban Growth Boundary. Four of these are the species of grassy terrestrial ecosystems:

- > the Striped Legless Lizard and Golden Sun Moth, in the west and north;
- > the Matted Flax-lily in the north and south-east;
- > the Spiny Rice-flower in the grassland areas of the west;

In addition, short to medium-term impacts on the Growling Grass Frog (north and south-east) and the Southern Brown Bandicoot (south-east) are likely. The degree and scale of such impacts on these two species depends on how habitat connectivity is maintained and enhanced in key areas, and on ensuring that this happens before work starts on major new developments. Strategic work on Growling Grass Frog in the Pakenham area has showed this is possible. This will be considered and agreed during Precinct Structure Planning.

Prescriptions have been developed for these and other species to guide decision makers on whether to retain on site or remove and offset during the development planning process, in a manner that minimises net impacts. Surveys are being undertaken for several other species that may be present, as part of precinct and other development planning. If additional species listed under the EPBC Act are located, prescriptions will be prepared for Commonwealth approval prior to development.

6.7.3 OUTER METROPOLITAN RING/E6 TRANSPORT CORRIDOR

The Outer Metropolitan Ring Transport Corridor (OMR Transport Corridor) is 100km long and links Werribee, Melton, Tullamarine and Craigieburn/Mickleham. It connects to the E6 Transport Corridor, which links Donnybrook to the Metropolitan Ring Road at Thomastown.

It will be located as shown in the Program Report. The final location for the corridor incorporates changes to the original alignments exhibited in June and July 2009. Public consultation on the proposed changes, which are based around Wollert and near Mount Cottrell, occurred in September 2009. The effect of the changes to matters of national environmental significance was a reduction in the impacts on Natural Temperate Grassland and Grassy Eucalypt Woodland, including the opportunity to add approximately 100ha of additional grassland to the Western Grassland Reserves.

The planning process for the OMR/E6 Transport Corridor is discussed in Section 3.5 and in the Program Report.

IMPACTS ON MNES

VicRoads participated in an integrated flora and fauna study with the Growth Areas Authority, Department of Sustainability and Environment, Department of Planning and Community Development and Department of Transport. The Growth Areas Authority managed the Native Vegetation and Fauna Habitat Assessment Project on behalf of the Department of Sustainability and Environment. The aim of this project was to identify key areas of biodiversity, including identifying key areas of grassland to be preserved for the future.

As much of the proposed OMR/E6 Transport Corridor would pass through the flora and fauna study area, VicRoads contributed to the project to minimise the time and cost involved in undertaking its own studies. This culminated in the following reports being prepared for the Growth Areas Authority:

- > Biosis: Growth Areas Authority Investigations areas west of Melbourne : Biodiversity values, constraints and opportunities; and
- > SMEC: Flora and Fauna Desktop Analysis – Area 3a; and : Flora and Fauna Desktop Analysis – Area 3b.

VicRoads engaged Brett Lane and Associates Pty Ltd to investigate flora and fauna impacts within the proposed OMR/E6 Transport Corridor Right of Way (ROW) and to produce a Habitat Hectare assessment for this area.

A detailed flora and fauna study including survey work along the entire alignment will be undertaken as part of further planning before construction.

6.7.4 OUTER METROPOLITAN RING TRANSPORT CORRIDOR

6.7.4.1 VEGETATION

The proposed OMR Transport Corridor ROW is dominated by exotic grassland and planted vegetation associated with farming and urban land uses. Approximately 26 per cent of the proposed ROW supports native vegetation of varying quality. Twelve different Ecological Vegetation Classes occur within the proposed ROW boundary. Natural Temperate Grassland makes up 84 per cent of the native component and Grassy Eucalypt Woodland 11 percent. Both communities are listed under the *Environment Protection and Biodiversity Conservation (EPBC) Act 1999*. Remaining vegetation occurs in wetlands, waterways and associated escarpments, which are landscape features that are comparatively limited in extent.

Table 10 presents the losses as a result of likely clearing within the three transport corridors, together with the Habitat Hectare offset target. Further details can be found in Appendix 1 and Section 6.1.

6.7.4.2 FLORA

Two flora species listed under the EPBC Act have been recorded within the proposed ROW. The species include Large-headed Fireweed (vulnerable) and Swamp Fireweed (vulnerable). Three EPBC listed species have the potential to occur within the ROW boundary. These species include Clover Glycine (vulnerable), Matted Flax-lily (endangered) and Spiny Rice-flower (critically endangered).

6.7.4.3 FAUNA

The Golden Sun Moth, listed as critically endangered under the EPBC Act 1999, has been recorded within the proposed ROW.

Several other EPBC listed species have the potential to occur within the proposed ROW including: Eastern Dwarf Galaxias (vulnerable), Grey-headed Flying-fox (vulnerable), Growling Grass Frog (vulnerable), Striped Legless Lizard (vulnerable) and Swift Parrot (endangered).

6.7.4.4 RAMSAR SITES

The OMR Transport Corridor is located partly within the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar area at its southern end. The property boundary of the Western Treatment Plant (owned and managed by Melbourne Water) was used in 1982 to define the boundary of that component of the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site. The area within the site boundary is not all wetland and includes substantial areas of exotic pasture and some native grassland. The nearest major wetland is Ryan's Swamp, some 500m south of the Princes Freeway. The OMR Transport Corridor will pass near to a small, seasonal Cane-grass swamp (Paul and Belfrage's Swamp). This is just west of the proposed OMR Transport Corridor interchange with the Princes Freeway. This wetland will not be directly affected by works, but best practice construction environmental management measures will need to be adopted to prevent accidental disturbance to these wetlands or sediment laden runoff from reaching the wetland.

Further investigation will be undertaken prior to more detailed planning of the OMR. This will gather important information to determine optimal management approaches.

6.7.5 E6 TRANSPORT CORRIDOR

6.7.5.1 NATIVE VEGETATION

The proposed E6 ROW is dominated by exotic grassland and planted vegetation associated with farming and urban land uses. Approximately 25 per cent of the proposed ROW supports native vegetation of varying quality. Eight different Ecological Vegetation Classes occur within the proposed ROW. The dominant native vegetation is Natural Temperate Grassland (78 percent) and Grassy Eucalypt Woodland (eight percent). Remaining vegetation occurs in wetlands, waterways and associated escarpments, or on the limited area of sedimentary upland.

Table 10 presents the losses as a result of likely clearing within the three transport corridors, together with the Habitat Hectare offset target. Further details can be found in Appendix 1 and Section 6.1.

TABLE 10. LOSSES WITHIN TRANSPORT CORRIDORS – OMR, E6 AND RRL

Footprint	Vegetation	Area (ha) by Habitat Score				Total Area (ha)	Habitat Hectares	Offset Target
		No Native Vegetation 0	Low 0.01–0.30	Medium 0.31–0.60	High 0.61–1			
E6	Grassy Eucalypt Woodland		71	11		83	18	28
	Natural Temperate Grassland		1	3		5	2	3
	Other native vegetation		1	1		2	0	1
	No native vegetation	456				456	0	1
E6 Total		456	73	16		545	20	32
OMR	Grassy Eucalypt Woodland		9	33		42	15	26
	Natural Temperate Grassland		35	457	27	520	239	459
	Plains Grassy Wetland		1	3		3	1	3
	Other native vegetation		4	15		19	7	11
	No native vegetation	1,767				1,767	0	0
OMR Total		1,767	49	508	27	2,351	262	498
RRL	Natural Temperate Grassland		20	71	4	95	37	65
	Plains Grassy Wetland			1		1	0	1
	Other native vegetation			0		0	0	0
	No native vegetation	281				281	0	0
RRL Total		281	20	72	4	377	38	67
Grand Total		2,504	143	596	31	3,273	320	597

OMR – Outer Metropolitan Ring Transport Corridor

RRL – Regional Rail Link

6.7.5.2 FLORA

No flora species listed under the EPBC Act have been recorded within the proposed ROW. Four EPBC flora listed species have the potential to occur within the proposed ROW. These species include Adamson's Blown-grass (endangered), Clover Glycine (vulnerable), Curly Sedge (endangered) and Matted Flax-lily (endangered).

6.7.5.3 FAUNA

No fauna species listed under the EPBC Act, have been recorded within the proposed ROW. Several fauna EPBC listed species have the potential to occur within the proposed ROW. These species include Dwarf Galaxias (vulnerable), Grey-headed Flying-fox (vulnerable), Growling Grass Frog (vulnerable), Striped Legless Lizard (vulnerable) and Swift Parrot (endangered).

6.7.6 REGIONAL RAIL LINK CORRIDOR (WEST OF WERRIBEE TO DEER PARK)

The Regional Rail Link is a 50km railway connection from west of Werribee to Southern Cross Station via the Melbourne-Ballarat railway, connecting at Deer Park. The Program is concerned with the west of Werribee to Deer Park section of the Corridor, which is approximately 30km long.

The alignment (west of Werribee to Deer Park) will be located as shown in the Program Report.

The planning process for the RRRL is discussed in Section 3.5 and in the Program Report.

6.7.6.1 INVESTIGATION OF ALTERNATIVE ALIGNMENTS

The determination of the preferred alignment option for the Regional Rail Link – West of Werribee to Deer Park was the result of a rigorous assessment of potential options.

Assessments from the specialist investigations including engineering, flora and fauna, hydrology, cultural heritage, social impact, etc were collated and presented at an alignment selection workshop. The outcome of this workshop was for specialist investigations to be undertaken on a particular alignment, which was subsequently further refined to produce the preferred alignment. The chosen alignment has the greatest potential to meet the overall project objective: “to reserve land for a high quality transit corridor servicing Melbourne’s and Victoria’s west”.

6.7.6.2 ALIGNMENT SELECTION

A number of concept alignments were developed for assessment. These alignments were divided into those north and south of Leakes Road with several potential connections to the existing rail lines at each end. The north (prefix N) and south (prefix S) alignments, offered flexibility to provide alternative connectivity across Leakes Road and several alternative potential reservations between the Geelong and Ballarat Rail Corridors. All alignment options provided for ultimate development of four tracks if required.

Figure 42 illustrates the alignment options as assessed. As assessment of the options developed, two new alignment options (N1 – HAL02 and N1 – HAL02A) were produced following an Alignment Selection Workshop.

6.7.6.3 IMPACTS ON MNES

Although there will be broader environmental benefits generated by the project, there will also be local impacts on flora and fauna, waterways, natural landscapes and cultural heritage. Where possible the chosen alignment has aimed to avoid areas of known significance, and where impacts are anticipated mitigation strategies will be introduced to lessen impacts.

FLORA AND FAUNA IMPACTS

The Regional Rail Link – West of Werribee to Deer Park will impact on local flora and fauna. Although the environmental values of the area have been degraded by clearing and agriculture since European settlement, there are still important habitats containing significant flora and fauna species. The project has avoided larger areas of ecological significance found further west around Mount Cottrell, but it is difficult for a project of this scale to completely avoid flora and fauna impacts. The project will minimise flora and fauna impacts in both terrestrial and aquatic habitats and ensure that the requirements of the applicable Commonwealth and State legislation are met. Key impacts include:

- > Removal of native flora and habitat areas through clearing and potential spread of noxious weeds and pests;
- > Impacts on native fauna; and
- > Potential damage to aquatic fauna habitat, of relevance to the Werribee River, Skeleton Creek and Lollypop Creek.

The project is predominantly within the Victorian Volcanic Plains Bioregion and the Werribee River basin as defined by the Department of Sustainability and Environment. The project traverses the Plains Grassland Ecological Vegetation Class (EVC 132), which is classified as endangered within the Victorian Volcanic Plain bioregion. The proposed alignment will impact on Natural Temperate Grassland of the Victorian Volcanic Plain which is a critically endangered ecological community listed on the EPBC Act.

The project has sought to avoid known areas of high ecological significance found further west towards Mount Cottrell. A preliminary flora and fauna assessment estimated that removal of 45ha of native vegetation, mainly in the Plains Grassland Ecological Vegetation Class. Subsequent estimates produced by the Department of Sustainability and Environment based on an updated project footprint including grade separations, station footprints and train stabling areas concluded that a total of 95ha of Natural

Temperate Grassland will be impacted. This loss will be managed by implementing the net gain policies in the Victorian Native Vegetation Framework and by applying relevant prescriptions approved by the Commonwealth Minister for the Environment.

Table 10 presents the losses as a result of likely clearing within the three transport corridors, together with the Habitat Hectare offset target. Further details can be found in Appendix 1 and Section 6.1.

Although the project does not intersect directly with a Ramsar site, the project crosses the Werribee River, Skeleton Creek and Lollypop Creek which drain into the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar sites. Construction and operation techniques will be employed to avoid impacts on these waterways or the Ramsar site downstream.

One EPBC Act listed flora species (Spiny Rice-flower) will be impacted by the alignment. There is suitable habitat within the broader study area for one other species (Large-fruit Groundsel), and this species is most likely to be encountered in close proximity to the Melbourne to Ballarat Railway. Two EPBC Act listed fauna species (Striped Legless Lizard and Growling Grass Frog) have previously been recorded from the broader study area, although up to an additional seven species could also occur. No listed migratory fauna species are recorded from within the corridor for the project, although thirty-one species have previously been recorded in the broader study area. Three additional migratory species are predicted to occur, or their habitat is predicted to occur, within five kilometres of the alignment. Detailed survey will be undertaken for all such species prior to detailed design and planning of construction.

The presence of Natural Temperate Grassland has been identified as the most significant ecological issue for the Regional Rail Link – West of Werribee to Deer Park alignment, although the project has sought to avoid the most significant areas of this ecological community in the Melton/Wyndham region found around Mount Cottrell and west of Wyndham Vale

Of all the alignments, the impact on the Plains Grassland community is greatest for N2. However, the existing land use approved for the Boral Quarry means that much of the grassland traversed by N2 has already been approved for development and the net impact of N2 could therefore be less than any of the N1 options. The project involves a minor area of the remaining extent of Natural Temperate Grassland and it was noted offsetting of any native vegetation removed as part of the project is possible for all alignment options.

The primary mechanism for mitigating the flora and fauna impacts is through adherence to the Environment Effects Act conditions determined by the Victorian Minister for Planning, the Victorian Government's Native Vegetation Framework (DNRE 2002), and relevant prescriptions for managing matters of National Environmental Significance once

approved by the Commonwealth Minister for the Environment. As a result of the Native Vegetation Framework, the options assessment has sought to avoid and minimise native vegetation loss through appropriate route selection, and then ensure native vegetation losses are suitably offset. Further mitigation measures will ensure the project minimises impacts on flora and fauna.

These include:

- > Further targeted flora and fauna surveys to establish the precise impacts on key species, and whether additional prescriptions will be required to manage matters of national environmental significance;
- > Detailed design to minimise vegetation and habitat loss, including reducing the footprint of the corridor to minimum extent practicable;
- > Provision of fauna underpasses or overpasses (if appropriate) at key locations, particularly for watercourses draining into Ramsar sites;
- > Use of best-practice design for crossing waterways to maintain aquatic habitats and for dealing with runoff; and
- > Use of best-practice construction protocols to minimise impacts associated with soil disturbance, spread of weeds and pathogens and incidental damage to retained areas.

WATERWAY IMPACTS

Various waterways intersecting the Regional Rail Link – West of Werribee to Deer Park include the Werribee River, Skeleton Creek, Lollypop Creek, Cherry Creek, Davis Creek, Laverton Creek, Kororoit Creek, Kayes Drain and tributaries of these watercourses. As noted earlier, many of these waterways flow into Ramsar wetland sites on the western shores of Port Phillip Bay.

The infrastructure needed to traverse waterways, (such as bridges, culverts and pylons) will be located and designed to minimise impacts on the hydraulic patterns of the waterways and the habitats they support. Particular care will be taken to ensure that existing flood regimes are not impacted through careful design of embankments and structures where the railway crosses watercourses. Impacts on the environmental values of waterways will be further reduced by implementing best practice water sensitive design treatments for rail track and stormwater runoff and implementing an Environmental Management Plan during construction. In conjunction with mitigation measures to reduce impacts on flora and fauna, the project will not cause major impact to waterways.

Of the northern alignments, N1B was the preferred alignment as it crossed the least number of waterways and had the lowest Aggregate Potential Impacts on Waterway

and Floodplain Function Score. Alignment Option N1A has fewer waterway crossings, however it provides an alternative connection to the existing Ballarat railway for alignment options N1 and N1B. N2 and N1 both crossed one more waterway of ecological value, thereby increasing their impacts.

6.8 IMPACTS ON HERITAGE SITES AND COMMONWEALTH PROPERTIES

There are seven historic sites listed on the Register of the National Estate within the Melbourne North Investigation Area and three within the Melbourne West Investigation Area (Table 3). All are built structures and all will be sympathetically retained and protected as part of the Precinct Structure Planning process. All these sites will be progressively added to the relevant planning scheme, where that has not already occurred, with appropriate controls applied to protect their character.

In addition to these historic sites, the Craigieburn to Cooper Street Grasslands is registered as a site of natural significance on the register of the National Estate. The majority of this site is within the strategic assessment study area (Melbourne's north) and these areas will be protected from development and managed for their conservation values. The site includes the existing Craigieburn Grasslands Reserve. The Biodiversity Conservation Strategy for the Whittlesea Growth Area will document the management arrangements for areas of the registered site not already in a conservation reserve.

It is not considered likely that actions resulting from the Program will impact significantly on Heritage sites or Commonwealth properties.

6.9 INFORMATION SOURCES AND CONFIDENCE LEVELS

The assessment of impacts described in this report draws on a range of recent and historical information sources as outlined in Section 3.7. Definitive expertise has been sourced on key issues for which we have high levels of confidence.

As acknowledged in the report there are many issues for which it is known that information is incomplete and where additional information will be required to finalise aspects of the response. However the overall management process allows for such uncertainty. As this is a strategic assessment, we have confidence in the accuracy and reliability of information used to make the big decisions, in particular the proposed locations of the new Urban Growth Boundary, OMR/E6 Transport Corridor and Regional Rail Link. However where detailed information was not available to the standard required (i.e. in most areas except the well-surveyed Melbourne West

Investigation Area Investigation Area and western grasslands) significant fine tuning at the precinct level and development of site specific responses will occur in conjunction with additional information collection. This information collection is mandated as part of the Precinct Structure Planning process (e.g. flora and fauna surveys). In some cases this assessment report has committed additional information to be collected on key issues.

There are several plant and animal species that are identified in this report as being currently listed under the EPBC Act but for which a prescription has not been prepared for managing it as part of the Program. This is due to uncertainty about whether the species will actually be impacted. Surveys for all the following species will be undertaken prior to precinct design or transport planning where relevant, and if the species is detected a prescription will be developed in consultation with the Commonwealth. The list is as follows:

- Adamson’s Blown-grass
- Austral Toadflax
- Australian Painted Snipe
- Basalt Peppercross
- Basalt Sun Orchid
- Button Wrinklewort
- Clover Glycine
- Cream Spider Orchid
- Dwarf Galaxias
- Frankston Spider Orchid
- Grassland Earless Dragon
- Green-striped Greenhood
- Large Fruit Fireweed
- Maroon Leek Orchid
- Metallic Sun Orchid
- Pale Swamp Everlasting
- Plains-wanderer
- Purple Diuris
- Regent Honeyeater
- River Swamp Wallaby Grass
- Small Golden Moths
- Sunshine Diuris
- Swamp Everlasting
- Swamp Fireweed
- Swift Parrot

Overall the information used is considered appropriate for the level of assessment.

PROPERTIES WHERE ACCESS TO PSP BIODIVERSITY SURVEYS HAS BEEN REFUSED

An agreed approach for properties that deny the Growth Areas Authority access to complete a biodiversity assessment is required. Unfortunately about 10 per cent of properties, sometime more, deny access to the GAA for it to complete biodiversity assessments in accordance with the *Biodiversity Precinct Planning Kit*.

The Precinct Structure Plan can attempt to draw a broad conclusion about the biodiversity values on these properties through modelling and aerial photography interpretation, but it can not satisfy the Kit’s survey requirements. The Precinct Structure Plan is required to make urban structure and open space planning decisions

for these properties in the absence of this information. The Native Vegetation Precinct Plan will not apply to these properties.

Development of these properties should not be approved until a separate site specific referral under the EPBC Act is approved by the Commonwealth. This might delay the planning approvals process for these properties by at least 6 to 12 months due to seasonal biodiversity assessment requirements. A condition of this approval would be the requirement that these properties undertake site specific surveys in full accordance with the Biodiversity Kit prior to planning approval being granted for urban development at the owner's expense. It is considered that this is the only equitable and appropriate approach. It would not be equitable to 'reward' an owner who does not allow access to benefit for the streamlined assessment afforded under the Precinct Structure Planning process.

6.10 MANAGEMENT COMMITMENTS

The following section sets out the various commitments made by Victoria to manage impacts on matters of national environmental significance that are relevant to the Program. The table presents conservation activities for addressing these matters, as discussed throughout this report, together with the responsibilities of government agencies, councils and the private sector; timeframes; resourcing and performance measures. The details of the legal and other mechanism for delivery of each of these activities are described in the accompanying Program Report.

NOTES ON TABLE

Timing:

- > Short term means the activity is expected to occur within the period 2010 to 2013.
- > Medium term means the activity is expected to occur within the period 2014 to 2019.
- > Long term means the activity is expected to occur beyond 2020.

NATURAL TEMPERATE GRASSLANDS

Objective	Action	Responsible Agency	Timing	Resources	Performance Measures
To establish a reservation for 15,000ha grasslands (nature conservation reserve or National Park) outside of the Urban Growth Boundary in Melbourne's west.	Prepare amendment to relevant planning schemes to apply a Public Acquisition Overlay to land within the western grassland reserves.	Department of Planning and Community Development	Short term	Covered under existing allocations	Public Acquisition Overlay in planning scheme by 2010
	Publicly acquire land (10 year acquisition program by the State Government).	Department of Sustainability and Environment	Short to medium term	Required resources have been committed by the Victorian Government	Acquisition schedule provided to Department of the Environment, Water, Heritage and the Arts following the Victorian Government's gazettal of the planning scheme amendment Purchase and reservation under <i>Crown Land Reserves Act 1978</i> completed by 2020 (excluding quarries) (end stage 2)
To provide interim management of the Western Grassland Reserves before they are acquired, achieved by assisting landholders to manage threats and strengthening regulation to prevent degradation.	Amend local planning schemes to apply an Environmental Significance Overlay or other appropriate statutory planning controls to the western grassland reserves.	Department of Planning and Community Development	Short term	Covered under existing allocations	Appropriate planning controls in relevant local planning schemes by 2010
	Amend or make declarations under the <i>Catchment and Land Protection Act 1994</i> to legally protect grasslands on the Volcanic Plains grasslands from environmental weeds.	Department of Primary Industries	Short term	Covered under existing allocations	Declarations to lists or areas under the <i>Catchment and Land Protection Act 1994</i> gazetted by December 2010
	Prepare Interim Management Plan.	Department of Sustainability and Environment	Short term	Covered under existing allocations	Interim Management Plan provided to the Department of the Environment, Water, Heritage and the Arts by 2010
	Undertake urgent works from December 2009 (weed control), then in accordance with the Interim Management Plan schedule with landholders and relevant local councils. Conduct on ground surveillance and enforcement.	Department of Sustainability and Environment	Short term	Required resources have been committed by the Victorian Government	Monitor and report on implementation of the Interim Management Plan in accordance with the reporting schedule Reports provided to Department of the Environment, Water, Heritage and the Arts every 6 months in 2010–2011 then annually until land acquired.

Objective	Action	Responsible Agency	Timing	Resources	Performance Measures
To manage the western grasslands as conservation reserve or National Park for a range of particular vegetation and species requirements.	Establish expert advisory group and define performance standards for best practice adaptive management of native grassland and threatened species.	Department of Sustainability and Environment	Short term	Covered under existing allocations	Performance standards for management, and monitoring methodology provided to DEWHA by June 2011
	Progressively survey and assess flora and fauna values on acquired parcels.	Department of Sustainability and Environment	Short to medium term	Covered under offset arrangements (underwritten by Victorian Government)	Flora and fauna survey undertaken on each newly acquired land parcel with report prepared for the Department of Sustainability and Environment on values and management issues.
	Prepare National Park or Reserve Management Plan that incorporates best practice adaptive management for the western grassland reserves.	Parks Victoria	Medium term	Covered under existing allocations	Prepare National Park or Reserve Management Plan by December 2012 following community consultation. Management Plan revised and updated by 2022
	Undertake works, manage and monitor park activities in accordance with the National Park or Reserve Management Plan and best practice performance standards. This includes undertaking detailed flora and fauna surveys for the Striped Legless Lizard, Plains-wanderer, Grassland Earless Dragon, Spiny Rice-flower, Large-fruit groundsel and other nationally listed species across whole reserve area.			Short to long Term	Required resources have been committed by the Victorian Government

Objective	Action	Responsible Agency	Timing	Resources	Performance Measures
To identify and protect other grassland remnants on the Werribee Plains	Amend local planning schemes to apply appropriate statutory planning controls to remnant grasslands identified by Department of Sustainability and Environment mapping outside the Urban Growth Boundary and to relevant non-urban land within the Urban Growth Boundary.	Department of Planning and Community Development	Short term	Covered under existing allocations	Environmental Significance Overlays in relevant local planning scheme by June 2010
	New mapping program undertaken on private land to inform improved or expanded Environmental Significance Overlays.		Short term	Covered under existing allocations	Environmental Significance Overlays in relevant local planning scheme by June 2010
	Revise Environmental Significance Overlays as a result of new data.	Department of Planning and Community Development	Medium term	Subject to funding	Revised statutory planning controls in local planning schemes by 2015
To implement the prescription approved by the Commonwealth Minister for Environment for managing impacts on Natural Temperate Grasslands	Prepare Native Vegetation Precinct Plans and Conservation Management Plans as part of the precinct structure planning process following the methodology of the Biodiversity Precinct Planning Kit and detailed guidance.	Growth Areas Authority Growth area councils Department of Sustainability and Environment	Short term	Covered under existing allocations	Surveys undertaken according to Biodiversity Precinct Planning Kit methodology
	Monitor planning permits and enforce illegal clearing that is not in accordance with the requirements of the Native Vegetation Precinct Plan or Conservation Management Plan, or relevant approval document for transport infrastructure or other land use.	Growth area councils Department of Primary Industries	Ongoing	Covered under existing allocations	Offsetting according to Native Vegetation Management Framework. Grassland offsets located within proposed grassland reserves. Breaches reported to Department of Environment, Water, Heritage and the Arts as agreed

GRASSY EUCALYPT WOODLANDS

Objective	Action	Responsible Agency	Timing	Resources	Performance Measures
To progressively secure the long-term protection of retained areas of Grassy Eucalypt Woodland on private land within the Hume-Whittlesea and Sunbury Growth Areas through implementation of the prescription approved by the Commonwealth Minister for Environment for managing impacts on Grassy Eucalypt Woodland and other strategic planning mechanisms	Amend Hume Planning Scheme and Whittlesea Planning Scheme to introduce appropriate statutory planning controls (Conservation zoning plus an Environmental Significance Overlay) to protect constrained land identified for conservation of Grassy Eucalypt Woodland.	Department of Planning and Community Development	Short term	Covered under existing allocations	Appropriate planning controls in Hume Planning Scheme and Whittlesea Planning Scheme by June 2010
	Prepare Biodiversity Conservation Strategy for the Northern Growth Areas that sets out the mechanism by which retained Grassy Eucalypt Woodland will be permanently protected and managed to improve its quality within the Growth Area.	Department of Sustainability and Environment	Short term	Covered under existing allocations	Northern Biodiversity Conservation Strategy prepared by December 2009
	Prepare revised Growth Area Framework Plans for Hume and Whittlesea that identify conservation corridors and principles for managing the protection of Grassy Eucalypt Woodland.	Growth Areas Authority Department of Planning and Community Development	Short term	Covered under existing allocations	Revised Whittlesea Growth Area Framework Plan prepared by 2010 Conservation strategy reflected in revised Whittlesea and Hume Growth Area Framework Plans
	Prepare Precinct Structure Plans in accordance with the Growth Area Framework Plans and Precinct Structure Planning Guidelines (including requirements for biodiversity conservation). Prepare Native Vegetation Precinct Plans with the Precinct Structure Plans in accordance with Clause 52.16 of local planning schemes.	Growth Areas Authority Hume City Council Whittlesea City Council	Short term	Covered under existing allocations	Precinct structure planning results in the permanent protection and management of 80 per cent of Grassy Eucalypt Woodland in Hume and Whittlesea Growth Areas by 2025

Objective	Action	Responsible Agency	Timing	Resources	Performance Measures
	Monitor planning permits and enforce illegal clearing that is not in accordance with the requirements of the Native Vegetation Precinct Plan or Conservation Management Plan, or relevant approval document for transport infrastructure or other land use.	Growth area councils Department of Primary Industries	Ongoing	Covered under existing allocations	Offsetting according to Native Vegetation Framework. Grassy Eucalypt Woodland offsets located within proposed Northern Grassy Woodland reserves. Breaches reported to Department of Environment, Water, Heritage and the Arts as agreed
Establish a large (at least 1200ha) Grassy Eucalypt Woodland reserve (nature conservation reserve) south west of Whittlesea outside the Urban Growth Boundary	Prepare and consult on a proposal for a Grassy Eucalypt Woodland reserve concurrently with the preparation and public consultation of the revised Whittlesea Growth Area Framework Plan. The proposal is to identify the funding and acquisition mechanisms and potential statutory planning controls to be applied to the land.	Department of Sustainability and Environment	Short term	Covered under existing allocations	Reserve proposal, acquisition and management approach and schedule provided to Department of the Environment, Water, Heritage and the Arts by 2010
	Implement agreed Grassy Eucalypt Woodland reserve proposal.	Department of Sustainability and Environment	Short to medium term	Funding generated from developer's offset requirements	Reports to Department of the Environment, Water, Heritage and the Arts on progress of reserve establishment in accordance with the acquisition schedule by 2012 and 2015 or as determined by approved Monitoring and Reporting Framework Reserve established and land manager appointed by 2020

GOLDEN SUN MOTH, SPINY RICE-FLOWER AND MATTED FLAX-LILY

Objective	Action	Responsible Agency	Timing	Resources	Performance Measures
To determine the extent of the Golden Sun Moth to inform Sub-Regional Species Strategy and Precinct Structure Plans	Undertake targeted surveys for the Golden Sun Moth across its historic Victorian range for at least two seasons in accordance with the Biodiversity Precinct Planning Kit methodology. Survey period to be extended if required.	Growth Areas Authority (growth areas and periurban) Department of Sustainability and Environment (rural and regional)	Short term	Resources available and committed	New data provided annually to the Department of the Environment, Water, Heritage and the Arts for recovery planning purposes
	Prepare Sub-Regional Species Strategy for the Golden Sun Moth.	Department of Sustainability and Environment	Short term	Covered under existing allocations	Sub-Regional Species Strategy for the Golden Sun Moth completed by June 2011 for Commonwealth approval
To implement the prescriptions approved by the Commonwealth Minister for Environment for managing impacts on Golden Sun Moth, Spiny Rice-flower and Matted Flax-lily	Prepare detailed guidance note for stakeholders as part of Sub-Regional Species Strategy outlining assessment and accounting process for the Golden Sun Moth, Spiny Rice-flower and Matted Flax-lily to assist precinct structure planning and other development approvals processes, and to track progress towards bioregional protection targets.	Department of Sustainability and Environment	Short term	Covered under existing allocations	Guidance note published by 2010
	Provide regular reports on Victoria's progress towards meeting the '80 per cent of confirmed highest priority sites' (as defined in prescriptions) for Golden Sun Moth, Spiny Rice-flower and Matted Flax-lily.	Department of Sustainability and Environment	Ongoing	Covered under existing allocations	Reports published every two years commencing 2010 and in line with Monitoring and Reporting Framework
	Prepare Native Vegetation Precinct Plans and Conservation Management Plans as part of the precinct structure planning process following the methodology of the Biodiversity Precinct Planning Kit and detailed guidance.	Growth Areas Authority Growth area councils Department of Sustainability and Environment	Short term	Covered under existing allocations	Surveys undertaken according to Biodiversity Precinct Planning Kit methodology

Objective	Action	Responsible Agency	Timing	Resources	Performance Measures
	Monitor planning permits and penalise illegal clearing that is not in accordance with the requirements of the Native Vegetation Precinct Plan or Conservation Management Plan, or relevant approval document for transport infrastructure or other land use.	Growth area councils	Ongoing	Covered under existing allocations	Breaches reported to Department of Environment, Water, Heritage and the Arts as agreed

SMALL GOLDEN-MOTHS ORCHID

Objective	Action	Responsible Agency	Timing	Resources	Performance Measures
To protect areas of Clarke's Road grassland containing Small Golden Moths Orchid by applying appropriate planning controls and by land purchase or by securing private land management agreement/s	Amend the Melton Planning Scheme to introduce appropriate statutory planning controls (conservation zoning and Environmental Significance Overlay) to protect the Small Golden-Moths Orchid and other grassland values.	Department of Planning and Community Development	Short term	Covered under existing allocations	Appropriate planning controls in planning scheme by June 2010
	Reflect the values of Clarke's Road Grassland in the Biodiversity Conservation Strategy and Growth Area Framework Plan for this Growth Area, including identifying and consulting on potential reserve boundaries and determining the funding and acquisition mechanisms to be applied to the land.	Department of Sustainability and Environment Growth Areas Authority Department of Planning and Community Development	Short term	Covered under existing allocations	Growth Area Framework Plans in place by June 2011 reinforce protection of this area Provide reserve proposal together with acquisition and management approach to Department of the Environment, Water, Heritage and the Arts as part of Biodiversity Conservation Strategy for the Growth Area by March 2011
	Legal agreements prepared and negotiated with landowners (under s69 of <i>Conservation Forests and Land Act</i> , <i>Victorian and Conservation Trusts Act</i> or s173 agreements under the <i>Planning and Environment Act 1987</i>).	Department of Sustainability and Environment	Short to medium term	Covered under existing allocations	Land purchased or in private land management agreement by June 2012
To manage native grassland areas along Clarke's Road to improve their quality over the long-term and maximise habitat condition for threatened and other resident species, with particular emphasis on Small Golden-moths Orchid	Prepare a Reserve Management Plan for the Clarke's Road area.	Department of Sustainability and Environment Parks Victoria	Medium term	Covered under existing allocations	Conservation Management Plan in place that provides appropriate protection and management regimes for persistence of the Small Golden Moth at the Clarke's Road area in perpetuity
	Undertake works and monitor use of the reserve in accordance with the Conservation Management Plan. If not a public reserve, monitor planning permits and enforce any land management obligations in accordance with the requirements of the Conservation Management Plan and legal agreement.	Parks Victoria Department of Sustainability and Environment Department of Planning and Community Development	Medium term to ongoing	Resources available and committed	Performance standards for management and monitoring provided to Department of the Environment, Water, Heritage and the Arts by June 2011 Each land parcel managed by Parks Victoria or private landowner according to Conservation Management Plan and/or legal agreement

SOUTHERN BROWN BANDICOOT AND GROWLING GRASS FROG

Objective	Action	Responsible Agency	Timing	Resources	Performance Measures
To protect important landscape/habitat areas of the Southern Brown Bandicoot and Growling Grass Frog	Undertake field surveys, population viability analyses and develop models for sub-regional planning, then prepare Sub-regional Species Strategies for conservation of Southern Brown Bandicoot and Growling Grass Frog to inform preparation of Biodiversity Conservation Strategies and Growth Area Framework Plans, and provide guidance to urban development planning	Department of Sustainability and Environment	Short to medium term	Covered under existing allocations	Sub-regional Strategies for Growling Grass Frog reflected in Casey-Cardinia, Melton-Caroline Springs and Hume-Whittlesea Growth Area Framework Plans by June 2011 Sub-regional Strategy for the Southern Brown Bandicoot reflected in Casey-Cardinia Growth Area Framework Plan by June 2011
	Implement key strategic management measures identified in the Sub-regional Species Strategies informing relevant Precinct Structure Plans.	Department of Planning and Community Development Department of Sustainability and Environment Growth Areas Authority	Short term	Funding to be sought when required	Priority existing habitat protected and mechanism for future management established for Growling Grass Frog and Southern Brown Bandicoot by March 2011
To implement Conservation Management Plans and prescriptions approved by the Commonwealth Minister for Environment for the Growling Grass Frog and Southern Brown Bandicoot	Prepare Conservation Management Plans as part of the precinct structure planning process following the methodology of the Biodiversity Precinct Planning Kit and responding to requirements of relevant prescriptions.	Growth Areas Authority Growth area council Developer	Short term	Covered under existing allocations	Conservation Management Plans prepared to the satisfaction of Department of Sustainability and Environment and consistent with Sub-Regional Species Strategy (once prepared) Monitoring reports provided to Department of Environment, Water, Heritage and the Arts at least every two years according to agreed schedule to demonstrate the effectiveness of management approaches for Southern Brown Bandicoot and Growling Grass Frog
	Monitor planning permits and enforce land management obligations that are not in accordance with the requirements of the Native Vegetation Precinct Plan and Conservation Management Plan.	Growth area councils	Ongoing	Covered under existing allocations	Performance reported to Department of Environment, Water, Heritage and the Arts as agreed

Objective	Action	Responsible Agency	Timing	Resources	Performance Measures
To ensure the water quality of known and potential Growling Grass Frog habitat is maintained at the level necessary to contribute to their persistence across greater Melbourne	Incorporate best practice urban water management techniques through preparation of Integrated Water Management Plans as specified in the Precinct Structure Planning Guidelines for Precinct Structure Plans and/or equivalent process for transport infrastructure and other development planning.	Growth Areas Authority Growth area councils Developer	Short to medium term	Covered under existing allocations	Integrated Water Management Plans prepared in accordance with the Precinct Structure Planning Guidelines All precincts, transport and other infrastructure included within the Program developed in accordance with best practice urban water management
	Protect relevant habitat identified in the Sub-Regional Strategy or individual Conservation Management Plan from potential point source water quality contaminants by adherence to Environment Protection Authority guidelines and procedures.	Growth Areas Authority Growth area councils Developer Environment Protection Authority	Ongoing	Covered under existing allocations	All precincts, transport and other infrastructure included within the Program managed in accordance with published Environment Protection Authority guidelines and remediation procedures

STRIPED LEGLESS LIZARD

Objective	Action	Responsible Agency	Timing	Resources	Performance Measures
To implement prescription approved by the Commonwealth Minister for Environment for the Striped Legless Lizard prior to detailed planning and construction (precinct planning and transport infrastructure and other development)	Undertake detailed surveys for Striped Legless Lizard. Prepare Conservation Management Plans and Biodiversity component of Precinct Structure Plans following the methodology outlined in the Biodiversity Precinct Planning Kit and responding.	Growth Areas Authority	Short to medium term	Covered under existing allocations	Surveys undertaken in accordance with the Biodiversity Precinct Planning Kit methodology Surveys undertaken prior to commencement of precinct planning All data provided to the Department of Sustainability and Environment within three months of submission to the Growth Areas Authority Precinct Structure Plan reflects relevant conservation management plan
	Prepare translocation protocol in consultation with the Striped Legless Lizard recovery team.	Department of Sustainability and Environment	Short term	Covered under existing allocations	Protocol for translocation provided to Department of the Environment, Water, Heritage and the Arts by 2010
Manage and monitor populations in western grassland reserves and any populations translocated from or within the Program area		Parks Victoria Department of Sustainability and Environment	Medium to long term	Required resources have been committed by the Victorian Government (refer to Natural Temperate Grasslands above)	Monitoring results provided to national recovery team and to Department of the Environment, Water, Heritage and the Arts as per park management plan Community in vicinity of grassland reserves and translocated populations is provided with relevant information regarding consequences relating to control of domestic animals

AUSTRALIAN GRAYLING

Objective	Action	Responsible Agency	Timing	Resources	Performance Measures
To protect and actively manage riparian vegetation along Cardinia Creek to improve vegetation quality and extent	Identify Cardinia Creek and land within the buffer in the revised Casey-Cardinia Growth Area Framework Plan as important for Australian Grayling conservation. Apply appropriate statutory planning controls (e.g. Environmental Significance Overlay) to land within the buffer area of Cardinia Creek.	Growth Areas Authority Department of Planning and Community Development	Short term	Covered under existing allocations	Appropriate planning controls in Cardinia Planning Scheme and Casey Planning Scheme by June 2010
	Prepare Conservation Management Plans for precincts that abut Cardinia Creek.	Growth Areas Authority	Short term	Covered under existing allocations	Protection/management measures affording to instream Australian Grayling habitat and adjacent buffers.
	Precinct Structure Plans are developed to reflect relevant conservation management plan.	Growth Areas Authority	Short term		Protection/management measures affording to instream Australian Grayling habitat and adjacent buffers.
	Undertake works consistent with the Conservation Management Plans.	Melbourne Water Casey City Council Cardinia Shire Council	Ongoing	Covered under existing allocations	Management consistent with Port Phillip and Westernport Regional River Health Strategy targets
To protect potential habitat for the Australian Grayling through enhanced water management measures	Incorporate best practice urban water management techniques through preparation of Integrated Water Management Plans as specified in the <i>Precinct Structure Planning Guidelines</i> for Precinct Structure Plans and/or equivalent process for transport infrastructure.	Growth Areas Authority Growth area councils Developer	Short term	Covered under existing allocations	Integrated Water Management Plans prepared in accordance with the <i>Precinct Structure Planning Guidelines</i> All precincts and transport infrastructure included within the Program developed in accordance with best practice urban water management
	Protect Cardinia Creek from potential point source water quality contaminants by adherence to Environment Protection Authority guidelines and procedures.	Growth Areas Authority Growth area councils Developer Environment Protection Authority	Ongoing	Covered under existing allocations	All precincts, transport and other infrastructure included within the Program managed in accordance with published Environment Protection Authority guidelines and remediation procedures

BUTTON WRINKLEWORT, LARGE-FRUIT GROUNDSEL

Objective	Action	Responsible Agency	Timing	Resources	Performance Measures
To protect and manage all known populations on public land	Identify Truganina Cemetery grassland and land within the buffer (e.g. 200 m) in revising the Wyndham Growth Area Framework Plan.	Growth Areas Authority	Short term	Covered under existing allocations	Wyndham Growth Area Framework Plan in place by June 2011
	Determine the land management buffer for Truganina Cemetery grassland through precinct structure planning and the preparation of Native Vegetation Precinct Plans.	Growth Areas Authority Growth area council Developer	Short term	Covered under existing allocations	Precinct Structure Plan recognises the significance of Truganina Cemetery grassland
	Renegotiate current Public Authority Management Agreement for Truganina Cemetery to protect grassland and values of threatened species.	Department of Sustainability and Environment	Short term	Covered under existing allocations	Management agreement sets out clear standards for managing grassland values
	Monitor threatened species populations and results of management interventions in Truganina Cemetery, rail reserves (within urban Growth Boundary) and western grassland reserves, adapting management approach as required.	Department of Sustainability and Environment (Truganina Cemetery); Parks Victoria (Western Grassland Reserves)	Ongoing	Covered under existing allocations	Monitoring results provided to Department of the Environment, Water, Heritage and the Arts as agreed under Monitoring and Reporting Framework

Objective	Action	Responsible Agency	Timing	Resources	Performance Measures
To identify and protect where practicable populations on private land and additional populations on public land	Undertake surveys for these species consistent with the Precinct Structure Planning Biodiversity Kit as part of precinct, transport and other development planning.	Growth Areas Authority Growth area council Department of Transport / VicRoads Developer	Short to medium term	Covered under existing allocations	Surveys undertaken in accordance with the Biodiversity Precinct Planning Kit methodology Surveys undertaken prior to commencement of precinct planning All data provided to the Department of Sustainability and Environment within three months of submission to the Growth Areas Authority
	Develop a prescription for Large-fruit Groundsel based on its occurrence at the Rockbank site to inform the Growth Area Framework Planning, Precinct Structure Planning and transport planning processes. This prescription will guide mitigation and management decisions for the remainder of the Program including whether to retain the species on site.	Department of Sustainability and Environment	Short term	Covered under existing allocations	Prescription approved by the Commonwealth Minister for Environment
	Develop a prescription for Button Wrinklewort if new populations are located, to inform relevant planning process.	Department of Sustainability and Environment	Short to medium term	Covered under existing allocations	Prescription approved by the Commonwealth Minister for Environment Department of the Environment, Water, Heritage and the Arts

MAROON LEEK-ORCHID, SWAMP EVERLASTING

Objective	Action	Responsible Agency	Timing	Resources	Performance Measures
To protect the Maroon Leek-orchid, Swamp Everlasting within the disused railway at Clyde	Investigate establishing the disused railway at Clyde as a potential conservation area through preparing the Biodiversity Conservation Strategy for the south-east and subsequent revised Casey-Cardinia Growth Area Framework Plan.	Department of Sustainability and Environment Growth Areas Authority	Short term	Covered under existing allocations	Biodiversity Conservation Strategy for south-east reflects values of disused railway line and provided for Commonwealth approval by March 2011
	Prepare Conservation Management Plan for the Clyde railway as part of preparing a Precinct Structure Plan for the area, which provides for the protection, management and monitoring of Maroon Leek-orchid and Swamp Everlasting.	Growth Areas Authority Casey City Council Developers	Short to medium term	Covered under existing allocations	Management plan in place prior to commencement of construction Precinct Structure Plan reflects Conservation Management Plan

LISTED SPECIES WITHOUT CURRENT PRESCRIPTIONS, AND SPECIES AND COMMUNITIES THAT MAY BE LISTED IN THE FUTURE

Objective	Action	Responsible Agency	Timing	Resources	Performance Measures
To provide further data to inform the preparation of Precinct Structure Plans and transport infrastructure and to establish prescriptions for listed species without current prescriptions, and for species and communities that may be listed in the future	Conduct targeted surveys for all species listed in the <i>Strategic Impact Assessment Report</i> for which a prescription has not been prepared, prior to detailed planning and construction of program activities.	Department of Sustainability and Environment	Ongoing	Covered under existing allocations	<p>Surveys undertaken in accordance with Biodiversity Precinct Planning kit standards</p> <p>Surveys undertaken prior to commencement of precinct planning</p> <p>All data provided to the Department of Sustainability and Environment within three months of submission to Growth Areas Authority</p>
	Develop prescriptions for any species likely to be impacted through implementation of the Program.	Department of Sustainability and Environment	Ongoing	Covered under existing allocations	<p>All new prescriptions to be provided to the Commonwealth Minister for Environment for approval prior to their application</p> <p>Approved prescriptions for any species likely to be impacted as a result of the Program must be in place prior to construction</p>

MIGRATORY SPECIES, WATERWAYS, WETLANDS AND RAMSAR SITES

Objective	Action	Responsible Agency	Timing	Resources	Performance Measures
Protect and reestablish the area of former wetlands adjacent to Casey-Cardinia Growth Area for use as flood and water quality mitigation and biodiversity conservation	Investigate establishing a wetland area in conjunction with the preparation of the Biodiversity Conservation Strategy for the south-east and subsequent revised Casey-Cardinia Growth Area Framework Plan, including identifying the funding and acquisition mechanism.	Growth Areas Authority Melbourne Water	Short term	Funding not secured	Outcome of wetland investigation provided to Department of the Environment, Water, Heritage and the Arts by March 2011
	Prepare Management Plan for the wetlands.	Melbourne Water	Short term	Covered under existing allocations	Management Plan results in a major portion of the area being actively managed for biodiversity conservation, including threatened and migratory species
	Undertake works in accordance with the Management Plan.	Melbourne Water	Medium to long term	Funding not secured	Works undertaken in accordance with management plan
	Monitor threatened and migratory species, management activities and enforce compliance with the Management Plan.		Short to Medium term	Covered under existing allocations	Monitoring results provided to Department of the Environment, Water, Heritage and the Arts as part of 2,4 yearly (initially) then five yearly audit reports or as agreed in Monitoring and Reporting Framework
To manage habitat for migratory species in accordance with the prescriptions approved by the Commonwealth Minister for Environment established for precinct structure planning and infrastructure planning	Identify important wetlands and other habitat areas for migratory species as part of the Biodiversity Conservation Strategies prepared for each growth area.	Growth Areas Authority	Ongoing	Covered under existing allocations	Biodiversity Conservation Strategies identify important wetland areas for retention and management
	Prepare Conservation Management Plans and Biodiversity component of Precinct Structure Plans, including specifying the design and construction of wetland areas (where appropriate) and the management requirements for retained wetlands; incorporate requirements of relevant prescriptions.	Growth Areas Authority Growth area councils Developer	Short to medium term	Covered under existing allocations	Surveys undertaken in accordance with the Biodiversity Precinct Planning Kit Nationally significant migratory bird sites protected with a 200m buffer as part of Precinct Structure Plan

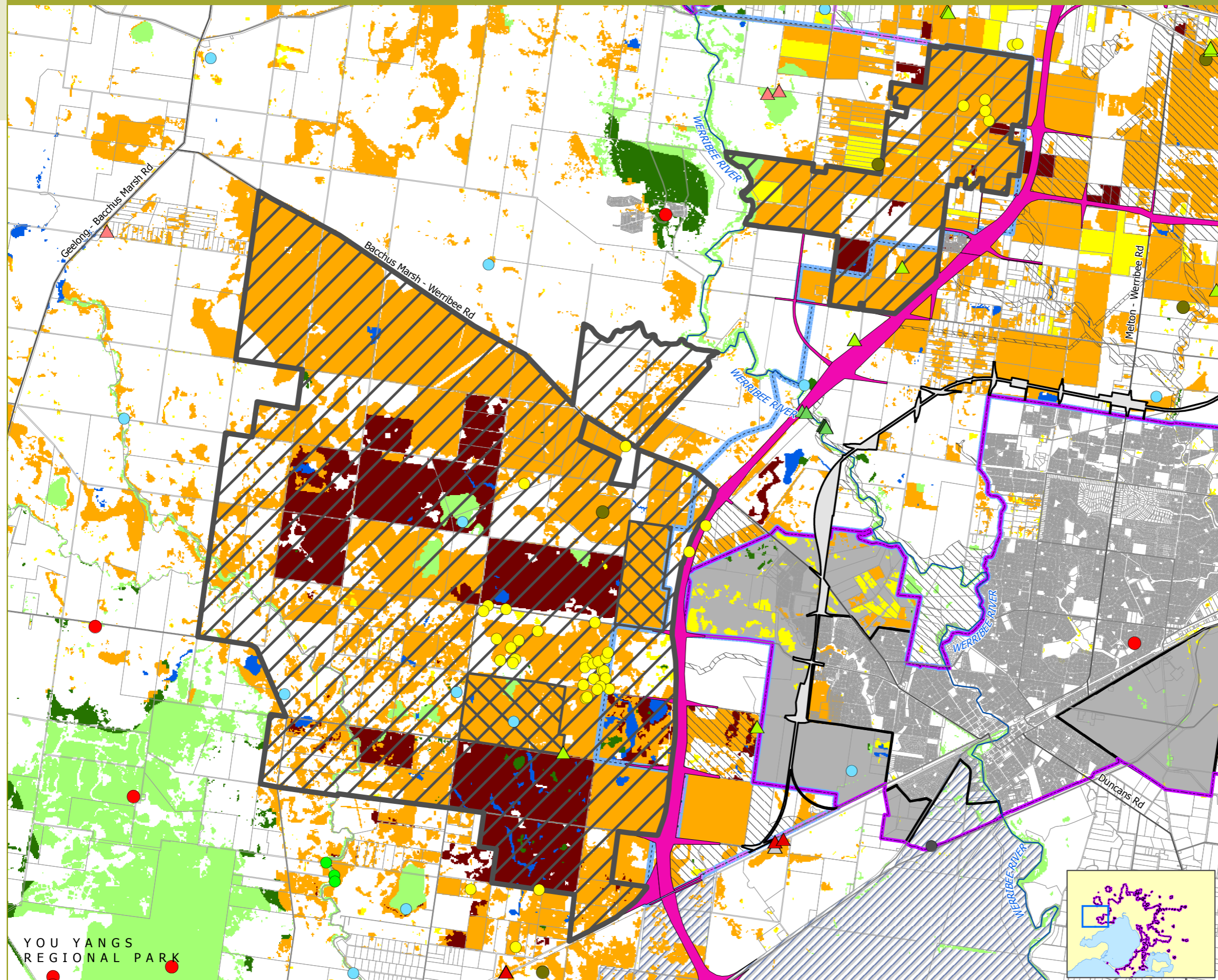
Objective	Action	Responsible Agency	Timing	Resources	Performance Measures
	Undertake works in accordance with the Conservation Management Plan and conditions of any planning approval.	Growth area councils Developer	Ongoing	Covered under existing allocations	Wetlands within precincts suitably buffered from disturbances (including dogs and actively managed to retain or enhance values)
	Monitor and enforce any land management obligations in accordance with the conditions of planning approval.	Growth area councils	Ongoing	Covered under existing allocations	Breaches reported to Department of Environment, Water, Heritage and the Arts as agreed
To protect significant areas within Ramsar sites and downstream Ramsar sites through enhanced management measures	Incorporate best practice urban water management techniques through preparation of Integrated Water Management Plans as specified in the <i>Precinct Structure Planning Guidelines</i> for Precinct Structure Plans and/or equivalent process for transport infrastructure.	Growth Areas Authority Growth area councils Developer	Short term	Covered under existing allocations	Integrated Water Management Plans prepared in accordance with the <i>Precinct Structure Planning Guidelines</i> All precincts and transport infrastructure included within the Program developed in accordance with best practice urban water management
	Increase protection measures and monitoring of areas of Port Phillip Bay Ramsar site within 2km of new urban areas. Undertake control and management of feral and domestic animals to protect wetland sites and wildlife from disturbance.	Parks Victoria	Ongoing	Covered under existing allocations	Process of updating Ramsar management plans incorporates specific measures to protect, monitor and adaptively manage these sites Dogs and pedestrians effectively excluded at least 200 metres from important shorebird sites (within 2km of urban areas) from December 2010 Communities in vicinity of Ramsar sites and upstream waterways are provided with relevant information regarding consequences relating to control of domestic animals and protection of wildlife
	Monitor and enforce land management obligations in accordance with planning permits.	Growth area councils	Ongoing	Covered under existing allocations	Breaches reported to Department of Environment, Water, Heritage and the Arts as agreed

Objective	Action	Responsible Agency	Timing	Resources	Performance Measures
	Monitor water quality entering Ramsar sites and prepare adaptive management response as required.	Independent reporter Environment Protection Authority	Ongoing	Covered under existing allocations	Water entering waterways upstream of Ramsar sites complies with published standards consistent with relevant State Environmental Protection Policy Remedial management plan to deal with potential water quality breaches prepared for Department of Environment, Water, Heritage and the Arts by 2010 Results of water quality testing, and compliance with proposed conservation outcomes submitted to Department of Environment, Water, Heritage and the Arts as part of independent monitoring and auditing of Program. Remedial action taken as necessary.
	Protect Ramsar sites and upstream waterways from potential point source water quality contaminants by adherence to Environment Protection Authority guidelines and procedures.	Environment Protection Authority Melbourne Water	Ongoing	Covered under existing allocations	All precincts, transport and other infrastructure included within the Program managed in accordance with published Environment Protection Authority guidelines and remediation procedures
To protect Ramsar site and downstream impacts associated with the OMR/E6 Transport Corridor	Provide specific measures for protecting and adaptively managing potential impacts on Ramsar values in the Environment Impact Report prepared for the OMR/E6 and translate these measures into the overarching environmental protection strategy and relevant Environmental Management Plans.	VicRoads		Covered under existing allocations	Mechanism for protecting Ramsar site values included in report to Commonwealth as agreed in Monitoring and Reporting Framework

HERITAGE

Objective	Action	Responsible Agency	Timing	Resources	Performance Measures
To protect all known sites on the Register of National Estate and to protect sites of Aboriginal cultural heritage	Retain and protect sites of heritage significance through the precinct structure planning process and implement appropriate statutory controls.	Growth Areas Authority Growth area councils Developer	Short to medium term	Covered under existing allocations	All known sites on the Register of the National Estate referenced in relevant local planning schemes with appropriate controls in place by 2010
	Prepare Cultural Heritage Management Plan through the precinct structure planning process.	Growth Areas Authority Growth area councils Developer	Short to medium term	Covered under existing allocations	Cultural Heritage Management Plan in place for precincts
To manage all known sites on the Register of National Estate and to protect sites of Aboriginal cultural heritage	Undertake activities in accordance with the Cultural Heritage Management Plan and Precinct Structure Plan.	Growth area councils Developers	Ongoing	From land manager	To be agreed with the Department of Environment, Water, Heritage and the Arts
	Monitor use and enforce any land management obligations that apply with statutory planning controls and Cultural Heritage Management Plan.	Department of Planning and Community Development	Ongoing	From land manager	To be agreed with the Department of Environment, Water, Heritage and the Arts

FIGURE 36. PROPOSED WESTERN GRASSLAND RESERVES



Department of Sustainability and Environment

Plains Grassland Indicative Vegetation Quality

- Low
- Medium
- High

Native Vegetation

- Grassy Eucalypt Woodland
- Plains Grassy Wetland
- Wetland habitat
- Other native vegetation
- Artificial Impoundment
- Non native vegetation

EPBC listed flora*

- Button Wrinklewort
- Clover Glycine
- Large-fruit Groundsel
- Spiny Rice-flower
- Werribee Blue-box

EPBC listed fauna*

- Grassland Earless Dragon
- Grey-headed Flying-fox
- Growling Grass Frog
- Striped Legless Lizard
- Swift Parrot
- Golden Sun Moth

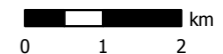
*Only includes spatially accurate records since 1990

- Proposed OMR
- Proposed RRL
- Urban Growth Boundary
- Proposed Urban Growth Boundary
- Original Investigation Areas Boundary
- Proposed Non-urban areas (development avoided)
- Proposed Precinct Structure Planning Areas
- Ramsar areas
- Property boundaries
- Proposed Grasslands Reserves
- Quarries within Southern Reserve

Data Source: Merged dataset from various sources including: modelled native vegetation data from the DSE Corporate Spatial Data Library (2005) supplemented by site based and rapid native vegetation assessments conducted during 2008/09 by the Growth Areas Authority and DSE.

Map Production by: Biodiversity & Ecosystem Services, DSE

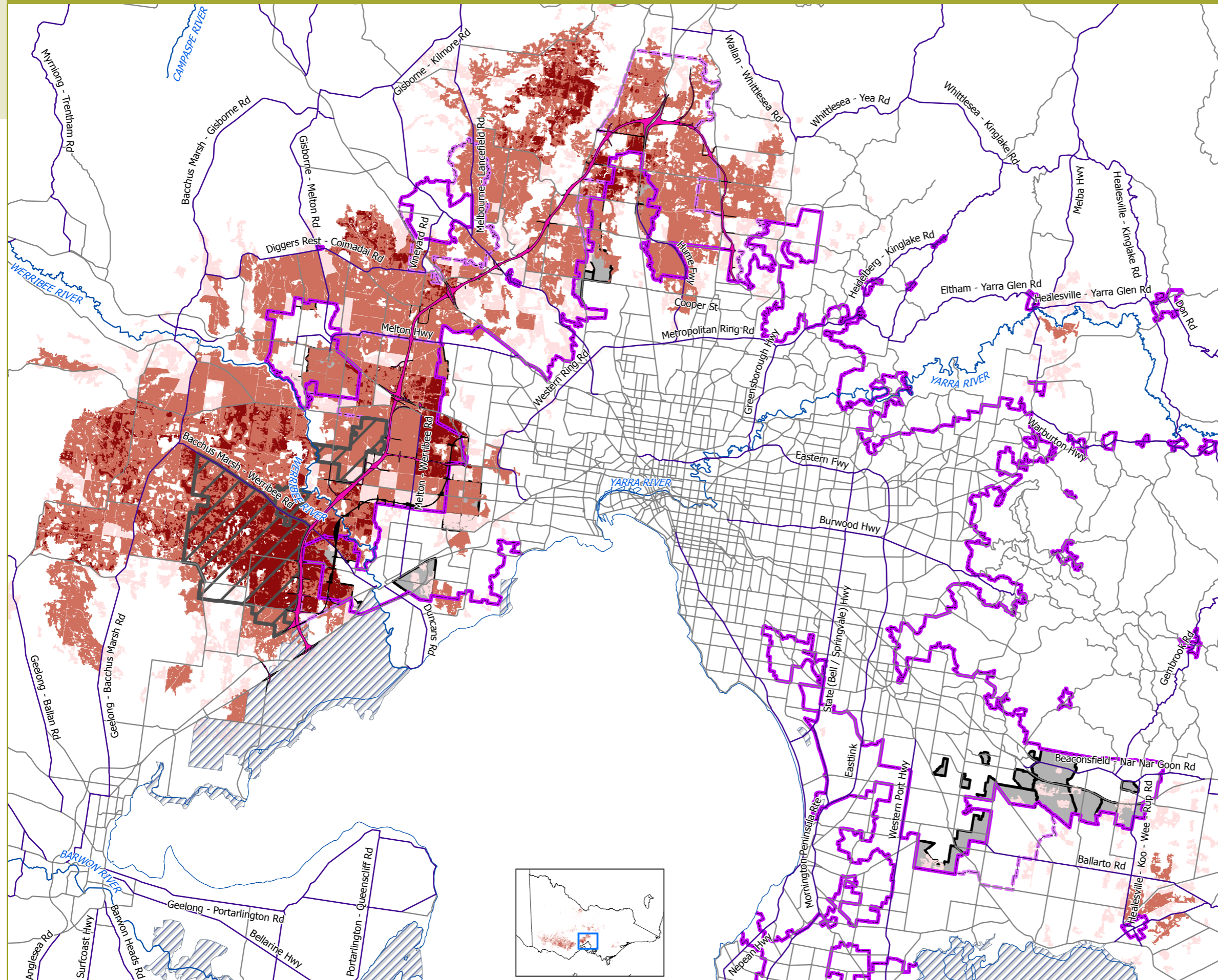
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YOU YANGS REGIONAL PARK

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FIGURE 37. MODELLED HABITAT SUITABILITY FOR STRIPED LEGLESS LIZARD (*Delma impar*)



Department of Sustainability and Environment

Habitat Suitability

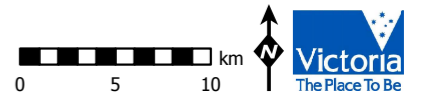
- Low
- Medium
- High
- Proposed OMR
- Proposed RRL
- Urban Growth Boundary
- Proposed Urban Growth Boundary
- Proposed Precinct Structure Planning Areas
- Ramsar areas
- Proposed Grassland Reserve

Data Sources:
 Base Data, Corporate Spatial Data library,
 Dept. of Sustainability & Environment (DSE);
 Dept. of Planning & Community Development (DPCD);
 Dept. of Transport.

Species' Models, Arthur Rylah Institute, DSE

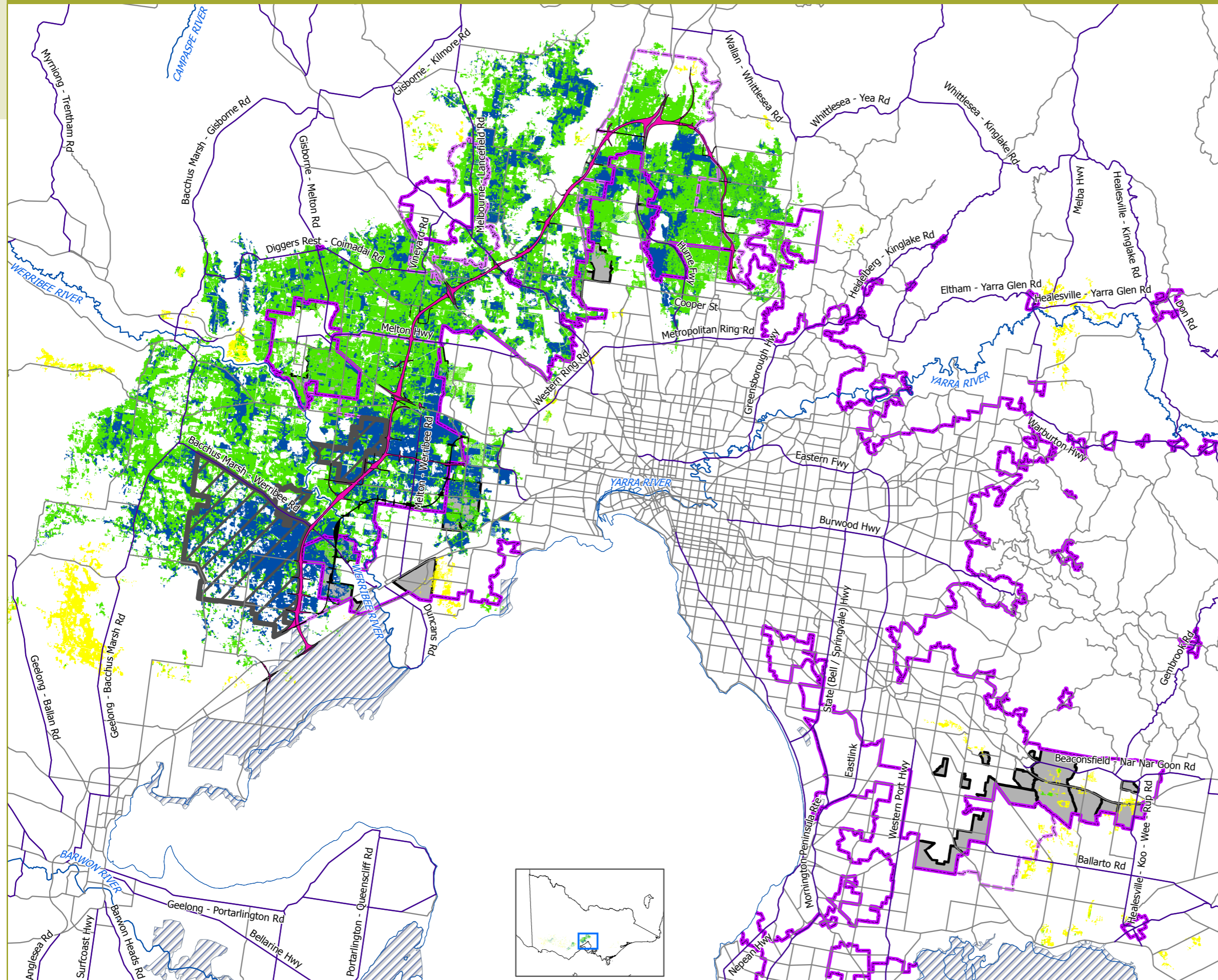
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FIGURE 38. SPECTRUM OF CONTRIBUTION TO SPECIES PERSISTENCE FOR GOLDEN SUN MOTH (*Synemon plana*) HABITAT



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Contribution to species persistence

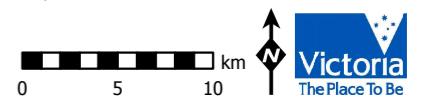
- Low
- Medium
- High
- Proposed OMR
- Proposed RRL
- Urban Growth Boundary
- Proposed Urban Growth Boundary
- Proposed Precinct Structure Planning Areas
- Ramsar areas
- Proposed Grassland Reserve

Data Sources:
Base Data, Corporate Spatial Data library,
Dept. of Sustainability & Environment (DSE);
Dept. of Planning & Community Development (DPCD);
Dept. of Transport.

Species Data:
Distribution Model, Arthur Rylah Institute, DSE
Persistence Analysis, Biodiversity & Ecosystem
Services, DSE

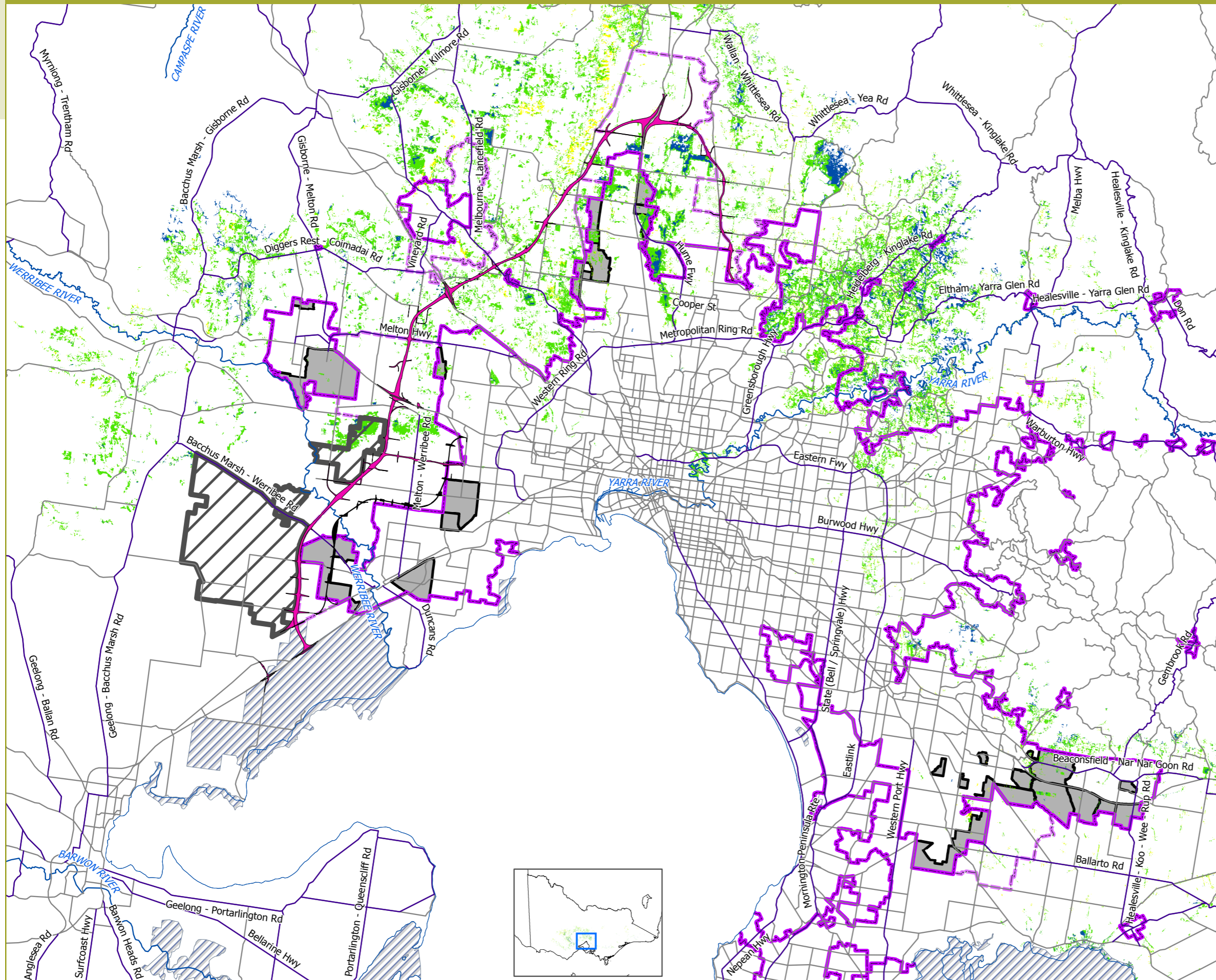
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FIGURE 39. SPECTRUM OF CONTRIBUTION TO SPECIES PERSISTENCE FOR MATTED FLAX-LILY (*Dianella amoena*) HABITAT



Department of Sustainability and Environment

Contribution to species persistence

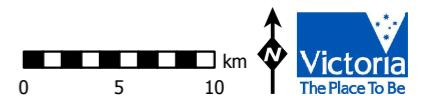
- Low
- Medium
- High
- Proposed OMR
- Proposed RRL
- Urban Growth Boundary
- Proposed Urban Growth Boundary
- Proposed Precinct Structure Planning Areas
- Ramsar areas
- Proposed Grassland Reserve

Data Sources:
 Base Data, Corporate Spatial Data library,
 Dept. of Sustainability & Environment (DSE);
 Dept. of Planning & Community Development (DPCD);
 Dept. of Transport.

Species Data:
 Distribution Model, Arthur Rylah Institute, DSE
 Persistence Analysis, Biodiversity & Ecosystem
 Services, DSE

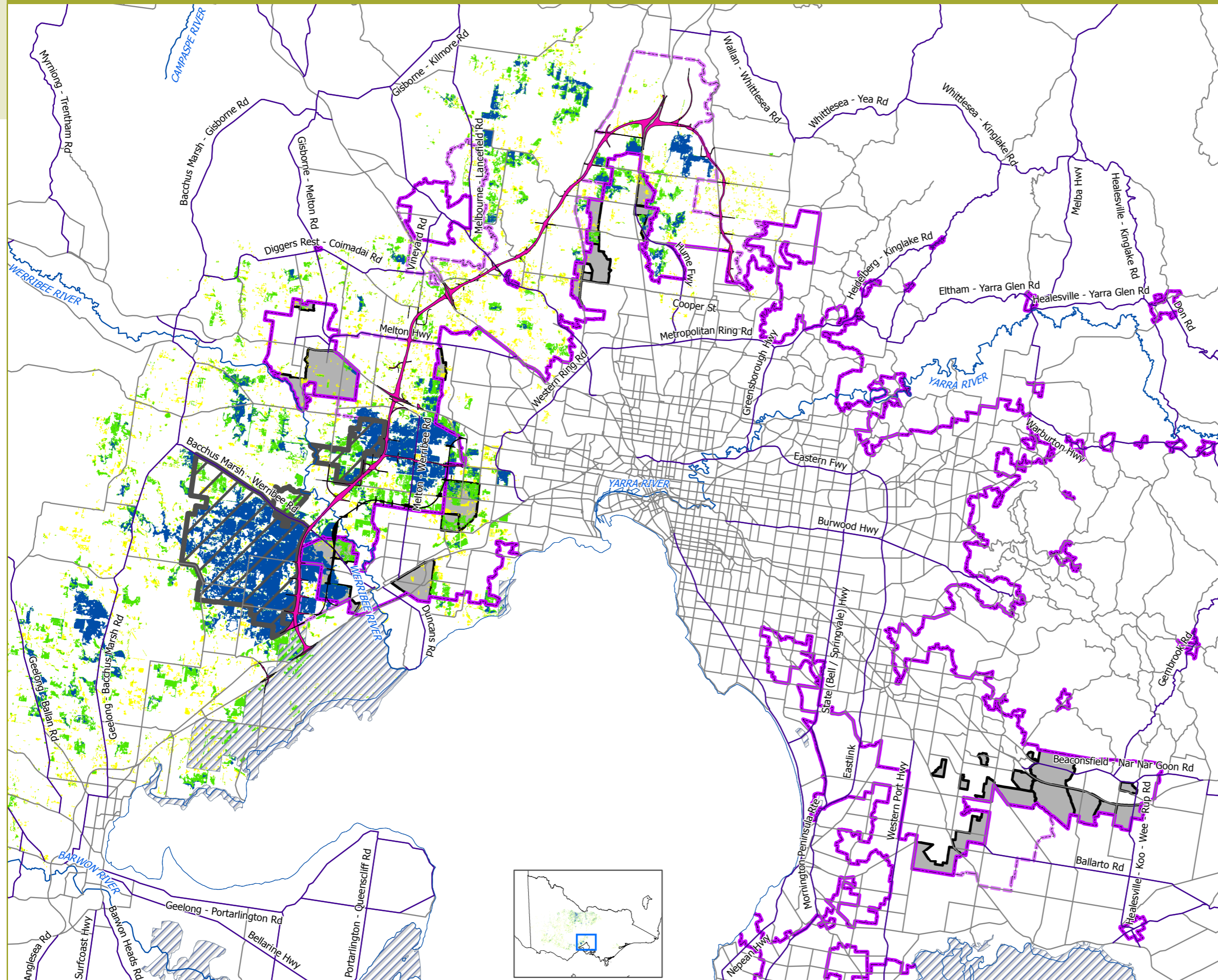
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FIGURE 40. SPECTRUM OF CONTRIBUTION TO SPECIES PERSISTENCE FOR SPINY RICE-FLOWER (*Pimelea spinescens* ssp. *spinescens*) HABITAT



Department of Sustainability and Environment

Contribution to species persistence

- Low
- Medium
- High

- Proposed OMR
- Proposed RRL
- Urban Growth Boundary
- Proposed Urban Growth Boundary
- Proposed Precinct Structure Planning Areas
- Ramsar areas
- Proposed Grassland Reserve

Data Sources:
 Base Data, Corporate Spatial Data library,
 Dept. of Sustainability & Environment (DSE);
 Dept. of Planning & Community Development (DPCD);
 Dept. of Transport.

Species Data:
 Distribution Model, Arthur Rylah Institute, DSE
 Persistence Analysis, Biodiversity & Ecosystem
 Services, DSE

Map Production by:
 Biodiversity & Ecosystem Services, DSE

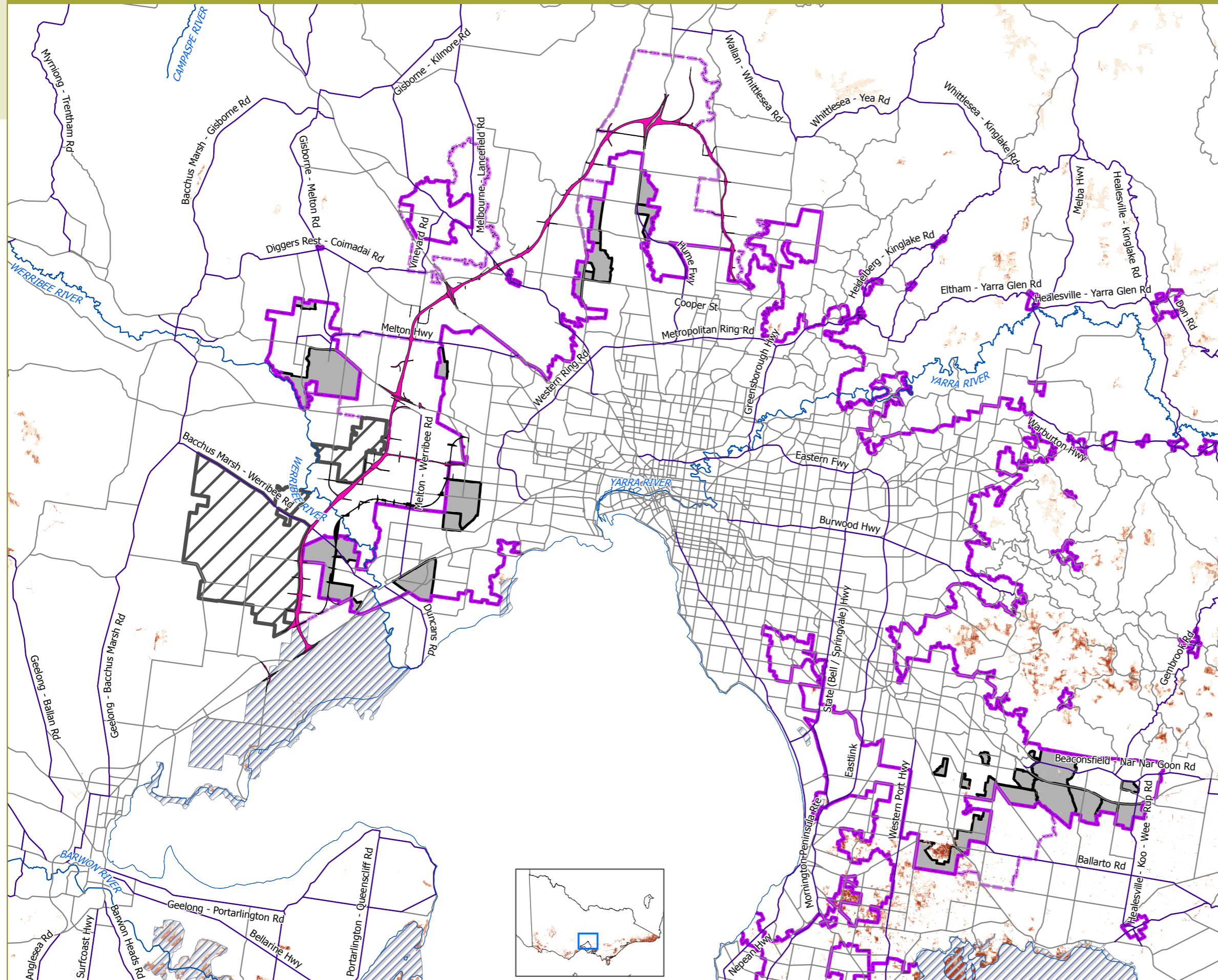
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Victoria
The Place To Be

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FIGURE 41. MODELLED HABITAT SUITABILITY FOR SOUTHERN BROWN BANDICOOT (*Isodon obesulus obesulus*)



Department of Sustainability and Environment

Habitat Suitability

- Low
- Medium
- High

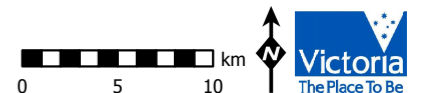
- Proposed OMR
- Proposed RRL
- Urban Growth Boundary
- Proposed Urban Growth Boundary
- Proposed Precinct Structure Planning Areas
- Ramsar areas
- Proposed Grassland Reserve

Data Sources:
 Base Data, Corporate Spatial Data library,
 Dept. of Sustainability & Environment (DSE);
 Dept. of Planning & Community Development (DPCD);
 Dept. of Transport.

Species' Models, Arthur Rylah Institute, DSE

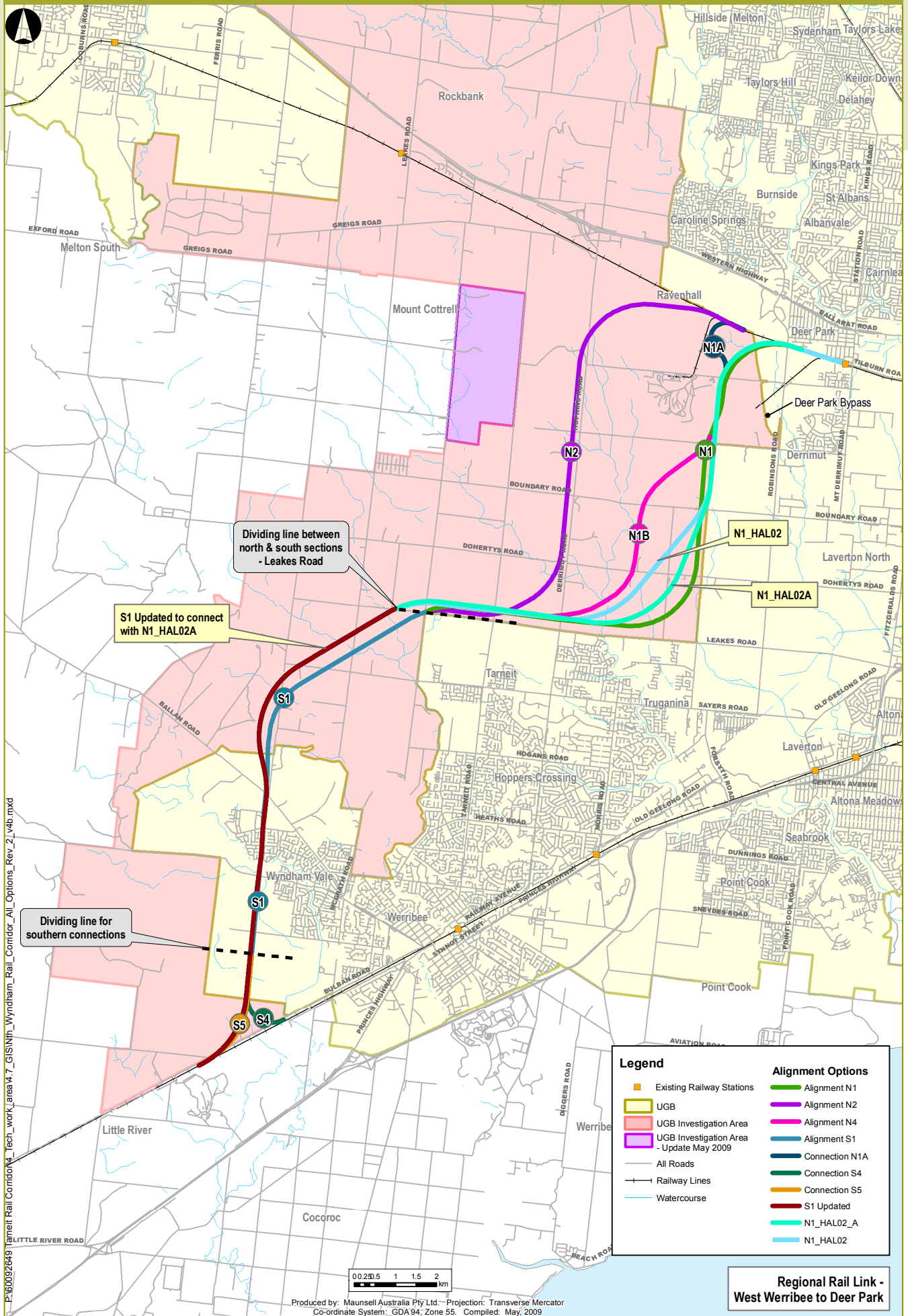
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FIGURE 42. ALIGNMENT OPTIONS



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7 AUDITING, REPORTING AND REVIEW



Three key components need to be monitored to ensure that the prescriptions in this document and other management measures are being followed and to gather information to assess the achievement of stated outcomes. They are:

- > The actual Program and its components and whether any changes become necessary;
- > The areas excluded from or retained within the Urban Growth Boundary for conservation purposes; and
- > The Precinct Structure Planning process, including Native Vegetation Precinct Plans.

An independent auditor will be appointed to assess how well the *Precinct Structure Planning Guidelines* support the protection of matters of national environmental significance under the EPBC Act. Audit reports will be provided to the State and Commonwealth governments every two years. They will also be used to inform the review of the *Precinct Structure Planning Guidelines* which are scheduled to occur every five years.

Key areas retained for conservation purposes, such as the Merri Creek corridor, Grassy Eucalypt Woodland sites and western grassland reserves will be assessed and monitored according to a standard protocol for native vegetation and threatened species being developed by Department of Sustainability and Environment. This monitoring protocol and methodology will be developed to the satisfaction of the Commonwealth.

Responsibility for undertaking this monitoring will rest with Department of Sustainability and Environment for the grassland reserves and public land. The Growth Areas Authority will ensure that monitoring arrangements for retained areas of private land are clarified as an outcome of the Precinct Structure Planning process.

Audit reports on outcomes of vegetation condition and threatened species monitoring will be provided as part of audit reports to the State and Commonwealth governments every five years.

Management plans to be developed for some species, such as the Growling Grass Frog, will set out the monitoring requirements and reporting arrangements.

As outlined in the 'Project purpose and description' it is intended that the objectives of the Program would be implemented through amendments to the Victoria Planning Provisions and the Planning Schemes relevant to the Program.

Clause 12 of the *Victoria Planning Provisions* will contain the main objectives of the Program, which will be implemented through planning scheme amendments to the relevant planning scheme's municipal strategic framework.

Under the provisions of the P&E Act, planning schemes need to be strategically reviewed regularly: this happens every four to five years, to coincide with the council program. The Minister for Planning oversees the review of planning schemes on this regular basis, which will ensure that the implementation of the Program through municipal strategic statements is monitored and reviewed.

While there is no regular review period imposed on the Victoria Planning Policy, reviews of relevant planning schemes can be used to inform State government policy.

Finally, Victoria will provide an annual report to the Commonwealth on progress of each of the management commitments in Part 3 of the Program report (Section 6.10).

Part 4 of the Program Report sets out the detailed arrangements for monitoring and reporting on all aspects of the Program.

The following section sets out the basic Ideas and proposals In the design of the ecological monitoring and adaptive management regime.

MONITORING, REPORTING AND ADAPTIVE MANAGEMENT

A critical component of the Program will be to track the implementation process and be able to assess and report on the progress and effectiveness of various planning, management and mitigation interventions for achieving required biodiversity outcomes. This will require the design, collection and analysis of baseline and monitoring data that will both be able to quantify progress towards desired outcomes and enable changes in strategy and management over time in response to monitoring data, new information and /or emerging issues.

To achieve this, the Victorian Government will:

1. By 2012, collect relevant species and vegetation data from proposed growth areas to inform sub-regional conservation planning and precinct structure plans that will enable:
 - better assessment of species population viability and habitat quality, and subsequent quantification of the potential impacts of development on species persistence;
 - development of improved methods to mitigate these impacts including improved species offsetting approaches; and
 - design of a satisfactory reserve network within the proposed growth areas (using appropriate software). This will clearly identify areas and their component biodiversity attributes to be retained up to an absolute area limit and will include considerations of functional connectivity to other habitat within and outside the growth areas. It will also identify the required protection and preferred management to achieve desired biodiversity outcomes.

2. By 2012, confirm the presence of EPBC-listed flora and fauna species within various proposed development areas and where applicable arrange for salvaging of individuals or reproductive material for storage, propagation / captive breeding and / or translocation to habitat within in secured reserves in accordance with Commonwealth and Victorian Government-agreed protocols.
3. By 2011, develop a standard monitoring protocol for detecting changes in vegetation and species populations arising from site-based interventions. This protocol will employ quantitative and repeatable measures of the site attributes of interest, ensure that sampling within sites is sufficient to detect changes of interest and ensure adequate plot replication (where relevant) across sites under similar starting conditions and management interventions.
4. Applying the standard protocol, monitor sites subject to management or planning interventions seeking to maintain / improve vegetation quality and species persistence and report to State and Commonwealth Governments on trends over time and the effectiveness of these interventions. This may include monitoring:
 - changes arising from the creation of habitat for species such as Growling Grass Frog;
 - changes from management interventions within existing habitat, such as the Western Grassland Reserve (see below for more detail) and other key areas for retention such as Merri Creek corridor, Clarkes Road Grassland and Truganina Cemetery and any future Grassy Eucalypt Woodland reserves;
 - the effectiveness of management interventions on sites containing populations of key plant species such as Spiny Rice-flower, Matted Flax-lily, Small Golden-moths, Button Wrinklewort and Large-fruit Groundsel.
 - the effectiveness of translocation efforts within reserved areas; and / or
 - the effectiveness of planning overlays and/or compliance activities to reduce the loss and decline of habitat on private and public land outside the formal reserved areas.
5. By 2011, develop a dynamic reserve management planning approach incorporating a spatial decision-support system to inform on-going management within reserved areas that takes account of site characteristics and biodiversity objectives coupled with potential management interventions and their likely impact on all biodiversity in the context of surrounding land use and ecosystem function / dynamics.
6. Applying the principles of adaptive management, periodically incorporate monitoring data (once every three to five years) and new and emerging

science and information into the reserve management planning approach to inform changes to site management within reserved areas. Required changes to management may arise from a combination of monitoring data analysis (i.e. trends in species populations and / or habitat at a site); new or improved understanding of species distribution, habitat requirements and / or behaviour; development of new management techniques; or identification of a new or emerging threat (e.g. establishment of a newly recorded weed species with a high risk of spread or changed land use in the vicinity of a reserve that may affect species movement).

MANAGEMENT OF THE WESTERN GRASSLAND RESERVE – DEVELOPING AND APPLYING A SPATIAL DECISION-SUPPORT TOOL FOR ADAPTIVE MANAGEMENT PURPOSES.

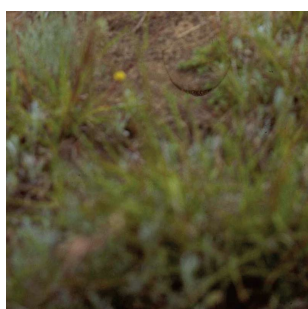
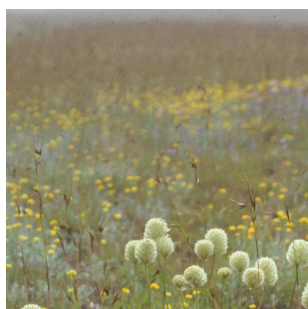
Designing and implementing an adaptive management approach for the Western Grassland Reserves will be critical to achieving desired biodiversity outcomes.

While the general principles of grassland management in south eastern Australia are reasonably well understood, there are very few, if any, known examples of incorporating adaptive management principles into practical spatial decision-support systems to inform on-ground management interventions in the context of broader ecosystem function and dynamics.

Designing a spatially and temporally dynamic decision-support system that connects site based decisions to site and broader ecosystem outcomes will be particularly critical for the Western Grassland Reserve which will:

- > need to meet a range of biodiversity objectives sometimes requiring management interventions that may be in conflict;
- > be progressively established over 10 years and require on-going management thereafter;
- > exist in a mixed tenure landscape with a range of current and future land uses that may positively or negatively impact on biodiversity outcomes within the reserve over time;
- > need to apply management that responds quickly to new information such as monitoring data, emerging science and models, new and emerging threats, and new and emerging management technologies; and
- > need to appropriately incorporate the uncertainties of management interventions on biodiversity objectives into the decision-making process.

8 CONCLUSION



As set out in the Terms of Reference, the EPBC Act permits the Commonwealth Minister for the Environment to approve the taking of actions or classes of actions in accordance with an *endorsed* policy, plan or program (section 146(B)). The effect of such a decision is that the approved actions or class of actions would not need further approval from the Minister under the Act.

When deciding whether to endorse a policy, plan, or program the Minister must be satisfied that the assessment report adequately addresses the impacts to which the agreement relates and that any recommendations to modify the policy, plan or program have been responded to appropriately.

In determining whether or not to endorse the Program, the Minister will have regard to the extent to which the Program meets the objectives of the EPBC Act. In particular, the Minister will seek to be satisfied that it:

- > Protects the environment, especially matters of national environmental significance;
- > Promotes ecologically sustainable development;
- > Promotes the conservation of biodiversity; and
- > Provides for the protection and conservation of heritage.

The Department of Sustainability and Environment believes that the Program meets each of these objectives, because the Program and Final Report should:

- > Prevent actions that have an impact on matters of national environmental significance from being taken in any location of high biodiversity or heritage value; or where impacts can not be avoided, then the Program will involve impacts that are less than significant;
- > Provide for effective management, mitigation or offset of the likely impacts; and
- > Contain an effective system of adaptive management that is independently audited and publicly reported.

The Department of Sustainability and Environment does not believe that the Program will impact on heritage matters. Wherever possible the Program has avoided impacts on important biodiversity matters. Where impacts are likely and these are significant at a site (or assumed to be significant) a range of mitigation measures will be undertaken to reduce impacts below a significant level and, in some cases, provide a net positive impact on the species or the asset. Management commitments are clearly spelled out and provide for adaptive management responses. Independent auditing and review is also provided.

The Commonwealth Minister for the Environment will also consider the extent to which the Program and its associated Final Report adequately incorporates:

- > The precautionary principle;
- > Other principles of ecologically sustainable development;
- > Intergenerational equity; and
- > Matters the Minister considers to have a high likelihood of being potentially eligible for listing as matters of national environmental significance.

The Department of Sustainability and Environment believes that the Program and its related mitigation measures have taken these principles into account. The measures take a long term view and the precautionary principle is built into the assessment of potential impacts. Where relevant, a worse-case scenario has been considered. Several matters that are not yet listed under the EPBC Act have been included in this assessment.

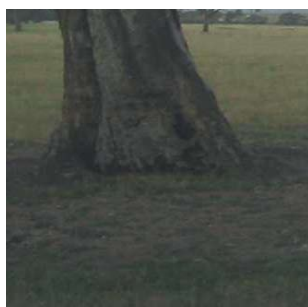
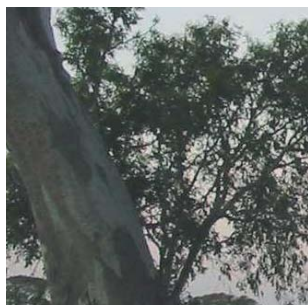
In arriving at a decision to approve an action or a class of actions the Commonwealth Minister for the Environment must act in accordance with his obligations, including giving consideration to:

- > Issues relevant to any matter protected by a provision of the Act; and
- > Social and economic matters.

REASONABLE ASSURANCE

Victoria has a comprehensive legislative and policy framework to manage land use and environmental impacts within Victoria. Part 2 of the Program Report outlines how the legislative processes, policies and guidance will be used to implement the Program; and how these processes will be used to ensure that actions affecting matters of national environmental significance that result from the Program will be managed through these processes.

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10 APPENDICES



APPENDIX 1: STRATEGIC IMPACT ASSESSMENT: VEGETATION LOSSES AND GAINS FROM THE PROPOSED PROGRAM AND GAINS GENERATED FROM THE WESTERN GRASSLAND RESERVES

Note: Due to 'rounding', figures that appear in the following tables may differ slightly from those that appear in the text.

OVERALL VEGETATION LOSSES AND GAINS

GAINS FROM PROPOSED GRASSLANDS RESERVES

Vegetation	Area (ha) by Habitat Score			Total Area (ha)	Gain (Habitat Hectares)
	Low 0.01 - 0.30	Medium 0.31 - 0.60	High 0.61 - 1		
Grassy Eucalypt Woodland	1	21	19	41	13.3
Natural Temperate Grassland	108	7,375	2,609	10,091	4,145.4
Plains Grassy Wetland	9	132	1	142	58.3
Other native vegetation	2	222	21	245	Not calculated
No native vegetation	0	0	0	3,886	Not calculated
Totals	120	7,750	2,650	14,405	4,217

*Based on determination of Conservation Significance using Ecological Vegetation Class x Habitat Score only as per Victoria's Native Vegetation Framework (and does not include requirements for threatened species habitat) – see Determining offset requirements for vegetation and threatened species in Section 6.1.4.

LOSSES FROM DEVELOPMENT

Vegetation	Area (ha) by Habitat Score				Total Area (ha)	Habitat Hectares	Offset Target
	No Native Vegetation 0	Low 0.01 - 0.30	Medium 0.31 - 0.60	High 0.61 - 1			
Grassy Eucalypt Woodland		466	242		708	188	300
Natural Temperate Grassland		897	3,696	72	4,665	1,921	3,599
Plains Grassy Wetland		6	69		75	30	58
Other native vegetation		549	489	2	1,040	315	480
No native vegetation	40,167				10,167	0	0
Grand Total	40,167	1,918	4,496	74	46,654	2,454	4,437

LOSSES FROM URBAN DEVELOPMENT BY INVESTIGATION AREA

LOSSES WITHIN PROPOSED EXTENSION TO THE URBAN GROWTH BOUNDARY

Investigation Area	Vegetation	Area (ha) by Habitat Score				Total Area (ha)	Habitat Hectares	Offset Target
		No Native Vegetation 0	Low 0.01 - 0.30	Medium 0.31 - 0.60	High 0.61 - 1			
Melbourne North (excluding Sunbury)	Grassy Eucalypt Woodland		232	62		294	69	107
	Natural Temperate Grassland		167	145	0	313	108	180
	Plains Grassy Wetland		0	2		2	1	1
	Other native vegetation		21	28		49	16	27
	No native vegetation	8,680				8,680	0	0
Melbourne North (excluding Sunbury) Total		8,680	421	237	0	9,338	194	315
Melbourne North (Sunbury)	Grassy Eucalypt Woodland		60	85		144	47	79
	Natural Temperate Grassland		10	19		30	10	17
	Plains Grassy Wetland			1		1	0	1
	Other native vegetation		3	2		5	2	2
	No native vegetation	2,748				2,748	0	0
Melbourne North (Sunbury) Total		2,748	73	107		2,928	59	99
Melbourne South-East	Other native vegetation		214	115		329	91	133
	No native vegetation	3,597				3,597	0	0
Melbourne South-East Total		3,597	214	115		3,926	91	133
Melbourne West	Grassy Eucalypt Woodland		9	1		11	2	3
	Natural Temperate Grassland		430	2,464	41	2,935	1,236	2,344
	Plains Grassy Wetland		0	61		62	26	50
	Other native vegetation		18	34		51	16	25
	No native vegetation	8,539				8539	0	0
Melbourne West Total		8,539	457	2,560	41	11,598	1,280	2,423
Grand Total		23,565	1,165	3,019	41	27,790	1,624	2,969

LOSSES WITHIN CURRENT URBAN GROWTH BOUNDARY (PROPOSED PRECINCT STRUCTURE PLANNING AREAS)

Investigation Area	Vegetation	Area (ha) by Habitat Score				Total Area (ha)	Habitat Hectares	Offset Target
		No Native Vegetation 0	Low 0.01 - 0.30	Medium 0.31 - 0.60	High 0.61 - 1			
Melbourne North	Grassy Eucalypt Woodland		71	50		121	34	53
	Natural Temperate Grassland		2	75	0	77	37	72
	Other native vegetation		37	41		78	25	40
	No native vegetation	1,864				1,864	0	0
Melbourne North Total		1,864	111	166	0	2,140	95	166
Melbourne South-East	Other native vegetation		216	203	2	421	132	199
	No native vegetation	6,118				6,118	0	0
Melbourne South-East Total		6,118	216	203	2	6,539	132	199
Melbourne West	Grassy Eucalypt Woodland		13	1		14	3	4
	Natural Temperate Grassland		230	461	0	692	253	458
	Plains Grassy Wetland		5	1		5	1	2
	Other native vegetation		35	50		85	26	41
	No native vegetation	6,106				6,106	0	0
Melbourne West Total		6,106	283	512	0	6,902	283	506
Grand Total		14,088	610	881	2	15,581	510	870

LOSSES WITHIN TRANSPORT CORRIDORS

Footprint	Vegetation	Area (ha) by Habitat Score				Total Area (ha)	Habitat Hectares	Offset Target
		No Native Vegetation 0	Low 0.01 - 0.30	Medium 0.31 - 0.60	High 0.61 - 1			
E6	Grassy Eucalypt Woodland		71	11		83	18	28
	Natural Temperate Grassland		1	3		5	2	3
	Other native vegetation		1	1		2	0	1
	No native vegetation	456				456	0	0
E6 Total		456	73	16		545	20	32
OMR	Grassy Eucalypt Woodland		9	33		42	15	26
	Natural Temperate Grassland		35	457	27	520	239	459
	Plains Grassy Wetland		1	3		3	1	3
	Other native vegetation		4	15		19	7	11
	No native vegetation	1,767				1,767	0	0
OMR Total		1,767	49	508	27	2,351	262	498
RRL	Natural Temperate Grassland		20	71	4	95	37	65
	Plains Grassy Wetland			1		1	0	1
	Other native vegetation			0		0	0	0
	No native vegetation	281				281	0	0
RRL Total		281	20	72	4	377	38	67
Grand Total		2,504	143	596	31	3,273	320	597

OMR – Outer Metropolitan Ring Transport Corridor
RRL – Regional Rail Link

VEGETATION RETAINED WITHIN NEW URBAN GROWTH BOUNDARY (EXCLUDED FROM URBAN DEVELOPMENT)

Note. These figures exclude any vegetation likely to be removed within existing quarries.

OVERALL VEGETATION

Vegetation	Area (ha) by Habitat Score				Total Area (ha)	Habitat Hectares
	No Native Vegetation 0	Low 0.01 - 0.30	Medium 0.31 - 0.60	High 0.61 - 1		
Grassy Eucalypt Woodland		527	316	1	843	232
Natural Temperate Grassland		306	2,211	158	2,674	1,237
Plains Grassy Wetland		0	16		16	7
Other native vegetation		221	500	19	740	274
No native vegetation	9,916				9,916	0
Grand Total	9,916	1,054	3,042	177	14,190	1,750

VEGETATION BY INVESTIGATION AREA AND CONSTRAINT TYPE

Notes: Type denotes proposed zoning of land as described in the Program Report.

Farming Zone in this case includes quarry buffers, utility easements and other areas of constrained land with few biodiversity values
Rural Conservation Zone = private land protected due to its biodiversity (or other) values. All land denoted RCZ will also have an Environmental Significance Overlay applied.

Public Conservation Resource Zone = secure conservation reserves

Public Use Zone 7 = proposed parkland (conservation and recreation)

Other parks = open space not necessarily with or for biodiversity conservation (e.g. sports fields).

Investigation Area	Type	Vegetation	Area (ha) by Habitat Score				Total Area (ha)	Habitat Hectares
			No Native Vegetation 0	Low 0.01 - 0.30	Medium 0.31 - 0.60	High 0.61 - 1		
Melbourne North (excluding Sunbury)	Farming Zone	Grassy Eucalypt Woodland		112	77		189	56
		Natural Temperate Grassland		17	110	0	128	49
		Plains Grassy Wetland		0	5		5	2
		Other native vegetation		2	21	0	23	10
		No native vegetation	1,683				1,683	0
	Existing Quarry	Grassy Eucalypt Woodland		32	27		59	16
		Natural Temperate Grassland		18	40		59	20
		Other native vegetation		1	11	2	14	7
		No native vegetation	571				571	0
	Rural Conservation Zone	Grassy Eucalypt Woodland		305	139	1	444	115
		Natural Temperate Grassland		152	203	1	357	116
		Plains Grassy Wetland			0		0	0
		Other native vegetation		10	55	0	65	28
		No native vegetation	2,119				2,119	0
	Public Conservation Resource Zone	Grassy Eucalypt Woodland		1	4		6	2
		Natural Temperate Grassland		0	165	2	168	88
		Other native vegetation		1	57	11	69	37
		No native vegetation	125				125	0
	Urban Floodway Zone	Grassy Eucalypt Woodland		1	1		2	1
		Natural Temperate Grassland			0		0	0
		Other native vegetation		3	15	0	17	7
		No native vegetation	390				390	0
	Other parks	Grassy Eucalypt Woodland		1	1		2	1
		Other native vegetation			1		1	0
No native vegetation		19				19	0	
Melbourne North (excluding Sunbury) Total			4,906	655	933	19	6,513	555

Investigation Area	Type	Vegetation	Area (ha) by Habitat Score				Total Area (ha)	Habitat Hectares
			No Native Vegetation 0	Low 0.01 - 0.30	Medium 0.31 - 0.60	High 0.61 - 1		
Melbourne North (Sunbury)	Farming Zone	Grassy Eucalypt Woodland		2	1		3	1
		Natural Temperate Grassland			1		1	0
		No native vegetation	150				150	0
	Existing Quarry	Grassy Eucalypt Woodland		3	7		10	3
		Other native vegetation		1	9		10	4
		No native vegetation	243				243	0
	Rural Conservation Zone	Grassy Eucalypt Woodland		67	53		121	35
		Natural Temperate Grassland		0	4		4	1
		Other native vegetation		18	36		54	18
		No native vegetation	1,007				1,007	0
	Public Conservation Resource Zone	Grassy Eucalypt Woodland		1	2		3	1
		Natural Temperate Grassland		0	0		1	0
		Other native vegetation		3	16		19	7
		No native vegetation	74				74	0
	Urban Floodway Zone	Grassy Eucalypt Woodland		1	2		3	1
		Natural Temperate Grassland		0	1		2	1
		Other native vegetation		1	1		1	0
	Other parks	No native vegetation	72				72	0
No native vegetation		9				9	0	
Melbourne North (Sunbury) Total			1,556	97	133		1,786	72
Melbourne South-East	Farming Zone	Other native vegetation		29	147		176	65
		No native vegetation	406				406	0
	Quarry	Other native vegetation		2	41		43	17
		No native vegetation	61				61	0
	Rural Conservation Zone	Other native vegetation		17	7		24	6
		No native vegetation	17				17	0
	Public Conservation Resource Zone	Other native vegetation		0	2		2	1
		No native vegetation	0				0	0
	Urban Floodway Zone	Other native vegetation		78	11		89	24
		No native vegetation	175				175	0
Other parks	Other native vegetation			0		0	0	
	No native vegetation	17				17	0	
Melbourne South-East Total			675	126	208		1,009	112

Investigation Area	Type	Vegetation	Area (ha) by Habitat Score				Total Area (ha)	Habitat Hectares
			No Native Vegetation 0	Low 0.01 - 0.30	Medium 0.31 - 0.60	High 0.61 - 1		
Melbourne West	Farming Zone	Grassy Eucalypt Woodland		0			0	0
		Natural Temperate Grassland		57	284	30	371	159
		Other native vegetation		2			2	0
		No native vegetation	625				625	0
	Existing Quarry	Natural Temperate Grassland		3	714	6	724	406
		Plains Grassy Wetland			4		4	2
		No native vegetation	548				548	0
	Rural Conservation Zone	Grassy Eucalypt Woodland		0	0		0	0
		Natural Temperate Grassland		32	555	56	642	291
		Plains Grassy Wetland			4		4	2
		Other native vegetation		52	67	4	124	42
		No native vegetation	920				920	0
	Urban Floodway Zone	Grassy Eucalypt Woodland		1			1	0
		Natural Temperate Grassland		22	96		118	46
		Plains Grassy Wetland		0	4		4	1
		Other native vegetation		1	3	0	4	1
		No native vegetation	632				632	0
	Other parks	Natural Temperate Grassland		3	1		5	1
		Other native vegetation		2	1		3	1
		No native vegetation	28				28	0
	Public Use Zone 7	Natural Temperate Grassland		0	33	62	95	57
		No native vegetation	21				21	0
	Melbourne West Total			2,775	176	1,766	158	4,874
Grand Total			9,911	1,054	3,040	177	14,182	1,749

APPENDIX 2: SPECIES DISTRIBUTION MODELLING: OVERVIEW OF METHODOLOGY AND ASSUMPTIONS

INTRODUCTION

Species distribution modelling (SDM) has become a fundamental tool for ecological and biogeographical research and an increasingly important tool for biodiversity management and conservation. Species distribution models are used to predict the geographic range of a species from occurrence (presence; or presence/absence) records for particular taxa (dependent variable) and relevant environmental data (independent variables) recorded from the same sites. Two types of model output are common: binary results where sites are classified as either part of the distribution of the species or outside their distribution; and continuous results where sites are given a ‘probability’ of being part of a species’ distribution. Species distribution modelling is essentially a binary classification problem with two training classes, presence and absence.

The species modelling framework that has been adopted by Department of Sustainability and Environment is the consequence of extensive trialling and evaluation of many current SDM modelling methods/algorithms, training data selection methods and pseudo-absence generation, selection and allocation methods.

METHODS

EXEMPLARS – TEST AND TRAINING DATA

Two species modelling processes were developed – one to train models with reliable presence and absence data and another to train models for which there is only reliable presence data. The former was used to build models from vetted data from the Victorian Flora Information System – a database of largely vascular plant records and the latter process was employed to build models from vetted data extracted from the Victorian Wildlife Atlas – a database of vertebrate animal records. Where there are sufficient records of a species models are routinely built with a training dataset of 70 per cent of both presence and absence (or pseudo-absences – see below) records and the remaining data is used to test model accuracy.

PLANT SPECIES

Real data – both presence and absence – were used to build vascular plant SDMs. Plant species distribution data were extracted from the Victorian Department of Sustainability and Environment’s vegetation and plant species database – the Flora Information System (FIS). The FIS is a large repository of both:

1. Vegetation sample plots or quadrats that have been collected from across the Australian State of Victoria – an area of approximately 22 million hectares. These samples have been collected by some 100’s of botanically competent field workers over the last 30 years in both a systematic and ad-hoc fashion. “Homogeneous” areas of vegetation were sampled employing a range of

quadrat sizes depending on the plant community being sampled. Quadrat sizes varied in accordance with the concept of minimal area. Generally quadrats in grassland and shrublands are 100m² in size and quadrats in mallee, forest and woodland are typically 900m² in size. All vascular plants growing in or extending over the sample space were recorded as present. Species absence from the quadrat site may be inferred for prominent perennial plant species, from their lack of detection; and

2. Additional 'incidental' observations of plant species with or without a voucher lodged at the National Herbarium of Victoria.

The following modelling protocols have been adopted for all vascular plants following a detailed investigation of the response of model accuracy to prevalence (the ratio of presence records to absence records):

- > If the number of presence records for a particular species is >10 but ≤100 the number of absence records randomly selected was five times the number presence records.
- > If the number of presence records for a particular species is >100 but ≤200 the number of absence records randomly selected was four times the number presence records.
- > If the number of presence records for a particular species is >200 but ≤500 the number of absence records randomly selected was three times the number presence records.
- > If the number of presence records for a particular species is >500 but ≤1000 the number of absence records randomly selected was two times the number presence records.
- > If the number of presence records for a particular species is >1000 the number of absence records randomly selected was equal to the number presence records.

Two plant species listed under the EPBC Act were selected for analysis.

1. Matted Flax-lily *Dianella amoena*
2. Spiny Rice-flower *Pimelea spinescens* subsp. *spinescens*

FAUNA SPECIES

Real and pseudo-absence data were used to build fauna SDMs. Animal distribution data were extracted from the Victorian Department of Sustainability and Environment's fauna species database – the Victorian Fauna Display (VFD). The VFD is a large repository of site records for fauna species. Records have been collected from across

the Australian State of Victoria and in some cases adjacent areas of neighbouring states. These samples have been collected by some 1000's of scientists and naturalists over many years using a range of survey techniques although most contributions used for modelling are from the last 50 years.

Training fauna SDMs using site observations is different to modelling vascular plant data using site inventories as a consequence of universal but species specific detection uncertainties for most if not all animals (vertebrates and invertebrates). As such constructing binary models for fauna species rather than distance measures for presence only models for fauna involved the derivation of 'pseudo-absence' records. Exhaustive testing was carried out on representative animal taxa to establish robust techniques for allocating pseudo-absences across the State. A one-class Mahalanobis distance method (MD) was used to exclude the allocation of pseudo-absences from sites environmentally similar to the presence sites. Outside this MDS defined envelope (thresholded to contain 90 per cent of presence sites), 50 per cent of the pseudo-absences were randomly allocated to urban areas and 50 per cent of pseudo-absences were randomly allocated to the remainder of the State of Victoria. The following modelling protocols have been adopted for all vertebrates following a detailed investigation of the response of model accuracy to prevalence (the ratio of presence records to pseudo-absences):

- > If the number of presence records for a particular species is >20 but ≤100, the number of random pseudo-absence records generated was 3 times the number presence records.
- > If the number of presence records for a particular species is >100, the number of random pseudo-absence records generated was 5 times the number presence records.

SITE DATA VETTING AND ENVIRONMENTAL VARIABLES USED

All data used for modelling is from a single extraction of point data from the VFD and the Victorian FIS from early 2009. The geographic co-ordinates of all sites used in the modelling is known with some certainty (reported spatial error is +/- 100 m) and as such, many environmental (climatic, radiometric, topographic) and spectral variables from the same locations have been extracted from a 'stack' of data themes stored in a Geographic Information System (see Appendix 1). Principal Components Analysis was used to transform the number of correlated variables into a smaller number of uncorrelated variables called principal components. Six Principal Components were extracted from the combined climate, radiometric and terrain variables and a further four Principal Components were extracted from the combined vegetation models and satellite imagery.

Five animal species listed under the EPBC Act were selected for analysis.

1. Growling Grass Frog *Litoria raniformis*
2. Plains-wanderer *Pedionomus torquatus*
3. Southern Brown Bandicoot *Isodon obesulus obesulus*
4. Striped Legless Lizard *Delmar impar*
5. Golden Sun-moth *Synemon plana*

MODELLING

The MD method (Clark et al. 1993) was used to assist in the allocation of pseudo-absences for the fauna models. MD uses an algorithm to define the ecological niche of a species on the basis of site records and coincident ancillary environmental data. MD ranks all potential sites (characterised by the same environmental variables) by their Mahalanobis distance from a vector that is the expression of the mean environmental conditions at the sites where the species was recorded (Tsoar et al. 2007). It is a particularly useful method to quantitatively determine the difference between sites with known attributes and sites with unknown attributes using covariate data. It is a widely employed statistical tool in ecology and remote sensing, particularly for classification, similarity analyses and species modelling particularly where presence only data is available (Townsend Peterson et al. 2003). The usefulness of modelling of this nature is related to the degree to which sample records (from herbaria, museums and other curated Government datasets) reflect the environmental 'preferences' of the species concerned. MD establishes a signature state by interrogating the environmental values (predictor variables) at the location of each site record. Mahalanobis distances were based on the mean and variance of these predictor variables and the covariant mix of all the variables and therefore take advantage of the covariance among variables. The region of constant Mahalanobis distance around the mean forms a hyper-ellipsoid in a multi-dimensional space commensurate with the number of predictor variables. Mahalanobis distance is calculated as:

$$D^2 = (x-m)^T C^{-1} (x-m)$$

Where:

D² = Mahalanobis distance

x = vector of data

m = vector of the mean values of independent (or predictor) variables

C⁻¹ = the inverse covariance matrix of independent variables

T = transposition of the vector

Random Forest (RF) was used to create SDMs. RF is a new ensemble technique in data mining. It was designed to produce accurate predictions while limiting overfitting of the data (Breiman 2001). In RF, bootstrap samples are drawn to construct multiple trees, each tree is grown with a randomized subset of predictors, a large number of

trees (500 to 2000) are grown, the trees are grown to maximum size without pruning, and aggregation is produced by averaging the trees (Prasad, Iverson & Liaw 2006). The R Package randomForest (version 4.5–22) was used to build the model in this study, which was developed by Andy Liaw and Matthew Wiener, based on original Fortran code written by Leo Breiman and Adele Cutler. Exploratory analysis shows that the default values for the parameters worked well for our problems. That is, 500 trees were grown in each forest (i.e. model) and 3 (the closest integer to the square root of 10 – the number of independent variables used) environmental variables were randomly chosen at each node to split. But we used different weights for the two classes — n_1 for absence and n_0 for presence — to make the total weight balanced for the two classes, where n_0 and n_1 are the number of training sites for the two classes: absence and presence, although exploratory analysis shows that this parameter does not matter much.

When the best SDM is applied to the stack of the relevant environmental variables the result is a map or surface that reflects the probability that a given pixel is part of the respective species' distribution. Models were thresholded to produce a binary view such that at least 95 per cent of the presence records were included within the resulting environmental envelope. While the resultant maps are useful great care must be taken when using these maps for planning purposes. Models reflect – often in perverse ways – the vagaries and biases in the input or site data. By and large these data are dated, spatially crude and highly biased.

POST PROCESSING

As the models are a general view of habitat suitability on a pixel by pixel basis, one cannot interpret the results in terms of species persistence. This requires detailed knowledge of a range of species specific parameter distributions – for example carrying capacity of sites, dispersal capacity, fecundity, susceptibility to (genetic, epidemiological, natural) catastrophes and the interplay of these.

In the absence of these data the Department of Sustainability and Environment has taken several of the EPBC listed species:

- > Growling Grass Frog *Litoria raniformis*
- > Plains-wanderer *Pedionomus torquatus*
- > Southern Brown Bandicoot *Isodon obesulus obesulus*
- > Striped Legless Lizard *Delmar impar*
- > Golden Sun-moth *Synemon plana*
- > Matted Flax-lily *Dianella amoena*
- > Spiny Rice-flower *Pimelea spinescens* subsp. *spinescens*

and has sought to further process the models to further (albeit) discriminate sites in terms of their temporal and spatial context.

INDIVIDUAL SPECIES ASSUMPTIONS

This section briefly summarises the known or estimated parameters relevant to spatial and temporal population dynamics for each of the seven species selected.

STRIPED LEGLESS LIZARD *Delmar impar*

The habitat for this species is primarily grasslands and open woodlands – it shelters in tussocks, under rocks, soil cracks and in the burrows of other small animals (Smith & Roberson 1999).

Home range requirements of Striped Legless Lizard: conservatively 0.5ha per animal (Smith and Robertson 1999) based on movement estimates determined by Kutt (1993) (overlap of home range between sexes not described).

Dispersal: Reluctant to cross open areas without grass tussock cover (Dorrough 1995). Assume sealed road is a more or less absolute barrier to Striped Legless Lizard dispersal in the medium term. Obviously water and urban fabric is a barrier. Have also assumed that regions excluded from the thresholded model are unsuitable for dispersal.

PLAINS-WANDERER *Pedionomus torquatus*

The habitat for Plains-wanderer is primarily grasslands sparse, lowland native grasslands from which they obtain all of their annual life cycle needs from (Baker-Gabb 1988). Plains-wanderer has been rarely seen in the Melbourne region in recent decades. However, it is widely accepted that grassland habitat for Plains-wanderer can be maintained and in many cases improved with site management – usually via stock exclusion in drought and strict grazing control in wet years to maintain suitable grassland structure (NSW NPWS 2002).

Range of population densities encountered approximately 18ha shared per pair (Baker-Gabb *et al.* 1990).

Birds are rarely found within 200m of woodland or tree areas – presumably due to predation (NSW NPWS 2002).

Birds can fly long distances – but this is rarely recorded – tends to be sedentary. As such, connectivity does not equate to physical contiguity of habitat except for areas less than 20ha (notional minimal breeding habitat area). Small areas of habitat proximal to larger regions may be useful as temporary foraging or resting areas.

Foxes are an important and effective predator in more productive areas (Baker-Gabb 1995). Fox predation as a threat is diminished in core Plains-wanderer habitat – extensive

and 'droughty' clay plains without surface water and of limited suitability to rabbits and other rodents. Elevated fox predation is expected to extend two kilometres from edge of Urban and Irrigated areas.

GOLDEN SUN MOTH *Synemon plana*

Generally lowland grasslands and open woodlands exceedingly widespread but rarely observed or more accurately limited reliable records. Historically, the distribution of the Golden Sun Moth corresponded with native temperate grasslands and woodlands across South-eastern Australia. Feeds on *Austrodanthonia* spp and possibly other grass taxa. See also Braby & Dunford 2006; Gilmore et al. 2008.

Home range requirements: Unknown – many thousands of individuals can be supported in very small areas. One population estimate of 10,000 individuals was made at a site of 400m² area (DEC 2007). Department of the Environment, Water, Heritage and the Arts (2009) suggests habitat areas less than 0.25ha are “unlikely to contribute to the ecological health of the species” – this was the threshold used to exclude small areas from the model.

Dispersal: Males can fly and winds will disperse some males. Females sedentary and virtually flightless. As a consequence – despite the gift of flight – Golden Sun Moth is a very poor disperser to new or unoccupied disjunct habitat. Prior to settlement temperate woodlands were more or less continuous across South Eastern Australia on plains and foothills and this may explain why long distance dispersal was not really an acute selection pressure on this species. Areas surrounded by barriers of up to 200m are effectively isolated (Clarke & O'Dwyer 2000).

SOUTHERN BROWN BANDICOOT *Isodon obesulus obesulus*

Range of lowland moist temperate habitats with high veg cover at or near the ground.

Home range area is highly variable 0.5–9ha per individual recorded in a range of studies in varying habitats (DEC 2006). We have adopted a home range area per individual of 0.5 hectare and have therefore assumed optimal habitat is universal.

Dispersal: No absolute barriers. Succumbs to predation in open country – mainly foxes, but also cats and domestic animals. Dispersal through suburbs is **highly unlikely** and dispersal through rural residential is considered *unlikely*. In the absence of human assisted dispersal, good dispersal habitat (which is rare and discontinuous in the Melbourne area) is as least as important as remaining prime habitat areas in the medium to long term for this species' local persistence.

SPINY RICE-FLOWER *Pimelea spinescens* subsp. *spinescens*

Lowland grassland plant species, specialising in low rainfall regions. Most remaining populations are to be found on roadsides, cemeteries and rail reserves. Several populations on freehold are known in the study area and additional populations will be located as urban expansion brings more surveys to freehold grasslands.

Unknown to what extent inbreeding depression and population dynamics is particularly important consideration in the medium term for the conservation of long-lived plant species such as *Pimelea spinescens*. It is more likely that site management or the absence of useful commensal organisms are more critical immediate concerns. Most populations will benefit from improved site security and site management.

Dispersal: Dispersal is by passive fall and pollination is effected by insects. As a consequence this species may maintain genetic contact sufficient to genetically enrich small isolated populations but is unlikely to spread readily across unsuitable habitat types such as roads and urban areas. Such areas represent real barriers to dispersal. Frequent burning provides recruitment opportunities for the Spiny Rice-flower. This species probably germinates in autumn or spring. Plants also re-sprout after fire. The species has been observed to regenerate from seed readily following appropriate fire events, even in severe drought. The species is thought to be extirpated by cropping, herbicide application (boom spraying) and intensive grazing but persist in relatively weed infested areas provided inter tussock space is maintained.

As such, the key to selecting the best places for reservation for this species is a detailed knowledge of the occurrence of the species. While many populations are known, no systematic survey of the species has been conducted across its range or in the Melbourne area. As the species continues to be recorded in grasslands subject to planning permit applications in the Melbourne area it may be reasonable to suppose populations additional to those that are known may yet be found. The model identifies areas suitable for *Pimelea spinescens* on the basis of climate, soils, terrain and satellite imagery. It cannot identify regions that have been subjected to once off cropping, boom spraying of herbicide or severe grazing. These are some of the caveats on the interpretation of the modelling. Given that we do not know the intimate details on land use (so important to plant conservation) if we assume all parcels with “habitat” to have at least a small population – persistence is simply improved with area retained and controlled.

MATTED FLAX-LILY *Dianella amoena*

Widespread lowland species typically found in woodlands and open forests on a range of substrates.

Dispersal: Dispersal is largely carried out by frugiverous birds (possibly some reptile dispersal) and pollination is largely effected by native bees. Whether fruit is regularly taken and effectively dispersed by birds in peri-urban areas is not known. As seed is bird dispersed we can assume some connectivity over non-habitat. Therefore we have selected an arbitrary figure of 200m (a distance within which a large proportion of seed is voided by birds) and have removed all areas that are not connected to 'habitat regions' of more than 1,000ha.

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APPENDIX 3: MAPPING THE SPECTRUM OF CONTRIBUTION TO SPECIES PERSISTENCE FOR GOLDEN SUN MOTH *Synemon plana* AS PART OF THE STRATEGIC IMPACT ASSESSMENT REPORT FOR MELBOURNE'S FUTURE GROWTH.

Biodiversity and Ecosystem Services Division, Department of Sustainability and Environment.

SPECIES DISTRIBUTION MODELLING: OVERVIEW OF METHODOLOGY

SALIENT INFORMATION FOR SPATIAL TEMPORAL DYNAMICS

Climatic range is restricted to South East Australia. Generally found in native grasslands and open wood-lands, particularly corresponding to *Austrodanthonia* spp. With soils ranging from sandy loams and clays with a pH between 5.3 and 7 (O'Dwyer and Attiwill 1998).

Home range requirements are unknown as thousands of individuals may be supported in very small areas (i.e. observed 10000 individuals in 400m²). DEWHA (2009) suggests that habitat <0.25ha “unlikely to contribute to the ecological health of the species” (White, 2009).

Synemon plana life cycle is poorly known. Adults live 1–4 days and do not feed. Females are largely stationary, and males will not fly >100m from areas of suitable habitat. Therefore habitat separated by distances >200m is assumed distinct. Genetic distance strongly correlates to geographic distance, and may be a measure of habitat fragmentation (Clarke and O'Dwyer 2000).

In terms of habitat maintenance and subsequent contribution to species persistence, it was considered that management of native vegetation is more likely to contribute to longer-term habitat maintenance and improvement than management of non-native vegetation habitat (i.e. habitat consisting mostly of weeds) where the management outcomes are less certain and the risks of unregulated “habitat loss” greater. Habitat dominated by weeds also poses some conflicts under legislation where land owners may be required to control or remove ‘listed noxious weeds’ that may otherwise provide habitat for Golden Sun Moth. As such, a minimum site condition score (sensu. Parkes et al. 2003, DSE 2004) was used to threshold sites of poor condition but dominated by native grass cover from sites dominated by introduced weeds.

SOURCE DATA

- > Modelled habitat probability from Department of Sustainability and Environment Arthur Rylah Institute (White 2009)
- > Department of Sustainability and Environment Native Vegetation Extent 2005
- > Department of Sustainability and Environment Native Vegetation Modelled Site Condition 2005
- > VicMap Roads dataset
- > VicMap urban extents dataset

LINEAGE

1. Thresholded the habitat probability model to 0.35 to create a statewide binary model that contains 95 per cent of the recorded samples of *Synemon plana*.
2. Removed all habitat from the model with <0.25ha contiguous area.
3. Removed all areas from the map intersecting with urban areas and roads.
4. Grouped habitat into distinct regions. Regions are considered the same if there is <200m between potential habitat areas.
5. Ranked habitat pixels (25 x 25m) into classes based on whether the pixel is within a region (as defined in [4]) that contains the following hectares of potential habitat:

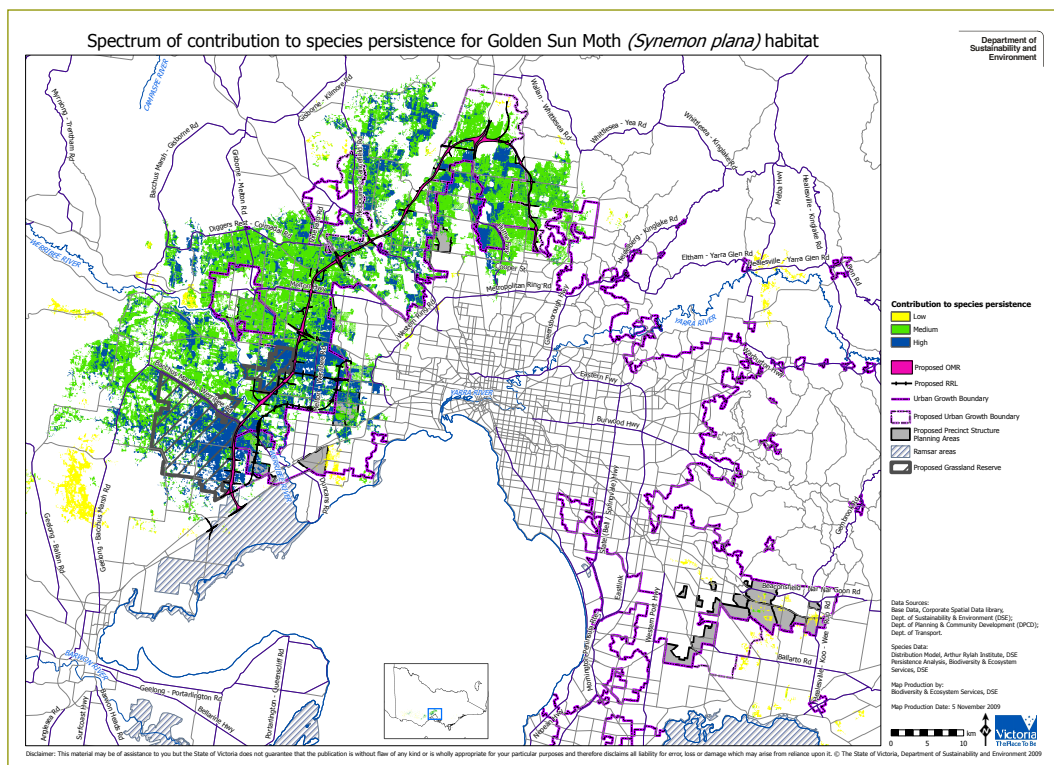
Area (ha) of potential habitat	Ranking
>100,000	4
10,000 – 100,000	3
1,000 – 10,000	2
100 – 1,000	1
<100	0

6. Compared this ranked habitat to the native vegetation extent and modelled site condition where the modelled site condition is ≥ 0.2 . The model was divided into three classes of “contribution to species persistence” shown in the following table:

Habitat within native vegetation with modelled site condition ≥ 0.2 ?	No	Yes
Habitat Region Ranking		
4	Medium	High
3	Medium	High
2	Low	Low
1	Low	Low
0	Does not contribute to species persistence	

OUTPUT MAP

The map of the modelled habitat of *Synemon plana* in the Melbourne region of Victoria divided into three classes of “contribution to species persistence”: Low; Medium; and High.



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APPENDIX 4:

MAPPING THE SPECTRUM OF CONTRIBUTION TO SPECIES PERSISTENCE FOR MATTED FLAX-LILY *Dianella amoena* AS PART OF THE STRATEGIC IMPACT ASSESSMENT REPORT FOR MELBOURNE'S FUTURE GROWTH.

Biodiversity and Ecosystem Services Division, Department of Sustainability and Environment

SPECIES DISTRIBUTION MODELLING: OVERVIEW OF METHODOLOGY

Refer to Appendix 1 – Delivering Melbourne's Newest Sustainable Communities – Strategic Impact Assessment Report for EPBC Act 1999. The State of Victoria, DSE, East Melbourne 2009.

SALIENT INFORMATION FOR SPATIAL TEMPORAL DYNAMICS

Widespread lowland species typically found in woodlands and open forests on a range of substrates.

DISPERSAL

Dispersal is largely carried out by frugivorous birds (possibly some reptile dispersal) and pollination is largely effected by native bees. Whether fruit is regularly taken and effectively dispersed by birds in peri-urban areas is not known.

As seed is bird dispersed we can assume some connectivity over non-habitat. Therefore we have selected an arbitrary figure of 200m (a distance within which a large proportion of seed is likely voided by birds) and have removed all areas that are not connected to 'habitat regions' of more than 1,000ha.

In terms of habitat maintenance and subsequent contribution to species persistence, it was considered that management of higher quality native vegetation is more likely to contribute to longer-term habitat maintenance and improvement than management of lower quality vegetation or areas dominated by weeds where the management outcomes are less certain and the risks of unregulated "habitat loss" greater. Habitat dominated by weeds also poses some conflicts under legislation where land owners may be required to control or remove 'listed noxious weeds' that may otherwise provide habitat for Matted Flax-lily. As such, areas of habitat were further ranked according to their modelled site condition score (sensu. Parkes et al. 2003, DSE 2004).

SOURCE DATA

Modelled habitat probability from Department of Sustainability and Environment Arthur Rylah Institute (White 2009)

- > Department of Sustainability and Environment Native Vegetation Extent 2005
- > Department of Sustainability and Environment Native Vegetation Modelled Site Condition 2005
- > VicMap Roads dataset
- > VicMap urban extents dataset

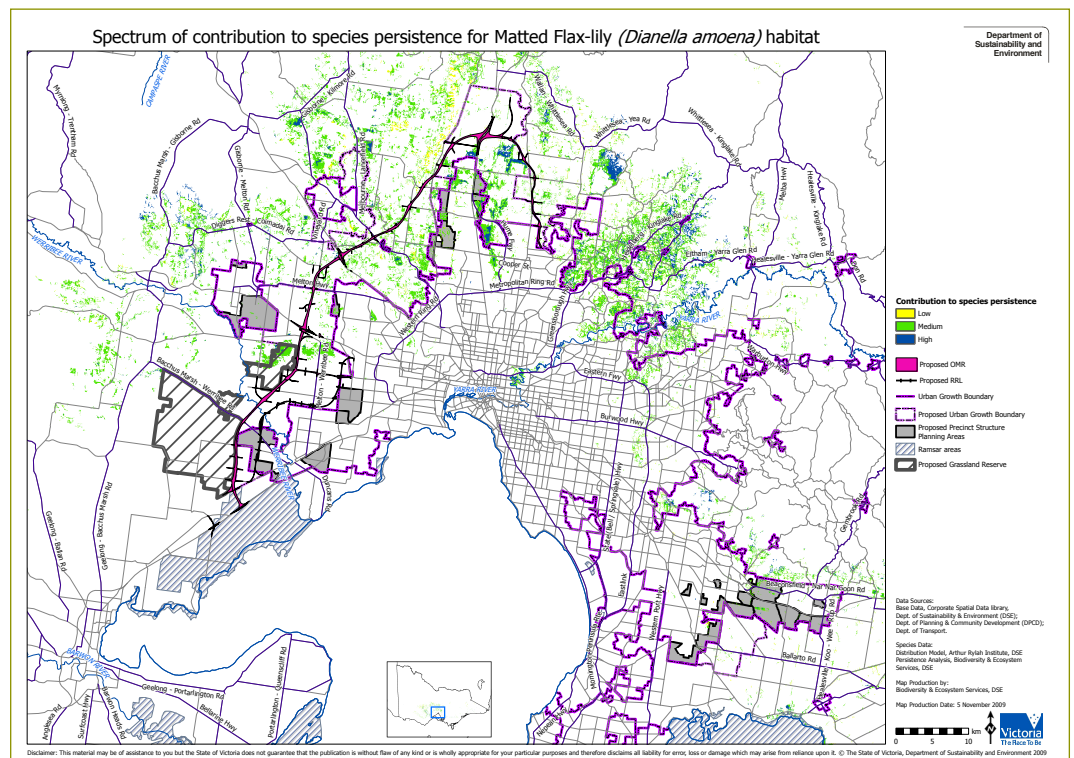
LINEAGE

1. Threshold the habitat probability model to 0.38 to create a binary model that contains 95 per cent of the recorded samples of *Dianella amoena*.
2. All habitat less than 200m apart considered contiguous.
3. Identify contiguous habitat of 1,000ha or more.
4. Removed all areas less than one hectare in size outside 1,000ha contiguous habitat areas identified in “3” above.
5. For the all remaining habitat, assign the following ranking based on modelled native vegetation site condition:

Modelled Site Condition	Contribution to species persistence class
≥0.4	High
0.20-0.39	Medium
<0.20	Low

OUTPUT MAP

A map of the modelled habitat of *Dianella amoena* in the Melbourne region of Victoria. The map is divided into three classes of “contribution to species persistence”: Low; Medium; and High.



REFERENCES

- Department of Sustainability and Environment (2004). *Vegetation Quality Assessment Manual – Guidelines for applying the Habitat Hectares Scoring method*. Version 1.3. DSE, East Melbourne.
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APPENDIX 5: MAPPING THE SPECTRUM OF CONTRIBUTION TO SPECIES PERSISTENCE FOR SPINY RICE-FLOWER *Pimelea spinescens* ssp. *spinescens* AS PART OF THE STRATEGIC IMPACT ASSESSMENT REPORT FOR MELBOURNE'S FUTURE GROWTH.

Biodiversity and Ecosystem Services Division, Department of Sustainability and Environment

SPECIES DISTRIBUTION MODELLING: OVERVIEW OF METHODOLOGY

Refer to Appendix 1 – Delivering Melbourne's Newest Sustainable Communities – Strategic Impact Assessment Report for EPBC Act 1999. The State of Victoria, Department of Sustainability and Environment, East Melbourne 2009.

SALIENT INFORMATION FOR SPATIAL TEMPORAL DYNAMICS

Lowland grassland plant species, specialising in low rainfall regions. Most remaining populations are to be found on roadsides, cemeteries and rail reserves. Several populations on freehold are known from the study area and additional populations will be located as urban expansion brings more surveys to free-hold grasslands.

Not sure that inbreeding depression and population dynamics is particularly important consideration in the medium term for the conservation of long-lived plant species such as *Pimelea spinescens*. It is more likely that site management or the absence of useful commensal organisms are more critical immediate concerns. Most populations will benefit from improved site security and site management.

DISPERSAL

Dispersal is by passive fall and pollination is effected by insects. As a consequence this species may maintain genetic contact sufficient to genetically enrich small isolated populations but is unlikely to spread readily across unsuitable habitat types such as roads and urban areas. Such areas represent real barriers to dispersal. Frequent burning provides recruitment opportunities for the Spiny Rice-flower. This species probably germinates in autumn or spring. Plants also re-sprout after fire. The species has been observed to regenerate from seed readily following appropriate fire events, even in severe drought. The species is thought to be destroyed by cropping, herbicide application (boom spraying) and intensive grazing but it may persist in relatively weed infested areas provided inter tussock space is maintained.

As such, the key to selecting the best places for reservation for this species is a detailed knowledge of the occurrence of the species. While many populations are known no systematic survey of the species has been conducted across its range or in the Melbourne area. As the species is often recorded in grasslands subject to approval for destruction in the Melbourne area it may be reasonable to suppose populations additional to those that are known may yet be found. The model identifies areas suitable for *Pimelea spinescens* on the basis of climate, soils, terrain and satellite imagery. It

cannot identify regions that have been subjected to once off cropping, boom spraying of herbicide or severe grazing. These are some of the caveats on the interpretation of the modelling. Given that we do not know the intimate details on land use (so important to plant conservation) if we assume all parcels with “habitat” to have at least a small population – persistence is simply improved with area retained and controlled.

In terms of habitat maintenance and subsequent contribution to species persistence, it was considered that management of higher quality native vegetation is more likely to contribute to longer-term habitat maintenance and improvement than management of lower quality vegetation or areas dominated by weeds where the management outcomes are less certain and the risks of unregulated “habitat loss” greater. Habitat dominated by weeds also poses some conflicts under legislation where land owners may be required to control or remove ‘listed noxious weeds’ that may otherwise provide habitat for Spiny Rice-flower. As such, areas of habitat were further ranked according to their modelled site condition score (sensu Parkes et al. 2003, DSE 2004).

SOURCE DATA

- > Modelled habitat probability from DSE Arthur Rylah Institute (White 2009)
- > Department of Sustainability and Environment Native Vegetation Extent 2005
- > Department of Sustainability and Environment Native Vegetation Modelled Site Condition 2005
- > VicMap Roads dataset
- > VicMap urban extents dataset

LINEAGE

1. Thresholded the habitat probability model to 0.376 to create a binary model that contains 95 per cent of the recorded samples of *Pimelea spinescens* subsp. *spinescens*.
2. Removed all areas from the map intersecting with urban areas and sealed roads.
3. Grouped habitat according to contiguity (i.e. no breaks in habitat cover).
4. Ranked contiguous habitat into the following categories based on area:

Area [ha] of contiguous habitat	Ranking
>1000	6
500-1000	5
100-500	4
50-100	3
25-50	2
1-25	1

5. Ranked modelled native vegetation site condition into the following categories:

Modelled Site Condition	Ranking
≥ 0.35	3
0.20-0.34	2
< 0.20	1

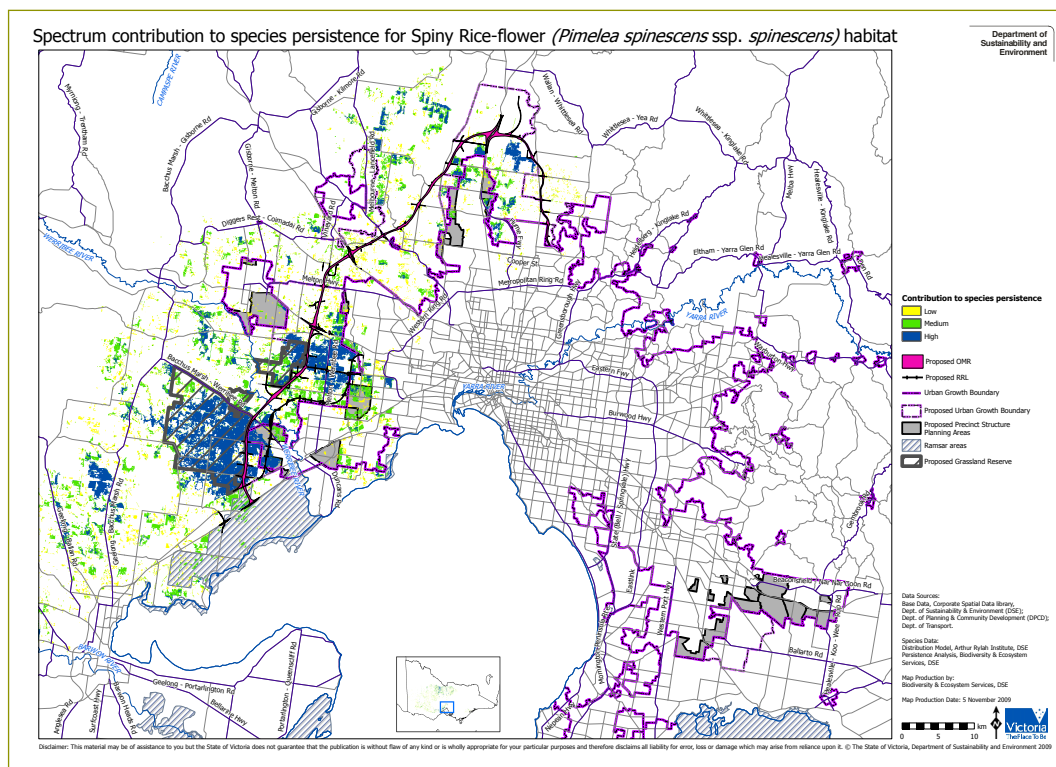
6. Combined habitat area classes with site condition classes and classified species persistence into three classes, as follows:

Site Condition Rank	3	2	1
Habitat Area Rank			
6	High	High	Medium
5	High	High	Medium
4	High	Medium	Medium
3	High	Medium	Medium
2	Medium	Medium	Low
1	Medium	Low	Low

7. As a result habitat in the high category constitutes close to 25 per cent of suitable habitat area, medium is about 50 per cent and low makes up the other 25 per cent.

OUTPUT MAP

A map of the modelled habitat of *Pimelea spinescens* in the Melbourne region of Victoria. The map is divided into three classes of “contribution to species persistence”: Low; Medium; and High.



REFERENCES

Department of Sustainability and Environment (2004). *Vegetation Quality Assessment Manual – Guidelines for applying the Habitat Hectares Scoring method*. Version 1.3. DSE, East Melbourne.

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APPENDIX 6: SUMMARY OF NATIVE GRASSLAND RESERVE PRIORITISATION APPROACH

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This note summarises the spatial prioritisation approach used to strategically locate native grassland reserve(s) to the immediate west of Melbourne. Refer to Figure 1 for the final solution used by the Department of Sustainability and Environment to inform the reserve design process.

INPUT DATA

The following spatial datasets were used to inform the prioritisation processes.

- > *Grassland extent and condition* – calibrated from the modelled Department of Sustainability and Environment’s state vegetation condition layer (NV2005_QUAL1) using site data collected in the target area during 2008/09 (i.e. vegetation type, extent, condition), including those collected by the Victorian Growth Areas Authority and Department of Sustainability and Environment.
- > *Planning Unit layer* – Cadastral property boundaries. Used to potentially inform implementation decisions regarding the prioritising of individual properties. A threshold was set to only include properties greater than five hectares.
- > *Natural water resources layer* – layer showing combined spatial information on wetlands, streams and 1 in 100 year flood prone areas. Used for the purposes of incorporating “refugia” into the reserve design.
- > *Land use layers* – urban (including residential, industrial, roads, rail) and agricultural (consisting on irrigated agriculture and dry land agriculture). A range of urban layers were used to explore the effect of different current and possible future urban land use scenarios on the reserve design.
- > *Existing conservation areas* – areas currently managed primarily for nature conservation including public reserves, local government reserves and private land offset areas. Used to ensure that the final reserve design was well integrated with existing reserves.
- > *Public land* – areas of crown land not managed primarily for nature conservation or “non-developable” easements such as unused road reserves, transmission lines etc. This information is used to generate a preference layer for the spatial prioritisation (see below).

All input data derived from ESRI grid format with a 50m pixel resolution.

APPROACH

ZONATION

The Zonation conservation planning tool (Moilanen and Kujala, 2006) was used to assign each pixel in the study area a prioritised value between 0 and 1, with 1 representing highest conservation value. The algorithm used by Zonation to prioritise pixels is a reverse stepwise heuristic which iteratively removes cells from the landscape in an order that minimises marginal loss of (Moilanen et al. 2005) while maintaining connectivity. The algorithm is based on the principle that minimizing the loss of conservation value while cells are removed, results in the greatest conservation value in the remaining areas. Priority areas of any given size can be determined by selecting pixels in the Zonation solution above a given threshold value.

AGGREGATION

Extra aggregation was obtained in the solution using the boundary quality penalty (BQP) feature built into Zonation (Moilanen and Wintle 2007). When using the BQP, the conservation value of a given pixel of grassland is adjusted based on the amount and quality of grassland in a surrounding square area with a radius of 500m. The conservation value of pixels surrounded by a high proportion of grassland is increased, while conversely, the pixel value will be reduced if surrounded by a low proportion of grassland. This results in increased aggregation of the Zonation solution around the areas with highest quality grassland.

LAND USE IMPACT

The impact of surrounding land use on pixel conservation value was applied in the context of these land uses being a source of weeds with a risk of spread. Land use layers showing the locations of urban and agricultural areas (consisting on irrigated agriculture and dry land agriculture) were used for this purpose.

Regardless of the mode of seed dispersal, seeds of terrestrial plants usually fall in a continuous leptokurtic distribution (normal with high peak) with the mode under or near the parent plant and decline with distance (Howe 1989). The impact is high at or near the interface and approaching a negligible value at the edge of the distribution. However, occasional long distance dispersal of invasive species has potentially important ramifications for weed management (Trakhtenbrot et al. 2005).

To account for the impact of weeds near urban and agricultural areas, kernel smoothing of the landuse maps was used to generate a “halo” of influence where weeds could potentially impact the condition of grassland. The shape of the kernel was defined using a high kurtosis / Super Gaussian (Pearson type IV) function with the standard deviation (SD) set such that $3 \times SD = 500m$.

PREFERENCE LAYER

Zonation allows a cost or preference layer to be used, when calculating the marginal loss value of a given cell. In simple terms, the preference layer can be thought of as providing information on where preferences would lie in the landscape with **grassland conservation value (and other factors) being equal**.

The preference layer was generated by combining the following layers:

1. The weed influence of urban and agricultural areas combined into a single weed source layer (urban areas were given twice the weed impact as agricultural areas). Areas away from these landuses are preferred to those that are closer.
2. The natural water resources layer: areas overlapping or close to wetlands / streams / flood prone areas are preferred to those that are more distant.
3. The public land layer: areas overlapping or close to unused road reserves or transmission lines are preferred to those that are more distant.

EXISTING CONSERVATION AREAS

Zonation allows a mask layer to be used where existing conservation areas can be specified. These areas are then taken into account during the prioritisation process, along with the other factors such as aggregation and land use impact. The current approach used an existing conservation areas layer (see above) to account for these locations in study area.

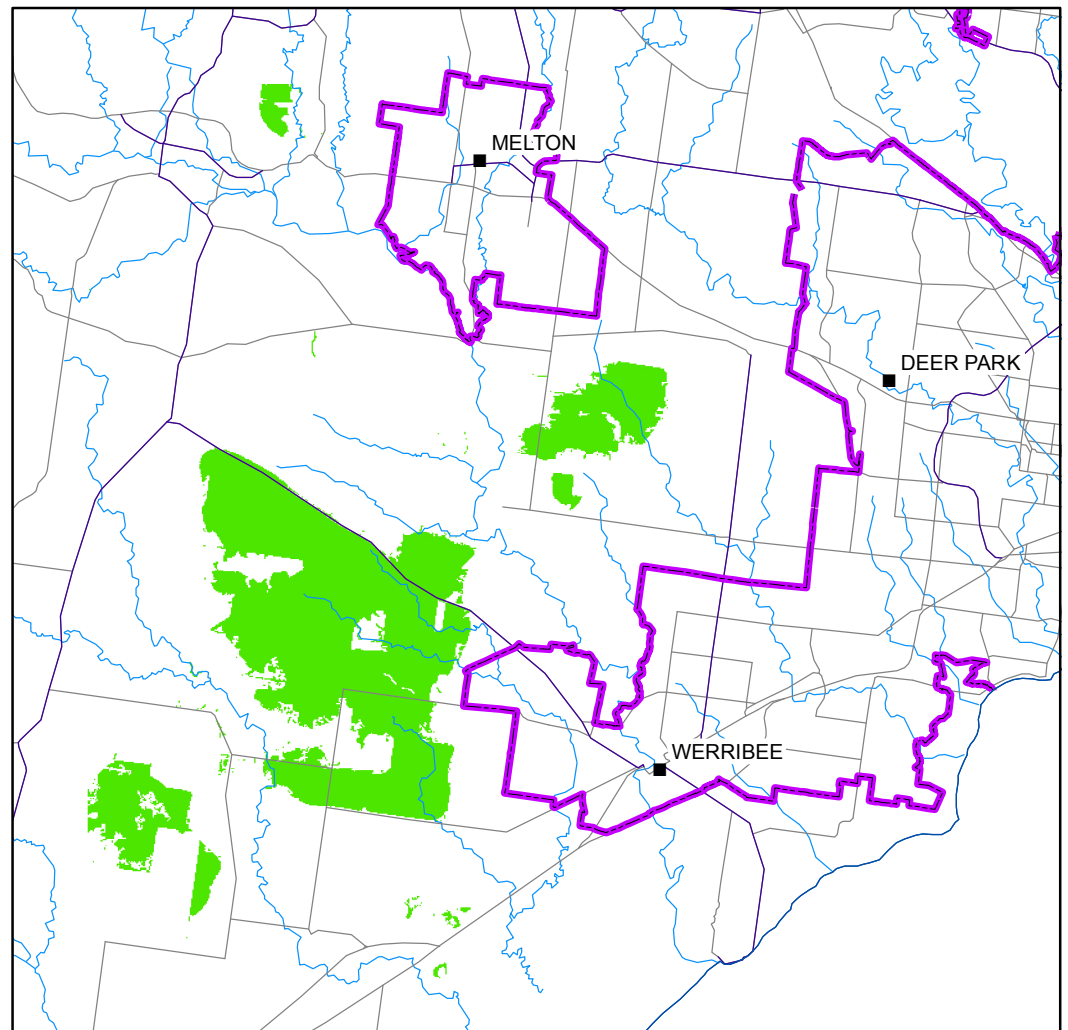
PLANNING UNITS

Zonation can also run prioritising whole land parcels instead of pixels. This can be useful when considering properties for purchase, though it does not use the BQP aggregation and is not as biologically relevant. For the current project, both parcel and pixel prioritisations were made and after consultation with Department of Sustainability and Environment, it was decided to proceed with the final solution based on the pixel prioritisation.

RESULTS

Zonation was run with all the settings described above and, on advice from the Department of Sustainability and Environment, a target area threshold of 12,000ha was applied and priority areas of these sizes were determined from the Zonation pixel solution illustrated in Figure 1.

FIGURE 1. FINAL ZONATION SOLUTION – OPTIMISED LOCATION FOR A 12,000HA GRASSLAND RESERVE TO THE WEST OF MELBOURNE



ACKNOWLEDGMENTS

Research presented here was undertaken with support from the Australian Research Council through the Linkage Projects scheme and through the Commonwealth Environment Research Facility (Applied Environmental Decision Analysis).

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APPENDIX 7: PROJECTIONS OF FUTURE GRASSLAND EXTENT-CONDITION CHANGE IN THE WEST OF MELBOURNE

ASCELIN GORDON¹ AND BILL LANGFORD
RMIT UNIVERSITY

¹ ascelin.gordon@rmit.edu.au

The aim of the investigation was to model the future extent and condition of native grasslands in the west of Melbourne under a number of possible scenarios. The approach aims to quantify and illustrate the net benefit (if any) of a strategic grassland reserve to the west of Melbourne to offset likely clearing of native grasslands within proposed Melbourne development areas.

For this study we modelled 24 years into the future using 12 time steps of two years duration. This approximates the period during which proposed development is likely to occur.

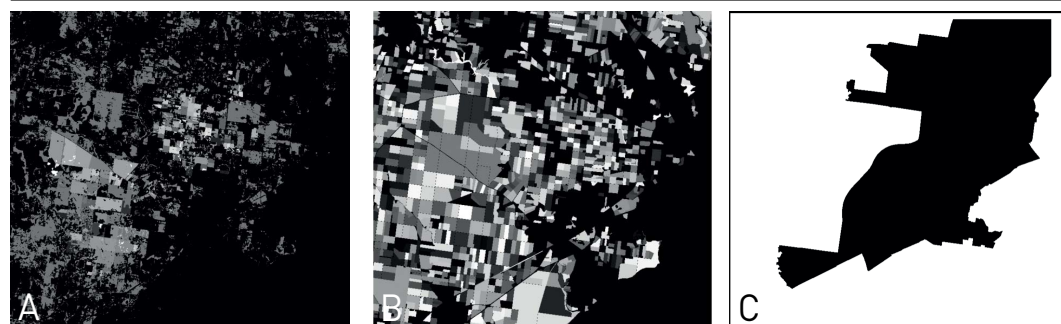
MODELLING GRASSLAND CONDITION CHANGE

STARTING CONDITION (2009)

The relative starting condition of grasslands across the study area is illustrated in Figure 1. Each cell represents grassland condition within a 50x50m pixel. This condition model was calibrated from the modelled Department of Sustainability and Environment state vegetation condition layer (NV2005_QUAL1) using site data collected in the target area during 2008/09 (i.e. vegetation type, extent, condition) including those collected by the Victorian Growth Areas Authority and the Department of Sustainability and Environment.

Figure 1(a) shows the grassland extent and quality in the study area (lighter colours are higher quality and black areas contain no grassland). Figure 1(b) shows land parcels in study area (only land parcels greater than 20ha were used (due to issues with the processing time associated with large numbers of very small parcels)). Figure 1(c) shows the mask depicting the development and offset scenario used, where development areas are shown black and offset areas (non-developable areas that overlap with any grassland) are shown white.

FIG 1 (A) SHOWS THE GRASSLAND EXTENT AND QUALITY IN THE STUDY AREA (LIGHTER COLOURS ARE HIGHER QUALITY AND BLACK AREAS CONTAIN NO GRASSLAND). (B) SHOWS LAND PARCELS IN STUDY AREA (C) SHOWS THE MASK DEPICTING POTENTIAL DEVELOPMENT AREAS (BLACK) AND POTENTIAL OFFSET AREAS (NON-DEVELOPABLE WHITE AREAS THAT OVERLAP WITH ANY GRASSLAND).

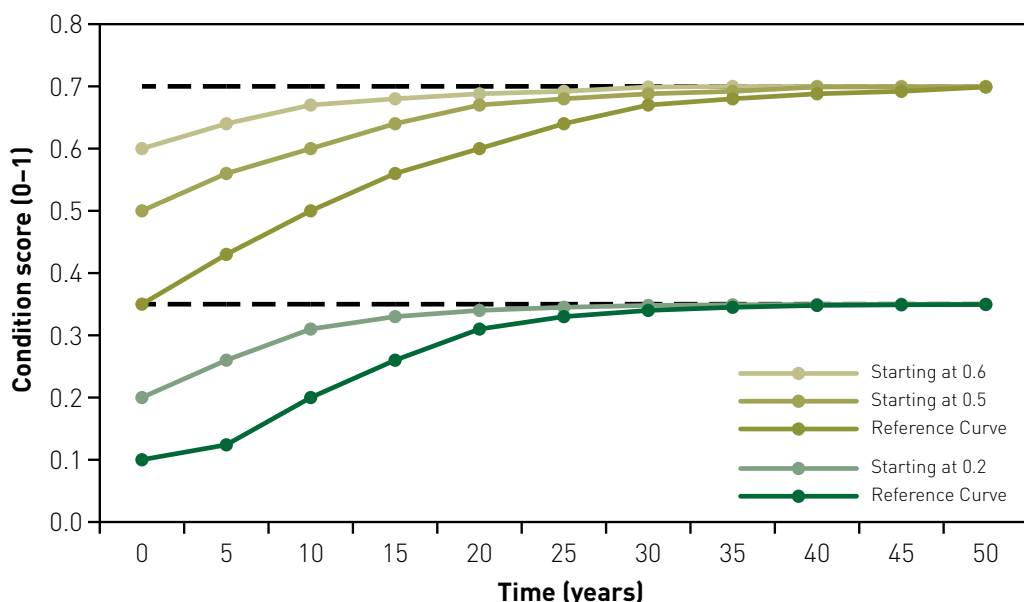


MODELLING FUTURE CONDITION

All grassland was assumed to be either “actively managed” (permanently protected offset within or outside a “public reserve”); “not actively managed” (remaining grassland on private land subject to entitled uses and uncontrolled threats); or “developed” (no longer grassland).

Future grassland condition was calculated using the curves shown in Figures 2 and 3. The two reference curves in Figure 2 show how the condition of an actively managed grassland pixel will change over a given time period depending on its initial condition. If its score is below 0.35 (against a benchmark condition state of 0.7), then it will asymptote towards a condition value of 0.35. If it starts above 0.35 it will asymptote towards a value of 0.7. This rule was designed to capture the fact that once a patch of grassland falls below a certain condition it is likely to be very difficult to fully restore it and aligns with observations made by the Department of Sustainability and Environment grassland ecologists in sites around Melbourne over the past 10–15 years. It should be noted that some variance has been factored in that allows for some sites <0.35 to “jump” to the higher recoverability curve, particularly where surrounded by higher condition pixels.

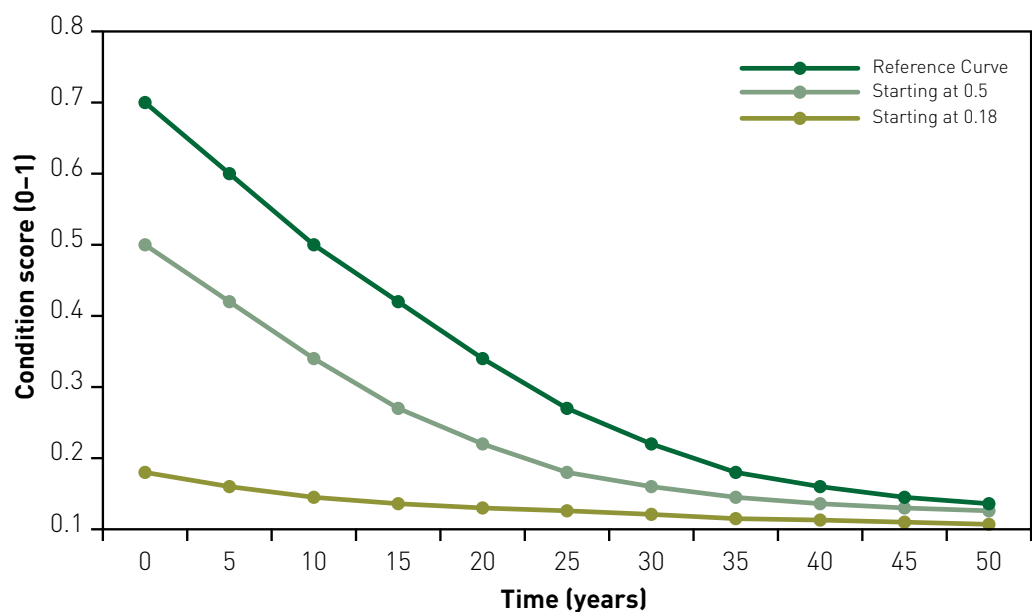
FIG. 2 CONDITION CHANGE OVER TIME FOR ACTIVELY MANAGED GRASSLANDS.



The reference curves in Figure 3 show how the condition of a given pixel of grassland will degrade over time if it is not actively managed. This assumes a range of entitled uses such as grazing but also factors in the spread of various environmental weeds that landholders are not required to manage under existing legislation. In both actively managed and unmanaged cases the reference curves define how the condition will

change for any given starting value and the other curves show this same trajectory for different starting conditions.

FIG. 3 CONDITION CHANGE OVER TIME FOR NOT ACTIVELY MANAGED GRASSLANDS.



For each time step, the condition of all pixels of grassland was evolved using the curves in Figures 2 and 3. After this the condition score of each pixel was randomly fluctuated by five per cent of its value to model stochasticity of the condition change process. Finally smoothing was applied to give some spatial autocorrelation to the condition change to ensure that adjacent grassland pixels did not vary greatly from each other due to the random variation approach applied. This assumes that most co-located pixels within a parcel will be affected similarly under a future land use-management scenario.

SCENARIOS MODELLED

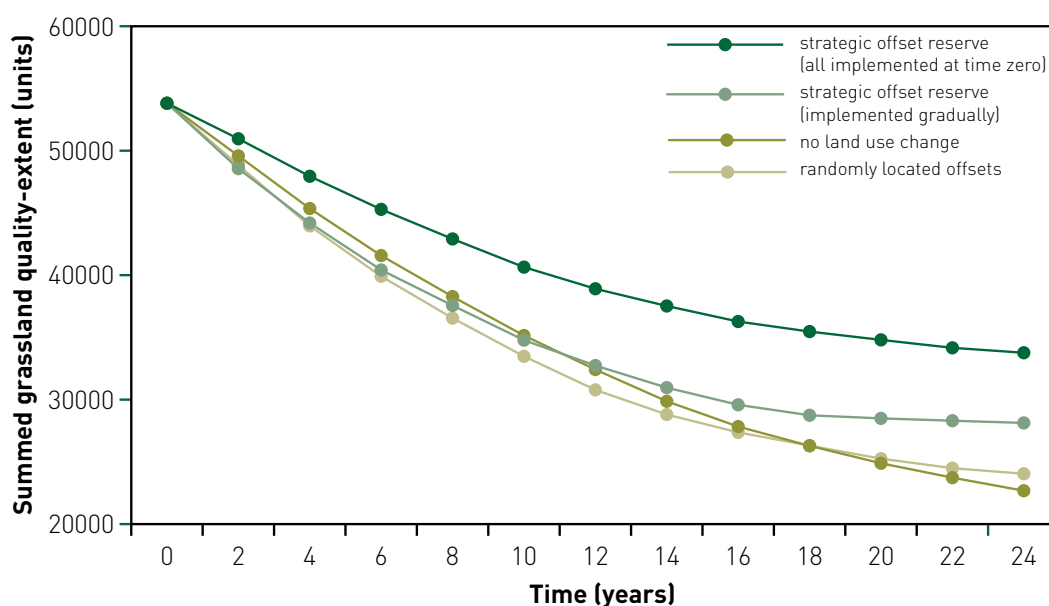
- > *No land use change* – in this scenario there is no development and no grassland is actively managed. Thus all grassland in the study area declines in condition over time due to unmanaged threats.
- > *Randomly located offsets* – here development occurs gradually over the 24 years at a rate such that all parcels are developed within 24 years. Parcels are selected for development by randomly choosing parcels within development area (Figure 1(c)). As each parcel is developed an offset is implemented for that parcel. The offset is chosen using the following procedure:
 - make a list of all the land parcels in the potential offset area that have a summed grassland condition score equal or greater than the summed grassland condition of the parcel being developed.

- select one of these parcels randomly.
 - if the summed condition off the offset is greater then the summed condition of the developed parcel, the offset quantity left over is stored and can be used to further offset another parcel.
 - it is assumed that all offsets are located within the study area (Figure 1(a)).
- > *Strategic offset reserve (implemented gradually)* – here strategic offsets (informed by the Zonation reserve prioritisation output – see Appendix 2) are implemented gradually over time such that the complete strategic offset reserve is in place after approximately 20 years. Development occurs in the same way as *the randomly located offsets* scenario. Offsets are chosen for each parcel developed in the same way as with the *randomly located offsets* scenario, but the list of land parcels available for offset is constrained to an area specified by the Zonation prioritisation. The total area for the locations of strategic offsets is set to approximately 11,000ha.
- > *Strategic offset reserve (all implemented at time zero)* – here strategic offsets (informed by the Zonation prioritisation) are all set in place at “time zero”. Development occurs in the same way as *the randomly located offsets* scenario. The total area of the offsets is set to be approximately 11,000ha.

RESULTS

Results are shown by plotting the grassland condition summed over each pixel in landscape as a function of time – see Figure 4. Curves are shown for each of the 4 scenarios above.

FIG. 4 MODELLED NATIVE GRASSLAND QUALITY – EXTENT UNDER VARIOUS FUTURE SCENARIOS



The results illustrate the difference between the four approaches. The results support the use of offsets to achieve net benefits over time (see – *no land use change* and *random offset* curves) and show the added benefit of a strategic grassland offset reserve. The greatest benefit occurs when creating the offset reserve as early as possible in the process, as shown in the *strategic reserve (all implemented at time zero)* curve.

ACKNOWLEDGMENTS

Research presented here was undertaken with support from the Australian Research Council through the Linkage Projects scheme and through the Commonwealth Environment Research Facility (Applied Environmental Decision Analysis).



DEPARTMENT OF THE ENVIRONMENT, WATER, HERITAGE AND THE ARTS

Minister for Environment Protection, Heritage
and the Arts (Decision)

Brief No:	B10/1191
Division/Agency:	AWD
Public Affairs Consulted:	Yes

FINAL APPROVAL FOR THE REGIONAL RAIL LINK UNDER THE
ENDORSED PROGRAM FOR MELBOURNE'S URBAN EXPANSION**Timing:** 17 June 2010 - to provide for timely decision-making**Purpose:** To consider final approval for the Regional Rail Link (West of Werribee to Deer Park) project under the endorsed Program (approval and notification letters at Attachment A).**Background**

- On 2 February 2010, you endorsed the Victorian Government's Program for Melbourne's urban expansion as described in the Program document *Delivering Melbourne's Newest Sustainable Communities Program Report* (Dec 2009, Victorian Government). The Program includes the Regional Rail Link which is a new 30km railway branching from the Melbourne-Geelong railway at a point west of Werribee and joining the Melbourne-Ballarat railway corridor at Deer Park.
- Section 146B of the EPBC Act allows you to approve the taking of an action, or class of actions, in accordance with the endorsed Program. On 23 April 2010, you advised relevant Ministers of your intention to approve the project, subject to conditions, pursuant to section 146C of the EPBC Act. This brief and the draft approval notice are at Attachment B.
- Information relevant to your approval decision is in the above brief and its attachments. These attachments have been updated for the final approval decision, as necessary, and are at Attachment C to this current brief. Attachment C1 provides a summary of the Regional Rail Link project and the overall Program, plus figures. Detailed legal considerations, that you are required to take into account in decision-making, are at Attachment C2.
- In May 2009, the Australian Government confirmed funding for the Regional Rail Link through the *Building Australia Fund* of \$3.2 billion for the \$4.1 overall billion project.

Issues/ Sensitivities:

- You are required to take into account any comments received from Ministers in making a final approval decision. The table at Attachment B summarises the comments received and changes made to the final approval notice and conditions.

Ministerial comments

- You invited comment from the Minister for Infrastructure, Transport, Regional Development and Local Government, and responsible Victorian Ministers. The Transport Minister's department advised on 13 May 2010 that their Minister had no comment. The Victorian Minister for Environment and Climate Change advised in a letter, dated 24 May 2010, that he supported the streamlined approach to environmental assessments and approvals and had no comment. Victorian agencies, on behalf of their Ministers, made comment on process related matters. Wording changes have been made to the approval conditions to address these comments, as well as internal comments including from AGS (see table at Attachment B).

NGO comments

- The department met with key NGO representatives on 13 May 2010 to provide an update on the Program, as well as any informal feedback on your consideration of approvals for the Regional Rail Link (this brief) and 28 precincts within Melbourne's current growth boundary (see separate brief B10/1115). Groups present were:
 - Victorian National Parks Association
 - Merri Creek Management Committee
 - Environment Victoria
 - Environment Defenders Office
 - Trust for Nature
 - Green Wedges Coalition
 - Western Region Environment Centre, and
 - Friends of Merri Creek

- NGO representatives did not raise any specific environmental issues in regard to the Regional Rail Link. Concerns were raised about broader elements of the Program, particularly its perceived inability to protect small areas of high biodiversity within the four new growth areas. The department considers that the Program, and application of the prescriptions for matters of national environmental significance (MNES), will identify most such areas. However, in addition, requirements under the Program to prepare and implement Biodiversity Conservation Strategies for the new growth areas will be used to identify high biodiversity areas that might otherwise be missed by the prescriptions.

- DSE has advised NGOs that it will shortly constitute a reference group, including NGOs, to identify potential additional conservation reserves. Provided there is adequate scientific justification for such reserves, locations will be considered in developing the Biodiversity Conservation Strategies submitted to yourself for approval. The department has also committed to provide the draft strategies to relevant NGO groups for comment, to ensure that justifiable nominations have been adequately considered.

- The department does not consider changes are needed to approval conditions for the Regional Rail Link to reflect issues raised by NGOs to date.

Developers and consultants

- The Urban Development Institute of Australia and Planning Institute of Australia (Victorian branches) wrote to you on 9 April 2010 to express concerns about the draft prescription for the Golden Sun Moth which required offsetting for clearing of non-native grasslands where the species may require. The final prescription, which you approved on 16 April 2010, included modifications to address this concern and to ensure a fairer offset arrangement. The department, on your behalf, wrote to the institutes on 28 April 2010 to advise of these changes.

- DSE convened a workshop of developers and consultant ecologists on 3 May 2010 to provide an update on the Program and application of the approved MNES prescriptions. Developers are broadly accepting of the Program and MNES prescriptions, in view of the upfront certainty it provides in addressing EPBC Act requirements. The workshop explored examples applying the final Golden Sun Moth prescription within the precinct structure planning process.

- The department does not consider changes are needed to approval conditions for the Regional Rail Link to reflect issues raised by developer groups to date.

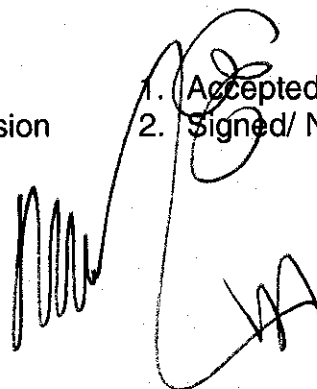
Conclusion

- The department considers impacts associated with the Regional Rail Link (West of Werribee to Deer Park) are acceptable. These impacts are summarised in the brief at Attachment B and discussed in detail at Attachment C2. In summary, the project will result in loss of 95ha of listed grasslands which will be adequately offset through contribution to the 15,000ha Western Grassland Reserves at an approximate 2:1 ratio. The necessary planning instruments to give effect to the reserves are on track for implementation as required under the Program.
- From a social and economic perspective, the project will provide significant economic and social benefits for Melbourne. According to the Victorian Government, the project will double the capacity of the overall metropolitan rail network in servicing Geelong, Ballarat, Bendigo, Werribee, Craigieburn and Sunbury, as well as the new Melton/Wyndham growth areas.
- The second component of the Regional Rail Link (duplication of existing railway between Deer Park to Melbourne CBD) is not part of the Program and will be referred separately under the EPBC Act. A key assessment issue for this latter project will be potential indirect impacts on the last known wild population of Sunshine Diuris, an endangered orchid (31 individual plants in total), that occurs very close to the alignment of the current railway.

Recommendations:

1. Adopt the final decision and conditions at Attachment A.
2. If you accept Recommendation 1, sign the approval decision notice and notification letters at Attachment A.

1. (Accepted/ Not accepted)
2. Signed/ Not signed



SIGNED

s. 22(1)(a)(ii)

Acting Assistant Secretary
Strategic Approvals & Legislation Branch

s. 22(1)(a)(ii)

s. 22(1)(a)(ii) @environment.gov.au

3/6/2010

Secondary Contact s. 22(1)(a)(ii)
s. 22(1)(a)(ii) @environment.gov.au

MINISTER
U/18 /2010

Attachments:

A	<ul style="list-style-type: none"> • Final approval decision notice • Letters to relevant Minister 	B	<ul style="list-style-type: none"> ▪ Draft approval decision brief signed 23 April 2010 (B10/788) ▪ Draft approval decision notice and conditions ▪ Table of comments/changes in final notice/conditions
C	<ul style="list-style-type: none"> • C1: Summary, MNES tables • C2: Legal considerations • Figures 	D	<ul style="list-style-type: none"> ▪ Endorsed Program (Dec, 2009) ▪ Strategic Impact Assessment Reports: <ul style="list-style-type: none"> ▪ <i>Delivering Melbourne's Newest Sustainable Communities Strategic Impact Assessment Report</i> (Vic Gov't 2009a). ▪ <i>Delivering Melbourne's Newest Sustainable Communities Regional Rail Link: West of Werribee to Dear Park Strategic Assessment Report for Public Consultation</i> (Vic Gov't 2009a). ▪ <i>Specialist Report Flora & Fauna</i> (Vic Gov't, June 2009). ▪ Department's assessment report on the endorsed Program

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Australian Government

Department of the Environment, Water, Heritage and the Arts

APPROVAL DECISION FOR THE TAKING OF ACTIONS IN ACCORDANCE WITH AN ENDORSED PROGRAM UNDER THE ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999 (EPBC ACT)

This decision is made under section 146B of the *Environment Protection and Biodiversity Conservation Act 1999*.

Person to whom the approval is granted	Victorian Government and its agencies.
Approved action/class of actions	Actions and activities associated with development and operation of the Regional Rail Link project (West of Werribee to Deer Park) undertaken in accordance with the endorsed program for <i>Delivering Melbourne's Newest Sustainable Communities</i> , Victorian Government, December 2009 (the endorsed Program).
Relevant controlling provisions	The approval has effect for: <ul style="list-style-type: none"> • Wetlands of international importance (sections 16 & 17B) • Listed threatened species and communities (sections 18 & 18A) • Listed migratory species (sections 20 & 20A)
Conditions of approval	This approval is subject to the conditions specified at Annexure 1.
Period for which approval has effect	The approval has effect until 31 December 2060.

Person authorised to make decision

Name and Position The Hon Peter Garrett AM MP
Minister for Environment Protection, Heritage and the Arts

Signature

Date of decision

11th June 2010

ANNEXURE 1

The action must be undertaken in accordance with the following conditions to ensure protection of listed threatened species and ecological communities, the ecological character of the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site and listed migratory species.

1. The person(s) taking the action must undertake the action in accordance with the approved prescriptions required under the endorsed Program for protection of matters of national environmental significance.
2. The person(s) taking the action must submit draft Regional Rail Link Ecological Impact Management Plan(s) (EIMPs), as required under the endorsed Program, to the Minister for approval. Each EIMP (whether submitted for staged works or for the entirety of works associated with the project) must be approved by the Minister prior to commencement of the relevant works. The approved plans must be implemented by the person(s) taking the action.
3. At a minimum, the EIMPs must:
 - a. Provide the results of targeted field surveys of native flora and fauna along the construction footprint of the proposed action.
 - b. Identify measures to mitigate the impacts of the Regional Rail Link on MNES.
 - c. Identify the outcomes of the implementation of the MNES prescriptions.
 - d. Identify how offset requirements will be achieved.
 - e. Identify measures to manage stormwater run-off from the Regional Rail Link to avoid any adverse impacts on the ecological character of the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site.
 - f. Identify measures to implement a regime of monitoring, reporting and evaluation of the outcomes and ongoing management of the impacts of the Regional Rail Link on MNES.
4. If the person(s) taking the action wishes to carry out any activity otherwise than in accordance with the EIMPs, the person(s) taking the action must submit for the Minister's approval a revised version of any such plan. If the Minister approves such a revised plan, the plan must be implemented by the person(s) taking the action in place of the plan originally approved.
5. If the Minister believes that it is necessary or desirable for the better protection of MNES to do so, the Minister may request that the person(s) taking the action make specified revisions to the relevant EIMP and submit the revised plan for the Minister's approval. The person(s) taking the action must comply with any such request. The revised EIMP must be implemented, by the person(s) taking the action.
6. Within one month of the 6 month anniversary of the commencement of works, the person(s) taking the action(s) must submit to the Department a report describing the measures taken to implement the EIMPs. Subsequent reports must be provided in accordance with the monitoring, auditing and reporting framework for the overall Program to be agreed between the Victorian Government and the Minister.
7. The person(s) taking the action must maintain accurate records substantiating all activities associated with or relevant to these conditions of approval, including measures taken to implement the EIMPs, and make them available upon request to the Minister within 28 days.



The Hon Peter Garrett AM MP

Minister for Environment Protection, Heritage and the Arts

B10/1191

The Hon Anthony Albanese MP
Minister for Infrastructure, Transport,
Regional Development and Local Government
Parliament House
CANBERRA ACT 2600

Dear Minister 

11 JUN 2010

I am writing in regard to the program for *Delivering Melbourne's Newest Sustainable Communities* and the Victorian Regional Rail Link project which is receiving funding through the *Building Australia Fund*.

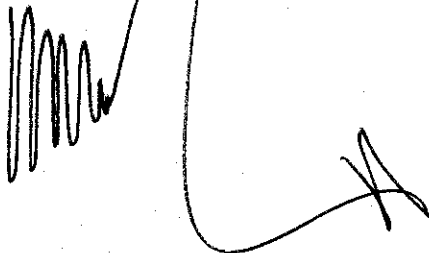
As you may be aware, on 2 February 2010, I endorsed the program for Melbourne's urban expansion under the strategic assessment provisions of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

I subsequently wrote to you on 23 April 2010 to advise of my intention to approve the Regional Rail Link (west of Werribee to Deer Park) component of the program, and to provide the opportunity for any comment on my proposed decision.

I am pleased to advise that I have now made my final decision to approve this key project, subject to the conditions in the attached notice. This is the first approval to be granted under the strategic assessment provisions of the EPBC Act.

The Deer Park to Southern Cross Station component of the Regional Rail Link is not covered by the Program as it falls outside the Program's geographic boundary. The Victorian Government will forward this component to my department for separate consideration under the EPBC Act.

Yours sincerely



Peter Garrett



The Hon Peter Garrett AM MP

Minister for Environment Protection, Heritage and the Arts

B10/1191

The Hon Gavin Jennings MLC
Minister for Environment and Climate Change
Level 22, 50 Lonsdale Street
EAST MELBOURNE VIC 3002

Dear Minister

11 JUN 2010

I am writing in regard to the program for *Delivering Melbourne's Newest Sustainable Communities* and the Victorian Regional Rail Link project which is receiving funding through the *Building Australia Fund*.

As you are aware, on 2 February 2010, I endorsed the program for Melbourne's urban expansion under the strategic assessment provisions of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

I subsequently wrote to you on 23 April 2010 to advise of my intention to approve the Regional Rail Link (west of Werribee to Deer Park) component of the program, and to provide the opportunity for any comment on my proposed decision.

I am pleased to advise that I have now made my final decision to approve this key project, subject to the conditions in the attached notice. This is the first approval to be granted under the strategic assessment provisions of the EPBC Act.

I look forward to continuing to work with the Victorian Government in implementing *Delivering Melbourne's Newest Sustainable Communities*, including the remaining actions needing approval under the EPBC Act.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Peter Garrett', with a long, sweeping flourish extending from the end of the signature.

Peter Garrett



The Hon Peter Garrett AM MP

Minister for Environment Protection, Heritage and the Arts

B10/1191

The Hon Justin Madden MLC
Minister for Planning
Level 17, 8 Nicholson Street
EAST MELBOURNE VIC 3002

Dear Minister

11 JUN 2010

I am writing in regard to the program for *Delivering Melbourne's Newest Sustainable Communities* and the Victorian Regional Rail Link project which is receiving funding through the *Building Australia Fund*.

As you are aware, on 2 February 2010, I endorsed the program for Melbourne's urban expansion under the strategic assessment provisions of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

I subsequently wrote to you on 23 April 2010 to advise of my intention to approve the Regional Rail Link (west of Werribee to Deer Park) component of the program, and to provide the opportunity for any comment on my proposed decision.

I am pleased to advise that I have now made my final decision to approve this key project, subject to the conditions in the attached notice. This is the first approval to be granted under the strategic assessment provisions of the EPBC Act.

I look forward to continuing to work with the Victorian Government in implementing *Delivering Melbourne's Newest Sustainable Communities*, including the remaining actions needing approval under the EPBC Act.

Yours sincerely

A handwritten signature in black ink, appearing to be 'Peter Garrett', written over a large, thin, curved line that extends from the signature down to the name below.

Peter Garrett

DEPARTMENT OF THE ENVIRONMENT, WATER, HERITAGE AND THE ARTS

Minister for Environment Protection, Heritage
and the Arts (Decision)

Brief No: B10/788
Division/Agency: AWD
Public Affairs Consulted: Yes

**DRAFT APPROVAL FOR THE REGIONAL RAIL LINK UNDER THE
ENDORSED PROGRAM FOR MELBOURNE'S URBAN EXPANSION**

Timing: 23 April 2010 - To progress the endorsed Program

Purpose: To consider approval of the Regional Rail Link (West of Werribee to Deer Park) under the endorsed Program and to inform relevant Commonwealth Ministers of your proposed decision (Attachment A).

Background

- On 2 February 2010, you endorsed the Victorian Government's Program for Melbourne's urban expansion (*Delivering Melbourne's Newest Sustainable Communities Program Report*) (the Program). Section 146B(1) of the EPBC Act allows you to approve the taking of an action or class of actions in accordance with the endorsed Program. A summary of the Program is at Attachment B and the Program document is at Attachment D.
- The endorsed Program includes the following key components (Figures at Attachment B):
 - Regional Rail Link Stage 2 (West of Werribee to Deer Park).
 - Urban development in 28 existing precincts within the current Melbourne growth boundary.
 - Four new growth areas in expanded growth boundaries (Melton/Wyndham, Sunbury, Whittlesea/Hume and Casey); and
 - Outer Metropolitan Ring Road (OMR/E6).
- The Victorian Government will seek staged approval of the above components, with the Regional Rail Link to be considered first. The department will provide separate briefings for approval of the urban development components of the Program within the next few months. The OMR/E6 component will be considered for approval last.
- The Victorian Department of Sustainability and Environment (DSE) wrote to the department on 5 March 2010 seeking approval of the Regional Rail Link and for prescriptions required to be approved under the Program for protection of relevant matters of national environmental significance (MNES). Separate briefing has been provided for your approval of these prescriptions (B10/570).
- In May 2009, the Australian Government confirmed funding for the Regional Rail Link through the *Building Australia Fund* of \$3.2 billion for the \$4.1 billion project.
- The project will allow separation of metropolitan trains from fast commuters servicing the regional centres of Geelong, Ballarat and Bendigo, and is expected to double the capacity of the metropolitan network. The new railway and its stations will provide the central focal point for planning of new suburbs in the Melton/Wyndham growth corridor under the Program.
- The 50km Regional Rail Link project commences at a point west of Werribee, on the existing Melbourne-Geelong railway, and terminates at Southern Cross Station in the Melbourne CBD. There are two components:
 - A new 30km railway branching from the Melbourne-Geelong railway at a point west of Werribee and joining the Melbourne-Ballarat railway corridor at Deer Park. This section is covered by the Program and is the subject of this draft approval decision. Construction is expected to begin in 2011 and be completed by 2014 (Figure 1 at Attachment B).
 - Completion of dual tracks in the Melbourne-Ballarat railway corridor from Deer Park to Southern Cross Station in the Melbourne CBD (approx. 20km). This section is not part of the Program and will be the subject of separate referral consideration under Part 9 of the EPBC Act (discussed further below).

- Part 10 of the EPBC Act sets out, among other things, requirements that must be met as well as the matters you must consider in relation to your decision on whether to approve, under section 146B of the Act, an action, or class of actions, to be taken in accordance with an endorsed policy, plan or program (in this case the Program).
- Section 146C requires that you inform any Commonwealth Ministers, who you believe have administrative responsibilities in relation to the action or class of actions, of your intended approval decision and invite them to comment. If you agree, the proposed draft decision is at Attachment A together with a letter to the Minister for Infrastructure, Transport, Regional Development and Local Government who has administrative responsibilities and portfolio interests in relation to major rail infrastructure. As a courtesy, letters to the relevant state ministers inviting comment are also at Attachment A.
- A summary of the Regional Rail Link (West of Werribee to Deer Park) and its impacts on matters of national environment significance (MNES) is at Attachment B. Detailed advice addressing the matters that you must consider in relation to your proposed approval decision are at Attachment C.

Impacts of rail link on listed threatened species and ecological communities

- Seven routes were considered for the new railway based on engineering feasibility, impacts on existing suburbs, planning needs to service new growth areas in Melton/Wyndham, and avoidance of areas of high conservation significance. The selected route avoids larger grassland patches, but will still have significant impacts on listed critically endangered Natural Temperate Grasslands of the Victorian Volcanic Plains (NTGVVP) (Figure 1 at Attachment B).
- Surveys have been undertaken within the construction corridor. In summary, construction will result in loss of 95ha of NTGVVP comprising 4ha of high quality grasslands, 71ha of medium quality grasslands and 20ha of low quality grasslands. Recent targeted surveys have also located 19 Spiny Rice-flower plants (critically endangered) and one Matted Flax-lily plant (endangered). Other grassland species (critically endangered Golden Sun Moth and vulnerable Striped Legless Lizard) have not been found in the construction corridor.
- The above losses will be mitigated through offsets required under the Program's MNES prescriptions. This requires acquisition of equivalent NTGVVP, at an approximate 2:1 offset ratio, to achieve a net gain in conservation and protection of the ecological community under Victoria's *Native Vegetation Framework*. This offset will contribute to the 15,000ha western grassland reserves to be established under the Program.
- An equivalent offset ratio is also required for the loss of Spiny Rice-flower. In addition, a fully costed translocation and/or propagation and *ex situ* conservation plan must be prepared to the satisfaction of DSE and in consultation with the recovery team.
- The implementation of the offsets will contribute to the Program's conservation outcomes for MNES (outcomes for each MNES is summarised in the tables at Attachment B and described further at Attachment C). As previously concluded by the department, conservation outcomes under the Program, in particular the creation of the western grassland reserves, is a highly desirable outcome. The reserves will protect the highest quality and most extensive remaining native grasslands mapped within the 2.4 million hectare Victorian Volcanic Plains Bioregion.

Other MNES

- Other MNES potentially impacted are the ecological character of the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site and associated listed migratory waterbirds. Fauna surveys indicated the potential presence of 31 migratory species, but found that none of these species were likely to regularly utilise the railway corridor. Railway construction will partially occur within the semi-urbanised catchment of the Ramsar site (minimum 5km from the boundary, see Figure 4 at Attachment B), but impacts are not likely. The Program commits to maintaining or improving water quality entering the Ramsar site. Further information is at Attachment C.

- In deciding whether to approve an action, or a class of actions, in accordance with the Program, section 146F requires that you consider matters relevant to any matter protected by a provision of Part 3 of the Act that you consider are relevant to this approval as well as economic and social matters. In considering these matters, you are required to take into account the principles of ecologically sustainable development. Detailed information on these considerations is at Attachment C.
- In summary, the project will provide significant economic and social benefits for Melbourne, particularly for the new communities in Melbourne's west within the expanded urban growth boundary, and Victorian regional cities such as Geelong, Ballarat and Bendigo. The Regional Rail Link is considered by the Australian and State Governments to be an infrastructure project of national and state significance, providing wide-ranging social and economic benefits for Melbourne's growth and the growth of the national economy.
- According to the Victorian Government, economic and social benefits include:
 - Reduced congestion and inefficiencies currently experienced in the existing railways.
 - Improved capacity, reliability and shorter travelling times, particularly during peak hours.
 - Development of regional centres including Geelong, Ballarat and Bendigo.
 - Doubling of passenger capacity and fewer private vehicle journeys
 - Integration of transport networks with urban development in the new Melton/Wyndham growth corridor allowing planning to be based around public transport and resultant efficiencies in delivery of public infrastructure, housing density and social equity.

Suggested approval conditions

- Suggested approval conditions are in the draft notice of decision at Attachment A and are discussed in detail at Attachment C.
- The department considers that the commitments and undertakings within the Program are appropriate in ensuring adequate protection of MNES. However, additional approval conditions are suggested to address the following matters:
 - Reinforcement of the Program requirement to ensure implementation of MNES prescriptions, particularly to clarify requirements for new prescriptions if additional listed species are found during further surveys, and to ensure an appropriate role for the Australian Government and DSE.
 - Ensure that the Australian Government has a role in considering and approving the Environmental Impact Management Plan (EIMP) which is the key vehicle for managing MNES impacts from the Regional Rail Link project; and
 - Ensure appropriate monitoring and reporting to the Australian Government on any construction for the Regional Rail Link commencing in 2010 prior to implementation of the formal reporting requirements for the overall Program (to commence by early 2011).

Risks in approving the Regional Rail Link under the Program

- This will be the first approval under the strategic assessment provisions of the EPBC Act. The specific impacts on MNES from the Regional Rail Link are relatively well known and risks of non-compliance are low particularly given that the proponent is the Victorian Government.

Regional Rail Link (Deer Park to Southern Cross Station component)

- The second component of the Regional Rail Link falls outside of the Program area and will be referred by the Victorian Government for separate consideration under Parts 7, 8 and 9 of the EPBC Act. The affected rail corridor includes the last known wild population of Sunshine Diuris, a listed and endangered orchid (31 individual plants in total).
- The orchid population is in close proximity to the existing rail infrastructure. The department is currently in discussions with the proponent to ensure that the alignment of the additional Regional Rail Link infrastructure within the rail corridor will avoid directly impacting upon the population. However, it is likely that a formal assessment will also be required to ensure that indirect impacts on the population can be effectively managed and to establish conditions for the long-term security, management and monitoring of the population.
- The two components of the Regional Rail Link are co-dependent. As such, there will be implications for the project as a whole if impacts on this population cannot be adequately managed.

- The department is not aware of specific NGO or other public concerns in regard to the Regional Rail Link project. The department will meet with key NGOs, including the Victorian National Parks Association, Merri Creek Management Committee and Environment Victoria, at the start of the two week Ministerial consultation period to provide an update of the Program and the intended approval of the Regional Rail Link. The outcomes of these consultations will be included in the briefing package for the final approval decision.

Conclusion

- The department considers that impacts associated with the Regional Rail Link (West of Werribee to Deer Park) are acceptable. The loss of 95ha of NTGVVP and individual listed species will be adequately offset through contribution to the 15,000ha western grassland reserves. The necessary planning instruments to give effect to the reserves are on track for implementation as required under the Program.
- As previously noted, the reserves will secure meaningful protection at the bioregional, landscape and ecosystem scale for NTGVVP and associated listed grassland species. In the absence of the Program, the conservation values of these remnant grassland areas would be under threat from clearing, fragmentation and degradation associated with urban creep. Acquisition costs for meaningful landscape-scale conservation would also become increasingly prohibitive as is currently the case within the existing growth boundaries of Melbourne.

Recommendations:

- | | |
|--|--|
| <ol style="list-style-type: none"> Adopt the draft decision and recommendations at <u>Attachment A</u>. If you accept Recommendation 1, sign the letters at <u>Attachment A</u> to relevant Ministers. Note that the department will provide further briefing to allow final approval consideration following the two week Ministerial consultation period. | <ol style="list-style-type: none"> Accepted/ Not accepted Signed/ Not signed Noted/ Discuss |
|--|--|

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SIGNED

s. 22(1)(a)(ii)

Acting Assistant Secretary
Strategic Approvals & Legislation Branch

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7/4/2010

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23 / 14 / 2010
MINISTER

Attachments:

A	<ul style="list-style-type: none"> Draft approval decision notice Letters to relevant Minister 	B	Summary Regional Rail Link <ul style="list-style-type: none"> Project description and impacts Summary of the overall Program MNES summary tables Figures
C	Legal considerations	D	Endorsed Program (Dec, 2009)
E	Department's assessment report on the endorsed Program	F	Strategic Impact Assessment Reports: <ul style="list-style-type: none"> <i>Delivering Melbourne's Newest Sustainable Communities Strategic Impact Assessment Report</i> (Victorian Government 2009a). <i>Delivering Melbourne's Newest Sustainable Communities Regional Rail Link: West of Werribee to Dear Park Strategic Assessment Report for Public Consultation</i> (Victorian Government 2009a). <i>Specialist Report Flora and Fauna</i> (Victorian Government, June 2009).

Attachment B**Summary of comments and changes to final approval decision and conditions**

On 23 April 2010, you advised the Minister for Infrastructure, Transport, Regional Development and Local Government of your intention to approve the Regional Rail Link component of the Program with conditions attached, as required under section 146C of the EPBC Act. As a courtesy, you also invited comment from the relevant Victorian Ministers (Minister for Planning and Minister for Environment and Climate Change).

On 13 May 2010 the Department of Infrastructure, Transport, Regional Development and Local Government advised that their Minister had no comment to make.

On 12 May 2010 comments were received from Victorian Government agencies. Most of the comments focussed on minor changes to the wording of the conditions to improve their clarity. On 24 May 2010, the Victorian Minister for Environment and Climate Change formally advised that he had no comment.

The Victorian Government comments and the department's response are shown in the tables below. The department also made changes to the wording of the proposed conditions for administrative reasons and following legal advice. The final conditions are in the decision notice at [Attachment A](#).

Table 1 Comments on draft approval notice

Draft Approval Notice		Comment	DEWHA Response
Person to whom the approval is granted	Victorian Government and its agencies	The Victorian Department of Transport (DoT) proposed that the definition of the person be more specific, such the "Director of Public Transport".	The existing broader definition has been maintained to more accurately reflect the inclusive and whole of government nature of the approval.
Approved action/class of actions	Actions and activities associated with development and operation of the Regional Rail Link project (from the existing Melbourne – Geelong railway corridor to the existing Melbourne – Ballarat railway corridor at Deer Park) under the endorsed program for Delivering Melbourne's Newest Sustainable Communities, Victorian Government, December 2009.	DoT suggested that this description of the action does not reflect the scope of the works. DoT suggested that the Program's definition of "West of Werribee to Deer Park" would be more appropriate. AGS advice suggested that the description should explicitly reference the need for actions to be undertaken in accordance with the endorsed program	Both comments were accepted. The definition of the approved action now reads: <i>Actions and activities associated with development and operation of the Regional Rail Link project (West of Werribee to Deer Park) undertaken in accordance with the endorsed program for Delivering Melbourne's Newest Sustainable Communities, Victorian Government, December 2009.</i>

Table 2 Comments on draft approval conditions

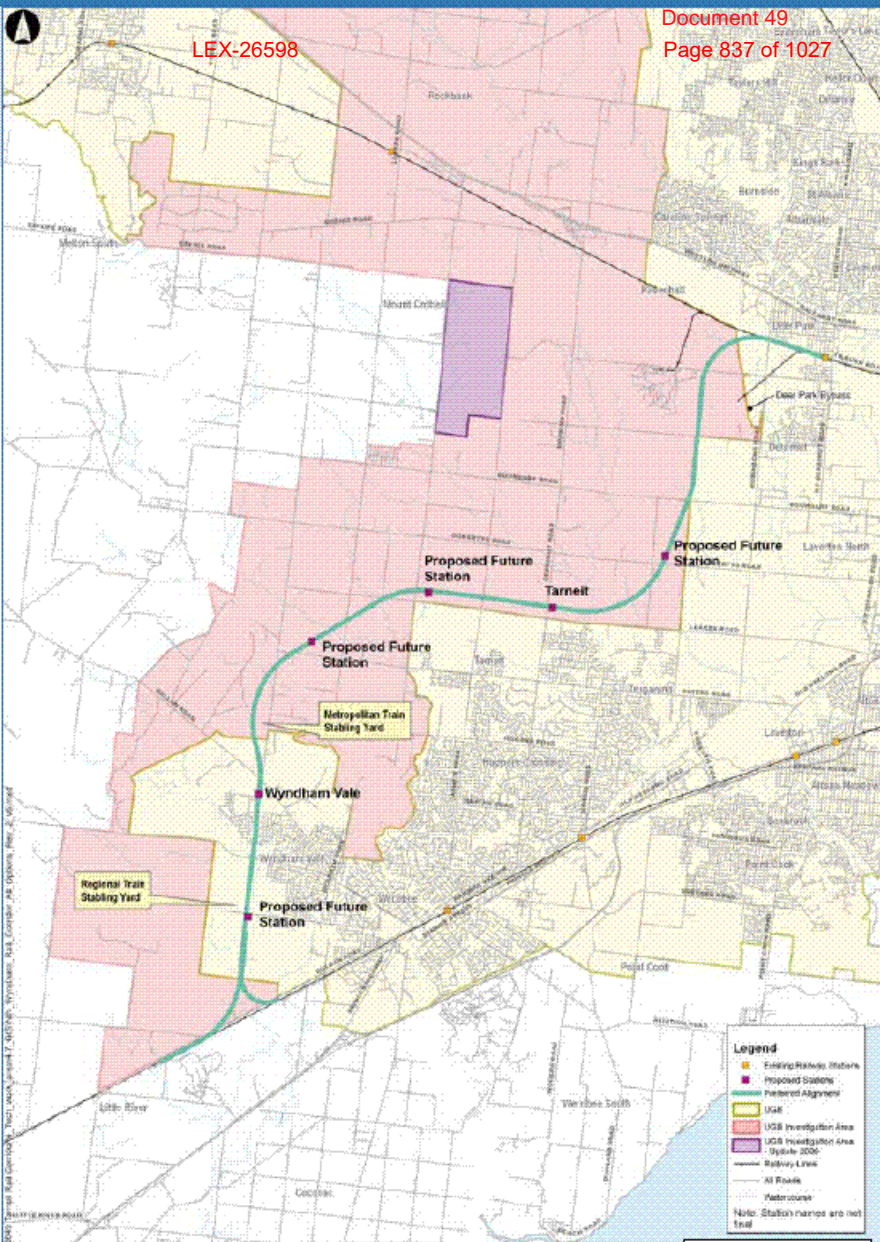
No.	Draft Approval Condition	Third Party Comment or DEWHA advice	DEWHA Response and Rationale
1	The person(s) taking the action must undertake the action in accordance with the endorsed program as set out in the document <i>Delivering Melbourne's Newest Sustainable Communities Program Report</i> , Victorian Government, December 2009 at <u>Attachment 1</u> (the Program).	No third party comments were received. AGS advice suggested that this condition be removed given that it may have the effect of inflicting a "double penalty" on a person(s) not acting in accordance with the program. Additional wording was added to the definition of the approved action as noted at Table 1.	Condition 1 removed in view of its redundancy.
2	The person(s) taking the action must undertake the action in accordance with the prescriptions required under the Program for protection of matters of national environmental significance (MNES) that may be impacted by the action. Each prescription must be approved by the Minister prior to commencement of any activity that may impact on the subject MNES. All relevant approved prescriptions must be implemented to the satisfaction of the Victorian Department of Sustainability and Environment.	The Department of Sustainability and Environment (DSE) suggested that the wording of this condition be modified to ensure that the proponent will not be affected by future changes to prescriptions. The relevant prescriptions have been approved and the second sentence is now redundant AGS advice suggested that DSE could not be conditioned as a third party to implement the conditions (eg this requirement is not enforceable).	No changes made. The Program provides a mechanism to change or update prescriptions. Any changed prescriptions will not retrospectively apply. The sentence relating to the requirement for Ministerial approval of prescriptions was removed. Sentence removed. Although DSE is part of the 'action person' (eg Vic Gov't) this requirement is now redundant. Prescriptions have been approved and are being implemented as part of state planning/approvals.
3	The person(s) taking the action must submit the draft Regional Rail Link Ecological Impact Management Plan(s) (EIMPs), as required under the endorsed Program, to the Minister for approval. The EIMPs must be approved by the Minister prior to commencement of works that may impact on any MNES. The approved plan must be implemented.	DoT suggested that the wording be changed to provide for the submission or approval of staged EIMP's. AGS suggests wording for last sentence.	Accepted. Wording of condition 3 changed to allow for submission/ approval of staged EIMP's. Wording change to 'person taking the action' in last sentence
4	At a minimum, the EIMP must: a) Provide the results of targeted field surveys of native flora and fauna along the construction footprint of the proposed action. b) Identify measures to mitigate the impacts of the Regional Rail Link on MNES. c) Identify the outcomes of the implementation of the MNES prescriptions. d) Identify how offset requirements will be achieved. e) Identify measures to manage stormwater runoff from the Regional Rail Link, and how these measures are consistent with best practice stormwater management. f) Identify measures to implement a regime of monitoring, reporting and evaluation of the outcomes and ongoing management of the impacts of the Regional Rail Link on MNES.	DoT suggested that condition 4(e) should specifically reference areas draining into Ramsar sites.	Accepted. Wording of 4(e) changed to specifically reference the Ramsar wetland.
		DoT suggested that condition 4(f) should be modified to restrict monitoring and auditing to the construction phase of the project.	Not accepted. Condition 4(f) requirements reflect those of the Regional Rail Link Strategic Assessment Report.

Table 2 (Continued)

No.	Draft Approval Condition	Third Party Comment or DEWHA advice	DEWHA Response and Rationale
5	If the person taking the action wishes to carry out any activity otherwise than in accordance with the EIMPs, the person taking the action must submit for the Minister's approval a revised version of any such plan. If the Minister approves such a revised plan, the plan must be implemented in place of the plan originally approved.	AGS suggested minor wording change to reference 'person taking the action' in last sentence	Wording altered to specify that the "person taking the action" must implement the EIMP.
6	If the Minister believes that it is necessary or desirable for the better protection of listed threatened species and communities to do so, the Minister may request that the person(s) taking the action make specified revisions to the EIMPs and submit the revised plans for the Minister's approval. The person(s) taking the action must comply with any such request. The revised EIMPs must be implemented.	DoT suggested that the wording of this condition be amended so that EIMP cannot be changed after the action has commenced, thus providing more certainty for the proponent. This advice was accepted and the wording of the condition was altered to specify that the "person taking the action" must implement the EIMP.	Not accepted. This is standard condition to allow the Minister the final say to vary the EIMPs if necessary. Wording change made.
7	Within one month of the 6 month anniversary of the commencement of works, the person(s) taking the action(s) must submit to the Department a report describing the measures taken to implement the EIMPs. Subsequent reports must be provided in accordance with the monitoring, auditing and reporting framework for the overall endorsed program to be agreed between the Victorian Government and the Minister.	DoT suggested that this condition should clearly define the roles and responsibilities for the identified reporting requirements.	Not accepted. The responsibility for reporting rests with the Victorian Government (to be determined by state agencies). The department recognises that this role may change over time.
8	The person taking the action must maintain accurate records substantiating all activities associated with or relevant to these conditions of approval, including measures taken to implement the EIMP, and make them available upon request to the Minister.	AGS advice suggested that a distinct timeframe and deadline for the fulfilment of this condition be included.	Condition modified to require requested information to be provided within 28 days.

FIGURE 1: REGIONAL RAIL LINK – WEST OF WERRIBEE TO DEER PARK

LEX-26598



Legend

- Existing Railways Station
- Proposed Station
- Preferred Alignment
- UGB
- UGB Investigation Area
- UGB Investigation Area (Stytle 2006)
- Railway Lines
- All Roads
- Watercourses

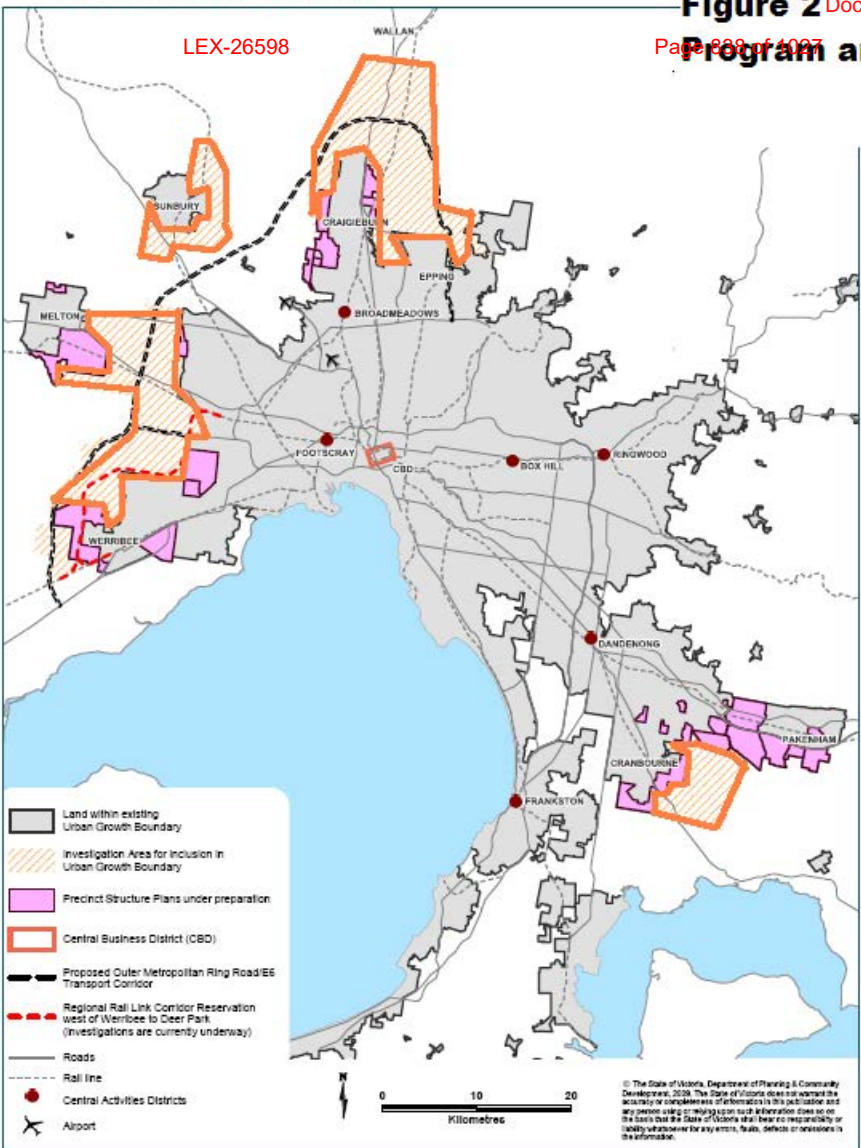
Note: Station names are not final

**Regional Rail Link
West of Werribee to Deer Park**

LEX-26598

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Program areas



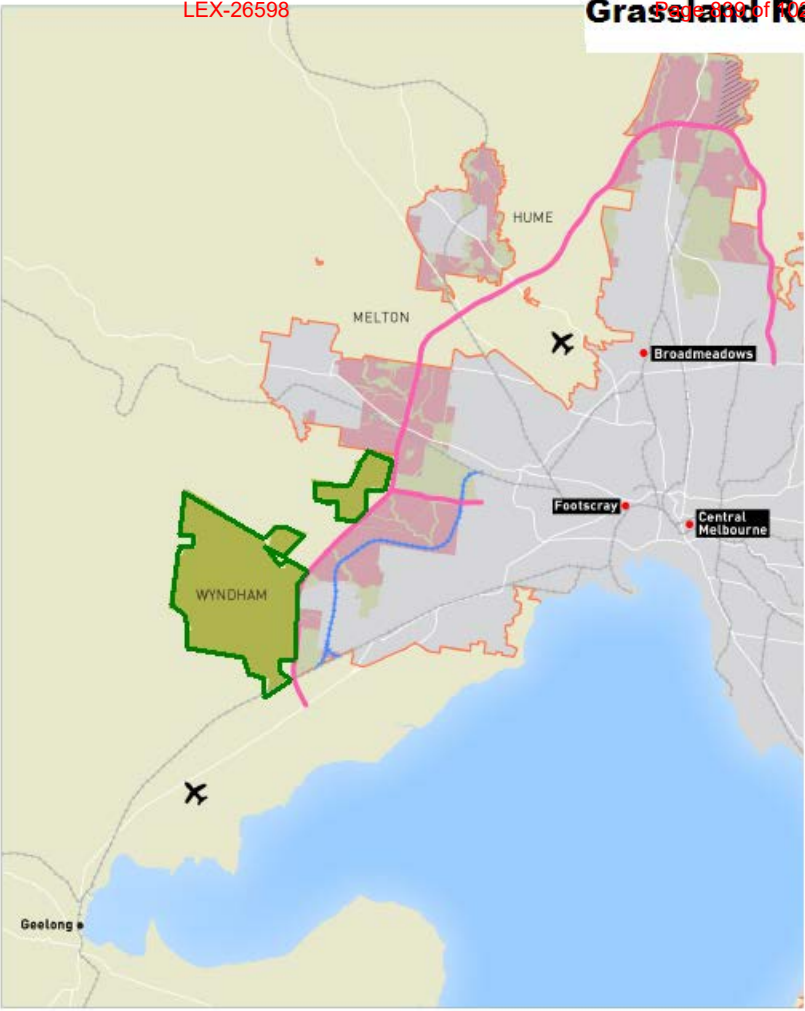
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Figure 3 Grassland Reserves

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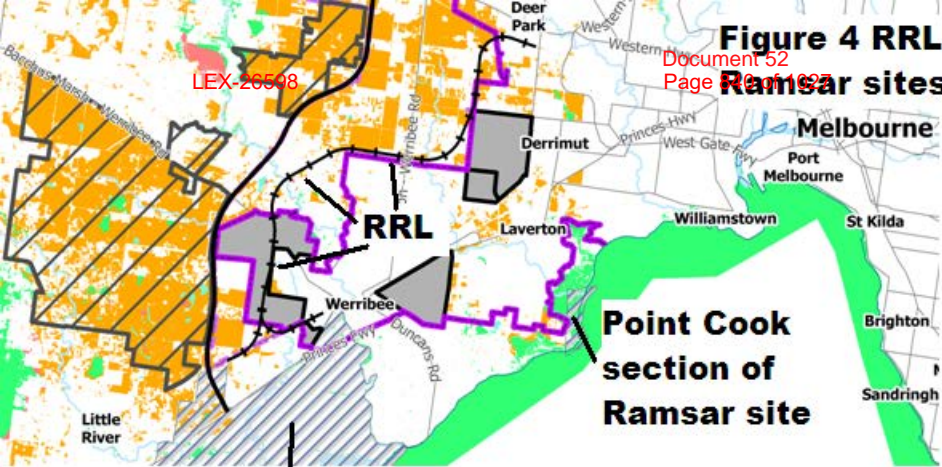
LEX-26598



- | | | |
|---|---|------------------------------|
| Non-urban land | Assessment VC55 Urban Growth Boundary | Central Activities Districts |
| Potentially suitable for urban development | Grassland Reserves | Road network |
| Outer Metropolitan Ring A/E6 Transport Corridor | Proposed Inter-modal and Logistics Precinct | Rail network |
| | | Regional Rail Link |

Figure 4 RRL and Ramsar sites

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**Avalon-Werribee
section of
Ramsar site**

SUMMARY OF REGIONAL RAIL LINK

Information on the Regional Rail Link (West of Werribee to Deer Park) project is in the Strategic Impact Assessment Reports *Delivering Melbourne's Newest Sustainable Communities* and *Regional Rail Link: West of Werribee to Deer Park Strategic Assessment*, June 2009 (SIAR). The summary below draws on these documents. A brief summary of the overall Program is found on page 6.

Background

The Regional Rail Link project is a Victorian Government initiative to significantly expand the capacity and efficiency of the existing metropolitan rail network through construction of new dual tracks from Werribee to the Melbourne Central Business District (CBD) through the new Melton/Wyndham growth areas covered by the Program (see **Error! Reference source not found.**).

The state government committed to establishing the new rail corridor in *Meeting Our Transport Challenges* in 2006. The new link was also proposed as part of the *Victorian Transport Plan* released in 2008. The Regional Rail Link has been a centrepiece in subsequent urban planning as outlined in *Melbourne 2030* and its December 2008 update *Melbourne @ 5 Million*.

The *Victorian Transport Plan* proposed the Regional Rail Link as a priority project of nation-building significance to deliver a sustainable long-term transport network for Victoria. The Plan states that '*Regional Rail Link will provide more frequent and reliable regional rail services, removing the bottlenecks where country trains – particularly the fast rail trains from Geelong, Ballarat, and Bendigo – reach the metropolitan network. Benefits will also flow on to the metro system, boosting capacity across the State network by 9000 extra passengers an hour [20 extra trains per hour]*'.

The project will allow separation of regional and suburban trains in western Melbourne (along with an extra pair of tracks along existing rail corridors from Deer Park to Southern Cross Station in the Melbourne CBD). In May 2009, the Australian Government confirmed Commonwealth funding through the *Building Australia Fund* of \$3.2 billion. Combined with Victorian funding, the \$4.1 billion project will be the largest rail project in Victoria since the railways were originally built and electrified.

The project

The 50 km Regional Rail Link project commences at a point west of Werribee, on the existing Melbourne-Geelong railway, and terminates at Southern Cross Station in the Melbourne CBD. There are two components:

- a new 30 km railway branching from the Melbourne-Geelong railway at a point west of Werribee and joining the Melbourne-Ballarat railway corridor at Deer Park, and
- completion of dual tracks in the Melbourne-Ballarat railway corridor from Deer Park to Southern Cross Station in the Melbourne CBD (approximately 20 km).

The Werribee to Deer Park component (see [Figure 1](#)), falls within the areas covered by the Program. The acquisition of lands, construction and operation of the railway, and associated infrastructure and services is a 'class of actions' within the Program. Matters of national environmental significance (MNES) impacted include Natural Temperate Grasslands of the Victorian Volcanic Plains, Spiny Rice Flower and Matted Flax-lily.

The second component (Deer Park to Southern Cross Station) is not part of the Program and will be referred separately under the EPBC Act. This component is

expected to be a controlled action requiring approval. The proposed alignment passes very close to the last known wild population of Sunshine Diuris, an endangered orchid (31 individual plants in total), and this will be a key assessment issue.

Within the Program area, the new rail corridor will generally be 60-75 m wide, but wider at locations where bridges, stations, car parking, train stabling and other facilities are required (indicative placements at [Figure 1](#)). The design of the project accommodates a four track railway together with a new parallel major roadway. The project includes passive recreation, pedestrian and cycling trails, and stormwater infrastructure.

Initially the alignment will incorporate two tracks from west of Werribee to Deer Park for Geelong and Warrnambool V/Line regional rail services. Depending on the rate of urban development in the surrounding areas, a further two tracks could be constructed in stages from north of the Werribee River in Tarneit to near Middle Road, Ravenhall. The extra tracks would accommodate “short-starter” regional rail services operating between Manor Lakes and Southern Cross Station. South of Manor Lakes, the corridor will accommodate a pair of regional tracks and a pair of suburban tracks for a future extension of the Werribee suburban rail service.

A Planning Scheme Amendment will be required to secure the necessary lands for the project. According to the Victorian Government, the most effective planning instrument is the application of a Public Acquisition Overlay into the Melton and Wyndham Planning Schemes. The Overlay will act as a trigger to ensure that any development proposal considered within the reservation area is assessed having regard to the future impact on the delivery of the Regional Rail Link. It would allow for the operational dimensions of the project including stations, train stabling facilities and grade separations.

The chosen alignment has been designed to avoid major areas of environmental and heritage sensitivity. Nevertheless, clearing will result in significant impacts on Native Temperate Grasslands of the Victorian Volcanic Plains and associated listed species. The potential also exists for temporary impacts on watercourses draining into the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site from sedimentation and runoff during construction.

Flora and fauna surveys of the construction corridor have been undertaken and are discussed at [Attachment C2](#). The proposal requires environmental impact assessment and approval in accordance with state requirements. This may include public assessment under the Victorian *Environment Effects Act 1978*. The state assessment may impose additional conditions on the project, on top of the Program requirements, but will not effect the requirements in the Program and relevant prescriptions for mitigation and offset of unavoidable impacts on MNES.

The Victorian Government has committed in the Program to prepare an Environmental Impact Management Plans (EIMPs) to manage the impacts of the Regional Rail Link on MNES. The EIMPs will include:

- details of the results of field surveys of native flora and fauna along the construction footprint of the proposed action
- management of project impacts on MNES
- implementation of the MNES prescriptions, and
- offset requirements, including acquisition of offsets and rehabilitation.

Construction of the Werribee to Deer Park component is expected to begin in 2011, with completion of the initial track by 2014. The other component of the rail link not

covered by the Program, from Deer Park to Southern Cross Station, is currently expected to commence construction in late 2010.

Project justification and benefits

Detailed information on the justification for the project, assessment of alternative routes, and consideration of social, economic and environmental aspects is in the SIAR *Regional Rail Link: West of Werribee to Deer Park Strategic Assessment*, June 2009. Further information is also at [Attachment C2](#).

Social, economic and environmental benefits

According to the Victorian Government, the Regional Rail Link project will double the capacity of the overall metropolitan rail network in servicing Geelong, Ballarat, Bendigo, Werribee, Craigieburn and Sunbury, as well as the new Melton/Wyndham growth areas. The project will also enhance public transport in Melbourne's outer west, an area with limited public transport services.

Building the Regional Rail Link will provide a separate pair of tracks exclusively for regional trains servicing Geelong, Ballarat and Bendigo. This will allow a major boost in peak hour services for regional commuters. Other direct and indirect benefits include:

- increased passenger carrying capacity into and out of Melbourne's CBD
- improved train punctuality and relief for rail congestion in the inner rail network
- greater choice of transport options to, from and across the city
- reduced road congestion on the western and south-western road corridors
- enhanced community access to high-order employment, education and community facilities
- enhanced mobility for disadvantaged social groups
- reduced vehicle usage leading to lower carbon emissions and air pollution
- improved freight networks by reducing road congestion and providing for future rail access to the proposed Truganina intermodal terminal, and
- further support for development of regional centres.

Planning benefits for new urban growth areas

The Regional Rail Link is proposed for reservation and construction prior to substantive urban growth within the new Melton/Wyndham growth boundaries. The new railway will be the focal anchor point in land use planning and development of Precinct Structure Plans for adjacent suburbs.

Stations will initially be located at Manor Lakes in Wyndham Vale and Derrimut Road in Tarneit. Depending on future urban growth in the surrounding areas, additional stations are planned at Dohertys Road in Truganina, Davis Road in Tarneit and near Sewells Road in Tarneit (see [Figure 1](#)).

The proposed railway stations will serve as catalysts for higher-density, mixed-use regional centres. Typically, the railway station will be at the core of each regional centre. Precinct planning will include high density development within walking distance of the stations (800 m). According to the SIAR, such higher density development will provide substantive transport, social, economic and environmental benefits.

The Regional Rail Link may also contribute to reducing car dependence in the new Melton/Wyndham growth areas, particularly for trips to the CBD. It will encourage regional centres where less vehicle travel is needed and it will integrate with on-road public transport networks to serve residential and industrial areas beyond the regional centres. Cycling and walking tracks are proposed on either side of the new railway to facilitate access between stations and regional centres.

Project impacts on MNES

Listed species and ecological communities

The Regional Rail Link (West of Werribee to Deer Park) will result in loss of 95 ha of the listed critically endangered Natural Temperate Grasslands of the Victorian Volcanic Plains (NTGVVP). While the final alignment of the railway has been sited to avoid larger patches of NTGVVP, further avoidance is not possible without significant constraints on future urban expansion or the operational safety of the railway.

Recent flora and fauna surveys have located 19 Spiny Rice-flower plants (critically endangered) within the construction corridor and one Matted Flax-lily plant (endangered). Populations of Golden Sun Moth (critically endangered) or the Striped Legless Lizard (vulnerable) have not been found in surveys to date, but it is possible that these species occur within the area.

A full discussion of impacts is at [Attachment C2](#) and in the department's assessment report for the overall Program at [Attachment D](#). Tables summarising impacts and outcomes on relevant MNES from the overall Program, towards which the Regional Rail Link will contribute, are found in this document under MNES outcomes tables on page 9.

The loss of NTGVVP and associated habitat for listed species will be offset in accordance with Victoria's *Native Vegetation Management Framework 2002* and MNES prescriptions that form part of the Program. The program will result in a substantive 'Net Gain' in the conservation and protection of the relevant MNES as summarised below:

- two grassland conservation reserves totalling 15,000 ha of which 10,000 ha is NTGVVP, to be owned and managed by the Victorian Government west of Werribee. Some 20% remaining NTGVVP in the Victorian Volcanic Plains Bioregion (compared to the current 2%) will be secured in these reserves. The NTGVVP offsets provide substantive habitat for the Golden Sun Moth, Spiny Rice-flower and Striped Legless Lizard
- a 1,200 ha grassy eucalypt woodland reserve adjacent to the northern growth area. This offset is expected to provide substantive habitat for the Matted Flax-lily as well as other NTGVVP associated listed species
- protection of an additional three reserves within the new urban growth boundary known to support important populations of Golden Sun Moth and totalling an additional 300 ha of NTGVVP
- protection of four of the seven known substantial populations of Spiny Rice-flower with more than 200 plants in the Program area (two of these are currently protected and the remaining population falls outside the Program area).
- eighty per cent of highest conservation habitats for the Golden Sun Moth, Spiny Rice-flower and Matted Flax-lily within the Victorian Volcanic Plains bioregion (confirmed sites contributing most to species persistence as defined in the methodology guiding the prescription for this species) will be permanently protected and managed as a consequence of the Program, and
- additional retention of NTGVVP, and potential habitat of associated listed species, within the new urban growth areas of 2,674 ha in retained reserves and open spaces.

The MNES prescriptions also require that, prior to clearing, a fully funded propagation and translocation plan be prepared, implemented and monitored to standards required by the Department of Sustainability and the Environment (DSE) for the Spiny Rice-flower and Matted Flax-lily. A fully costed salvage and translocation plan for Striped Legless Lizard must also be prepared, consistent with the requirements of DSE and the national recovery team.

The department's assessment concludes that the loss of 95 ha of NTGVVP will have a significant impact on NTGVVP ecological community at the local and regional level. A similar scale of impact will occur for the Spiny Rice-flower through the loss of 17 plants. The loss of an individual Matted Flax-lily plant is of limited significance. Loss of potential habitat and individual Golden Sun Moth and Striped Legless Lizard, if present, is not likely to significantly diminish current populations, distributions or species survival at the local, regional, state or national level.

Impacts on MNES will be offset through the protection and conservation of at least equivalent habitat (at a ratio of approx. 2:1) under Victoria's *Native Vegetation Management Framework 2002* in the new grassland reserves.

These reserves will protect the highest quality and most extensive native grasslands remaining throughout the Victorian Volcanic Plains Bioregion and that are under threat from future urban expansion. Protection of this ecological community at the bioregional and landscape scale within these large conservation reserves will also secure long term protection for the Spiny Rice-flower, Golden Sun Moth, and Striped Legless Lizard.

The department considers that impacts of the Regional Rail Link on listed threatened species and communities will be acceptable provided the project is implemented in accordance with the requirements of the Program.

Wetlands of International Importance

The Regional Rail Link will not have direct impacts on the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site. The rail corridor runs through the catchment for the Avalon-Werribee and Point Cook Marine Reserve sections of the Ramsar site and there is potential for indirect impacts through runoff and sedimentation during construction ([Figure 4](#)). The key ecological character of these sections of the Ramsar site relate to values for migratory birds.

The main potential for impact is at bridge crossings of the Werribee River and Lollypop Creek (about 5km upstream of the Avalon-Werribee section of the Ramsar site) and Skeleton Creek (about 7km upstream of the Point Cook section of the Ramsar site). The Program states that bridge and rail construction will meet required state prescriptions to minimise land disturbance, soil erosion and discharge of sediments. The program also provides a commitment to ensure that water quality entering the Ramsar site is maintained or improved. Necessary measures will be incorporated into the EIMPs to be prepared to manage the impacts of the Regional Rail Link on MNES.

The department notes that the catchments for the potentially affected sections of the Ramsar site include urban, semi-urban and rural lands already subject to disturbance. Construction will occur some distance from the Ramsar sites and will be managed to control sedimentation and runoff risks. In these circumstances, the department concludes that impacts on the ecological character of the Ramsar sites are not expected or likely.

The Program

The endorsed Program describes the processes and requirements to deliver acceptable protection of MNES as a consequence of actions and activities of the Victorian Government's plan to cater for and accommodate Melbourne's expected population increase over the next 20 years (*Delivering Melbourne's Newest Sustainable Communities Program Report* (Victorian Government) at [Attachment D](#)). [Figure 2](#) shows the urban development areas. The proposed grassland reserve areas are shown at [Figure 3](#).

The Program includes the following main elements:

- residential development within 24,615 ha comprising four new growth areas to accommodate 284,000 new dwellings within a revised urban growth boundary (UGB) totalling about 41,000 ha
- development within 28 specified existing residential precincts adjoining the new growth areas
- the Outer Metropolitan Ring Road/E6 (OMR/E6) corridor that includes up to four lanes each way
- a new four-track Regional Rail Link in the west and north of Melbourne passing through the new growth areas at Melton/Wyndham
- two grassland reserves to the west of Melbourne totalling 15,000 ha, and
- a woodland reserve to the north of Melbourne totalling 1,200 ha.

The Program has been designed to avoid high quality habitat for matters of national environmental significance (MNES) through amending the proposed urban growth boundaries. Such habitats will not be zoned or approved for development. Measures are also proposed to mitigate and offset impacts from clearing allowed within the new growth areas and existing precincts. In essence, offsets will be required for such clearing and will be used to acquire existing private lands for the dedicated reserves.

Delivery of the Program

The Program will be delivered through Victorian planning legislation and additional endorsed policies and programs and requires relevant Victorian Local Government Planning Schemes to be progressively amended under the Victorian *Planning and Environment Act 1987*. These amendments must occur before developments can proceed and provide the statutory basis for implementing the Program.

Broad scale planning

The key broad scale statutory planning instruments are Growth Area Framework Plans which are being prepared for each of the four new and expanded existing growth areas. They show broad land use patterns (including the location of principal and major activity centres) committed and proposed transport networks, regional open space, significant waterways and areas of environmental sensitivity. The plans must be consistent with biodiversity conservation strategies for each growth area (see below).

Biodiversity Conservation Strategies must also be prepared for each of the new growth areas. These outline how the areas of high biodiversity value within the growth areas will be managed and spatially identify how outcomes for MNES will be delivered for growth areas. Each Biodiversity Conservation Strategy must be approved by the Australian Government before Growth Area Framework Plans can be completed.

Precinct level planning

Precinct Structure Plans (PSPs) define the future structure of a suburb or group of suburbs, detailing the location of housing, activity centres, employment centres, community facilities, local transport networks, open space and conservation

reserves. They identify the location of biodiversity sites and listed heritage places and how the MNES prescriptions will be met.

New reserves

The Victorian Government has committed in the Program to the establishment of landscape-scale reserves to offset the impacts from development. Two large grassland reserves (totalling 15,000 ha will be established in western Melbourne (see [Figure 3](#))).

The statutory mechanism to be used to acquire these reserves is as follows:

- a Public Acquisition Overlay for the reserves is to be incorporated into the local planning schemes by June 2010 (this essentially reserves the private lands for voluntary or compulsory acquisition by the Victorian Government)
- Environmental Significance Overlays for the reserve areas will be incorporated into the local planning schemes by June 2010 (this will essentially prohibit developments that will impact NTGVVP)
- lands will be progressively acquired by the state with the reserves to be in Crown ownership by 2020
- National Park or reserve management plans will be prepared and implemented by Parks Victoria. Performance standards for management and monitoring, based on an adaptive management approach, will be provided to the department by June 2011, and
- Interim management plans will guide management and protection of the proposed grassland reserves before they are acquired, achieved by assisting landholders to manage threats and strengthening regulation to prevent degradation. These interim management plans will provided to the department by December 2010.

The Victorian Government has also committed to the protection of a 1,200 ha grassy woodland reserve to the north of Melbourne. Protection will use the planning mechanisms described above and permanent covenants with landholders.

The consolidation of offsets into large, contiguous reserves which are actively managed for conservation provides additional value compared to equivalent scattered offsets. The department considers that Program provides a key opportunity to secure the perpetual protection and conservation of MNES in the Victorian Volcanic Plains Bioregion.

Matters of National Environmental Significance Outcomes Tables

Natural Temperate Grassland of the Victorian Volcanic Plain (NTG)

Current Status	Impacts	Conservation outcome	Activities to Achieve Outcome
<ul style="list-style-type: none"> ▪ <5% remains or 65 000ha (of original estimated extent of 870 000ha on the 2.3 million ha VVP Bioregion) ▪ Most (93%) on private lands and quality on these unsecured sites is deteriorating due to weed invasion and development pressures. ▪ Only 2% secure in conservation estate: <ul style="list-style-type: none"> ○ Craigieburn Grasslands Reserve (340ha) ○ Derrimut Grassland Reserve (154ha) ○ Boral Deer Park Grassland (90ha) ○ Laverton Grasslands (52ha) ▪ Most remnants west of Melbourne and subject to urban growth pressures. ▪ Vic legislation does not protect NTG on private farming lands under threat from agricultural development. 	<ul style="list-style-type: none"> ▪ Clearing 4 665ha grasslands <ul style="list-style-type: none"> ○ 525ha OMR/E6 (241 habitat ha) ○ 95ha RRL (37 habitat ha) ○ 3278 new precincts (1354 habitat ha) ○ 796 existing precincts (290 habitat ha) ▪ Total comprises <ul style="list-style-type: none"> ○ 72ha high quality, ○ 3696ha medium quality and ○ 897ha low quality ▪ Habitat hectare offset required under <i>Vic Native Vegetation Framework 2002</i> is 3599ha. 	<ul style="list-style-type: none"> ▪ 2 conservation reserves totalling 15 000ha of which 10 000ha is NTG, to be owned and managed by the Crown ▪ Total comprises <ul style="list-style-type: none"> ○ 2609ha high quality ○ 7375ha medium quality ○ 108ha low quality ▪ Habitat hectare worth/gain is 4154ha ▪ 20% remaining NTG in VVP bioregion secured in reserves ▪ Additional retention of NTG in UGB of 2674ha in reserves and 'open spaces': <ul style="list-style-type: none"> ○ 158ha high quality ○ 2211ha medium quality ○ 306ha low quality ▪ Additional reserves in precincts subject to commonwealth approved Prescription and Biodiversity Strategy ▪ Reserves within UGB to be acquired as Crown lands and managed by Parks Victoria, ensuring consistent and sympathetic management ▪ Environmental Significance Overlays to be added to planning schemes for Melton and Wyndham LGA (where most NTG remain) providing legislative protection for NTG on private farm lands (permit needed for clearing). 	<p><i>Primary</i></p> <ul style="list-style-type: none"> ▪ Public Acquisition Overlay in planning scheme by June 2010 ▪ Environmental Significance Overlay in relevant local planning schemes by June 2010 ▪ Relevant prescriptions provided to DEWHA and approved by Minister-NTG, GSM, SLL, SRF, MFL <p><i>Secondary Activities</i></p> <ul style="list-style-type: none"> ▪ Acquisition schedule provided to DEWHA by December 2010 ▪ Interim Management Plan provided to DEWHA by December 2010 ▪ Monitoring reports to DEWHA on progress of implementing the interim management plan. Due to be submitted every six months in 2010-2011, and then annually until land is acquired. ▪ Approval of relevant sub-regional species strategies and bio-diversity conservation strategies by 2011. ▪ Performance standards for management monitoring and methodology provided to DEWHA by June 2011. ▪ New mapping program undertaken on private land to inform ESO's to protect other grasslands remnants on Werribee plains, provided by June 2013. ▪ Reports to DEWHA of Breaches of planning permits, clearing not in accordance with NVPP, CMP or relevant transport infrastructure document.

Golden Sun Moth (GSM)

Current status	Impacts	Conservation Outcomes	Activities to Achieve Outcomes
<ul style="list-style-type: none"> ▪ Typically associated with NTG, wide distribution beyond VVP. ▪ Unlikely to recolonise once extinct from a site. ▪ Populations may be fragmented by barriers (e.g. absence suitable habitat) >200m. ▪ 50 recorded sites in Melbourne region, half of which are <10ha and less than 10 are protected. ▪ Poorly protected mainly in small urban grassland reserves. ▪ An estimated 15% of habitat in the VVP modelled as 'high contribution to species persistence' is protected. ▪ Main Melbourne region reserves are: <ul style="list-style-type: none"> ○ Craigieburn Grassland Reserve (320ha) ○ Cooper Street Grassland Reserve (40ha) ○ Derrimut Grassland Reserve (152ha) ○ Woodlands Heritage Park (40ha) ○ Altona Reserve (4ha) ○ Amberfield Reserve (2ha) ○ Highlands Craigieburn (40ha) ○ Amaroo Reserve (20ha) 	<ul style="list-style-type: none"> ▪ Clearing 5 374ha potential habitat (NTG and GEW). ▪ Habitat matrix approach to be used to achieve protection of highest priority populations and habitat <ul style="list-style-type: none"> ○ Maps have been prepared identifying habitat modelled as likely to have a significant contribution to the persistence and protection of the species ○ The mapping is based on known records of GSM and NTG habitat, and uses modelling to predict areas of low, medium and high value for the species ○ Surveys must be undertaken in accordance with the <i>Biodiversity Precinct Structure Planning Kit</i> to confirm (or otherwise) the presence of the species ○ Like for like offsets must be provided for clearing of GSM habitat. ○ Clearing of habitat cannot occur until 80% of high contribution habitat is protected in the VVP bioregion (15% is currently protected) 	<ul style="list-style-type: none"> ▪ Protection 16 200ha of potential habitat. ▪ Protection of an additional 300ha within the UGB known to hold populations. ▪ Two year surveys across growth areas and VVP to be undertaken to confirm/identify 'high contribution' habitat. ▪ 80% 'high contribution' habitat to be conserved within the VVP. ▪ Surveys undertaken prior to clearing – clearing of confirmed GSM habitat not permitted until 80% rule met (apart from exceptions in prescription). ▪ Clearing known habitat requires offset of equivalent quality habitat (with confirmed GSM) before proceeding. ▪ GSM sites retained within the UGB (e.g. not offset) must be under permanent protection tenure (can be donated to Crown) with a 10 year fully funded management plan. 	<p><i>Primary Activities</i></p> <ul style="list-style-type: none"> ▪ Prescription for GSM submitted to DEWHA and approved by the Minister. ▪ Targeted surveys for GSM undertaken across range for two seasons with date provided to DEWHA. ▪ Sub-regional species strategy for GSM submitted to DEWHA for approval by June 2011. ▪ Prescriptions implemented in existing precincts and then precincts within revised urban growth boundary. ▪ Proposed grassland and woodland reserves established, providing large areas of permanently protected suitable habitat for the species. <p><i>Secondary Activities</i></p> <ul style="list-style-type: none"> ▪ Guidance note for implementation of prescriptions published by 2010 for stakeholders. ▪ Reporting on progress towards 80% retention published every two years. ▪ Conservation areas for the species within the program area secured through native vegetation precinct plans and conservation management plans prepared in accordance with biodiversity precinct planning kit. ▪ Reports to DEWHA of breaches of planning permits, clearing not in accordance with NVPP and CMP or relevant transport infrastructure document.

Spiny Rice Flower (SRF)

Current status	Impacts	Conservation Outcomes	Activities to Achieve Outcomes
<ul style="list-style-type: none"> ▪ Typically associated with NTG, wide distribution in VVP. ▪ 184 known populations in Victoria with 9 protected. ▪ Threats include habitat degradation through weed invasion and inappropriate grazing and fire regimes. ▪ May not persist in smaller urban reserves - populations under threat from fragmentation due to requirement for male and female plants for reproduction and poor seed germination (requires fire and rain). ▪ Regional status (inside and outside the UGB) is: <ul style="list-style-type: none"> ○ 46 known populations ○ 33 support <30 plants ○ 3 support 30-100 plants ○ 7 support >100 plants ▪ The 7 largest populations are: <ul style="list-style-type: none"> ○ Truganina Cemetery (375 plants) – unprotected ○ Ravenhall Grasslands (500 plants) - unprotected ○ Griegs Rd, Rockbank (400 plants) - unprotected ○ Kirks Bridge Road (400 plants) - unprotected ○ Melbourne Water site - protected ○ Rockbank site - protected) ○ Burnside – not protected 	<ul style="list-style-type: none"> ▪ Clearing 5 374ha potential habitat (NTG and GEW) ▪ Habitat matrix approach to be used to achieve protection of highest priority populations and habitat <ul style="list-style-type: none"> ○ Maps have been prepared identifying habitat modelled as likely to have a significant contribution to the persistence and protection of the species ○ The mapping is based on known records of SRF and NTG habitat, and uses modelling to predict areas of low, medium and high value for the species ○ Surveys must be undertaken in accordance with the <i>Biodiversity Precinct Structure Planning Kit</i> to confirm (or otherwise) the presence of the species ○ Like for like offsets must be provided for clearing of SRF habitat. ○ Clearing of habitat cannot occur until 80% of high contribution habitat is protected in the VVP bioregion (<ul style="list-style-type: none"> ▪ Protection 16 200ha potential habitat, including known populations within the proposed grassland reserve ▪ Three of the seven known large populations will be secured and protected by the Program <ul style="list-style-type: none"> ○ Truganina Cemetery ○ Ravenhall Grasslands ○ Kirks Bridge Road ▪ Application of the prescription will result in protection of the Griegs Rd site (>200 plants). ▪ 80% 'high contribution' habitat to be conserved within the VVP. ▪ Surveys undertaken prior to clearing – clearing of confirmed SRF habitat not permitted until 80% rule met (apart from exceptions in prescription). ▪ Clearing known habitat requires offset of equivalent quality habitat before proceeding. ▪ SRF sites retained within the UGB (e.g. not offset) must be under permanent protection tenure (can be donated to Crown) with a 10 year fully funded management plan. ▪ Sites with >200 plants must be protected. ▪ If species present, and clearing is allowed under the prescription, a fully costed translocation and/or propagation plan to satisfaction of DSE is required. 	<p><i>Primary Activities</i></p> <ul style="list-style-type: none"> ▪ Prescription for SRF submitted to DEWHA and approved by the Minister. ▪ Prescriptions implemented in existing precincts and then precincts within revised urban growth boundary. ▪ Proposed grassland and woodland reserves established, providing large areas of permanently protected suitable habitat for the species. <p><i>Secondary Activities</i></p> <ul style="list-style-type: none"> ▪ Guidance note for implementation of prescriptions published by 2010 for stakeholders. ▪ Reporting on progress towards 80% retention published every two years. ▪ Conservation areas for the species within the program area secured through native vegetation precinct plans and conservation management plans prepared in accordance with biodiversity precinct planning kit. ▪ Reports to DEWHA of breaches of planning permits, clearing not in accordance with NVPP and CMP or relevant transport infrastructure document.

Striped Legless Lizard (SLL)

Current status	Impacts	Conservation Outcomes	Activities to Achieve Outcomes
<ul style="list-style-type: none"> ▪ Typically associated with NTG, wide distribution beyond VVP. ▪ Poorly conserved and mainly in smaller reserves. ▪ Populations may not be able to persist in small reserves (DSE suggests >300 individuals in a larger reserve is minimum). ▪ In Victoria Striped Legless Lizards occur within four reserves: Derrimut Grassland Reserve, Iramoo Wildlife Reserve, Terrick-Terrick National Park (north of Bendigo) and Craigieburn Grasslands (north of Melbourne). These reserves cover more than 800 ha. ▪ Total number of individuals of this species is unknown, but likely to be in excess of 1000 individuals. 	<ul style="list-style-type: none"> ▪ Clearing up to 5 374ha potential habitat. 	<ul style="list-style-type: none"> ▪ Protection 16 200ha potential habitat. ▪ Surveys undertaken prior to clearing. ▪ If species present, and clearing is allowed under the prescription, a translocation plan to satisfaction of DSE required. ▪ Additional network of retained habitat associated with Merri Creek corridor may support habitat. ▪ Supports Recovery Plan objectives to secure 'West Melbourne' cluster population, consistent with objectives for protection of 'North Melbourne' cluster. ▪ Offset 'premium' for clearing potential habitat to assist in specialist management for the species in proposed new grassland reserves (removal barriers to connectivity etc). 	<p><i>Primary Activities</i></p> <ul style="list-style-type: none"> ▪ Prescription for SLL submitted to DEWHA and approved by the Minister. ▪ Prescriptions implemented in existing precincts and then precincts within revised urban growth boundary. ▪ Proposed grassland reserves established, providing large areas of permanently protected suitable habitat for the species. <p><i>Secondary Activities</i></p> <ul style="list-style-type: none"> ▪ Surveys undertaken prior to precinct planning. ▪ Conservation management plans created to inform the precinct structure plans. ▪ Protocol on translocation provided to DEWHA by 2010. ▪ Management and monitoring of populations in western grassland reserves, including and populations translocated from within program area. Results provided to DEWHA as per grassland reserve management plan. ▪ Reports to DEWHA of breaches of planning permits, clearing not in accordance with NVPP and CMP or relevant transport infrastructure document.

Matted Flax-lily (MFL)

Current status	Impacts	Conservation Outcomes	Activities to Achieve Outcomes
<ul style="list-style-type: none"> ▪ Typically associated with four bioregions: Victorian Volcanic Plains, South East Coastal Plain, South Eastern Highlands and Victorian Midlands. ▪ Occurs within lowland grasslands, grassy woodlands, valley grassy forest, creek-line herb-rich woodland. ▪ 120 known populations mainly north and SE of Melbourne. ▪ Threats include residential subdivision. 	<ul style="list-style-type: none"> ▪ Likely to occur in northern UGB. ▪ Known important populations (draft recovery plan) not in study area. ▪ Not detected during surveys to date. ▪ Habitat matrix approach to be used to protection 80% highest priority habitat <ul style="list-style-type: none"> ○ Maps have been prepared identifying habitat modelled as likely to have a significant contribution to the species' persistence and protection ○ The mapping is based on known records of GSM and NTG habitat, and uses modelling to predict areas of low, medium and high value for the species ○ Surveys in accordance with the <i>Biodiversity Precinct Planning Kit</i> ○ Like for like offsets must be provided for clearing of MFL habitat. ○ Clearing of habitat cannot occur until 80% of high contribution habitat is protected in the Victorian volcanic plain bioregion 	<ul style="list-style-type: none"> ▪ 80% 'high contribution' habitat to be conserved within Victorian Volcanic Plain bioregion. ▪ Surveys undertaken prior to clearing – clearing of confirmed MFL habitat not permitted until 80% rule met for 'bioregion' (apart from exceptions in prescription). ▪ If species present, and clearing is allowed under the prescription, a fully-costed translocation plan, including monitoring, to the satisfaction of DSE is required. ▪ An additional 600ha network of grasslands, grassy woodlands and riparian corridors will be retained in the northern growth zone (where the species is most likely to occur), with further surveys and sympathetic management for the species. 	<p><i>Primary Activities</i></p> <ul style="list-style-type: none"> ▪ Prescription for MFL submitted to DEWHA and approved by the Minister. ▪ Prescriptions implemented in existing precincts and then precincts within revised urban growth boundary. ▪ Proposed grassland and woodland reserves established, providing large areas of permanently protected suitable habitat for the species. <p><i>Secondary Activities</i></p> <ul style="list-style-type: none"> ▪ Guidance note for implementation of prescriptions published by 2010 for stakeholders. ▪ Reporting on progress towards 80% retention published every two years. ▪ Conservation areas for the species within the program area secured through native vegetation precinct plans and conservation management plans prepared in accordance with biodiversity precinct planning kit. ▪ Reports to DEWHA of breaches of planning permits, clearing not in accordance with NVPP and CMP or relevant transport infrastructure document.

ATTACHMENT C2

LEGAL CONSIDERATIONS RELATING TO DECISION-MAKING UNDER PART 10

General

On 2 February 2010, you endorsed the Victorian Government's Program for Melbourne's urban expansion as described in the document *Delivering Melbourne's Newest Sustainable Communities Program Report* (Victorian Government, December 2009) at Attachment D (the Program).

The Victorian Department of Sustainability and Environment (DSE) wrote to the department, on 5 March 2010, seeking approval of 'classes of actions' relevant to the Regional Rail Link (West of Werribee to Deer Park) component of the Program.

The Regional Rail Link is a 50km railway connection from west of Werribee to Southern Cross Station. A summary of the project is at Attachment C1. The Program is concerned with the 30km Werribee to Deer Park component of the railway (alignment shown at Figure 1, Attachment C). Construction is expected to begin in 2011 and be completed by 2014. The remaining section of the rail link from Deer Park to Southern Cross Station, which is not covered by the Program, will be the subject of a separate referral under Part 9 of the EPBC Act with construction currently scheduled to begin in late 2010.

This briefing attachment addresses the necessary considerations to inform your final decision whether to approve the relevant classes of actions associated with the Regional Rail Link under the Program and any conditions to be imposed. The attachment draws on the following documents:

- The endorsed Program (Attachment D).
- The following Strategic Impact Assessment Reports (SIAR) (Attachment D).
 - *Delivering Melbourne's Newest Sustainable Communities Strategic Impact Assessment Report* (Victorian Government 2009a).
 - *Delivering Melbourne's Newest Sustainable Communities Regional Rail Link: West of Werribee to Dear Park Strategic Assessment Report for Public Consultation* (Victorian Government 2009a).
 - *Specialist Report Flora and Fauna* (Victorian Government, June 2009).
- The department's assessment report of the endorsed Program (Attachment D).

Legal considerations – approval process

Part 10 of the EPBC Act provides for you to undertake a strategic assessment of actions to be taken in accordance with a policy, plan or program. Subdivision A of Part 10 describes the general requirements in undertaking a strategic assessment leading up to endorsement of the policy, plan or program that is the subject of the strategic assessment. As noted above, you endorsed the Program which includes the Regional Rail Link (West of Werribee to Deer Park component) on 2 February 2010 (B09/3524).

What the approval must specify

Subdivision B of Part 10 provides for your approval of the taking of 'classes of actions' in accordance with an endorsed policy, plan or program. Section 146B(2) states that an approval must:

- a) *be in writing; and*
- b) *specify the action or classes of actions that may be taken in accordance with the endorsed policy, plan or program; and*

- c) *specify each provision of Part 3 for which the approval has effect; and*
- d) *specify the period for which the approval has effect; and*
- e) *set out the conditions attached to the approval.*

The above requirements are included in your notice of final decision at Attachment A.

Consultation with Commonwealth Ministers

Section 146C of Subdivision B states that, prior to deciding whether or not to approve the taking of an action or a class of actions in accordance with an endorsed policy, plan or program, you must:

- a) *Inform any other Minister whom the Environment Minister believes has administrative responsibilities relating to the action or class of actions of the decision the Environment Minister proposes to make; and*
- b) *Invite each Minister informed to give the Environment Minister, within 10 business days, comments on the proposed decision.*

On 23 April 2010, you sent a letter seeking comment on the proposed draft decision to the Minister for Infrastructure, Transport, Regional Development and Local Government, the Hon Anthony Albanese MP. Although not a statutory requirement, similar letters were sent as a courtesy to the Victorian Minister for Environment and Climate Change and Minister for Planning who are signatories to the strategic assessment agreement.

There is also no statutory requirement to invite comments on an intended approval from third party stakeholders. Nevertheless, the department met with key NGO representatives on 13 May 2010 to provide an update on the Program, as well as your consideration of separate approvals for the Regional Rail Link and 28 precincts within Melbourne's current growth boundary (see separate brief B10/1115). Groups represented were:

- o Victorian National Parks Association
- o Merri Creek Management Committee
- o Environment Victoria
- o Environment Defenders Office
- o Trust for Nature
- o Green Wedges Coalition
- o Western Region Environment Centre, and
- o Friends of Merri Creek

Consideration of comments by Commonwealth Ministers

Section 146(2) states that a Minister who is invited to comment may make comments that relate to economic and social matters, and principles of ecologically sustainable development. This does not limit the comments that a Minister may give.

On 13 May 2010 the Department of Infrastructure, Transport, Regional Development and Local Government advised that it would have no comment to make on the proposed approval decision.

In response to the letters seeking comment on the proposed approval decision to Victorian Ministers, the Victorian agencies, on behalf of their Ministers, made some comment on process related matters. The Minister for Environment and Climate Change, in a late letter dated 24 May 2010, supporting the proposed approval decision for the Regional Rail Link. The table at Attachment B summarises the comments received and any subsequent changes to the wording of the final approval notice and conditions (at Attachment A).

During the department's meeting with key NGO's on 13 May 2010, representatives did not raise specific environmental issues in regard to the Regional Rail Link project covered by the Program (or the existing 28 precincts). Concerns were raised about broader elements of the Program, particularly its perceived inability to identify and protect smaller areas of biodiversity or other local environmental values (eg that might not otherwise meet the requirements of the prescriptions for matters of national environmental significance). While the department considers that the Program and prescriptions has/will identify most such areas, it is also our intention use the requirements under the Program to prepare Biodiversity Conservation Strategies for each of the four new growth areas to achieve this role.

DSE intends to constitute a reference group to identify potential additional conservation reserves within the new growth areas based on advice provided by NGOs. Provided there is adequate scientific justification for nominated reserve areas, these requirements will be reflected in the Biodiversity Conservation Strategies submitted to yourself for approval. The department also intends to provide the draft strategies to relevant NGO groups for comment, to ensure that justifiable nominations have been adequately included.

Legal effect of giving an approval of actions in an endorsed Program

Section 146D describes the legal effect of taking actions in accordance with an approval made under section 146B. Such actions, for the purposes of the EPBC Act, are considered to be controlled actions and are taken to have been approved under Part 9 for the controlling provisions stated in the strategic approval. This means that the approved actions are not subject to the referral and assessment provisions of Parts 7 and 8 of the EPBC Act and are able to proceed subject to the requirements of the endorsed Program and any conditions imposed by the Minister.

Legal considerations – general considerations for approvals and conditions (MNES)

Subdivision C of Part 10 sets out the considerations for approving the taking of actions in accordance with an endorsed policy, plan or program. Section 146E states:

The Minister must comply with this Subdivision in deciding:

- a) *Whether or not to approve, under section 146B, the taking of an action or a class of actions in accordance with an endorsed policy, plan or program; and*
- b) *In the case of a decision to approve the taking of such an action or classes of actions, what conditions (if any) to attach to the approval.*

Information on the general and more specific considerations required to be taken into account is below. Suggested conditions are addressed following this discussion.

Relevant matters of national environmental significance

Section 146F(1)(a) requires that you consider:

matters relevant to any matter protected by a provision of Part 3 that the Minister considers is relevant to the approval.

A full discussion of relevant protected matters and impacts from actions associated with the Program, including from the Regional Rail Link, is in the Department's assessment report at Attachment D. The project will impact on listed threatened species and ecological communities (sections 18 and 18A), and potentially on listed migratory species (sections 20 and 20A) and the ecological character of a listed Ramsar wetland (sections 16 and 17B).

More specifically, the Regional Rail Link will impact Natural Temperate Grasslands of the

Victorian Volcanic Plain, Spiny Rice-flower and the Matted Flax-lily. Other listed threatened species potentially affected are the Golden Sun Moth and the Striped Legless Lizard. Tables summarising impacts on the above ecological community and listed threatened species as a consequence of the overall Program are at [Attachment C1](#). Impacts may also occur on the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site and associate listed migratory waterbirds (discussed in this attachment).

Assessment and management of MNES

The Victorian Government has adopted an approach whereby impacts of the Regional Rail Link on listed threatened species and communities are avoided, mitigated and offset.

Seven different rail corridor options were assessed to determine the preferred route. Environmental constraints factored into the assessment process included avoidance of impacts on MNES such as listed grasslands and the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site. Another constraint was to protect waterway and floodplain function, including minimising potential impacts on river health values, riparian zones, surface water quality and stream flows into the Ramsar site. The final alignment has been selected to avoid larger grassland remnants ([Figure 1 at Attachment C](#)).

The Victorian Government has committed in the Program to prepare an Environmental Impact Management Plan (EIMP) to manage the impacts of the Regional Rail Link on MNES. The EIMP will include:

- Details of the results of field surveys of native flora and fauna along the construction footprint of the project (surveys now completed).
- Management of project impacts on MNES.
- Implementation of the MNES prescriptions.
- Offset requirements, including acquisition of offsets and rehabilitation.

The calculation of native vegetation losses and gains, and like for like criteria, must be in accordance with the 'habitat hectare' system as prescribed by Victoria's *Native Vegetation Management Framework 2002*. This framework requires a net gain to be achieved for protection of native vegetation. The primary source of offsets will be the 15,000ha western grassland reserves ([Figure 3 at Attachment C](#)).

Construction will be undertaken in accordance with prescriptions for managing and offsetting impacts on MNES. The prescriptions for listed grasslands, Golden Sun Moth, Matted Flax-lily and Spiny Rice-flower contain provisions whereby clearing of suitable habitat for the species is permitted for infrastructure projects of state significance such as the Regional Rail Link. This means that there is no requirement to retain listed grasslands and species within the construction footprint. The requirements of the endorsed Program and relevant prescriptions in requiring 'like for like' offsets otherwise apply. Based on the information available, the department does not consider that full application of the prescriptions would result in additional requirements for *in situ* reserves, in any case.

Natural Temperate Grasslands of the Victorian Volcanic Plain (NTGVVP)

A summary of the current status, expected impacts and conservation outcomes from the Program for listed critically endangered NTGVVP is in the MNES tables at [Attachment C1](#). Further information is in the department's assessment report for the Program at [Attachment D](#).

According to the SIAR, the Regional Rail Link project will result in the loss of 95ha of

NTGVVP, of which 4ha is high quality, 71ha is medium quality, and 20ha is low quality (where quality is prescribed by Victoria's *Native Vegetation Management Framework 2002*). These losses will be offset as required under the NTGVVP prescription.

The 95ha to be cleared is equivalent to 37 'habitat hectares' under Victorian requirements. A 'habitat hectare' is a measure of both the quality (habitat score) and quantity (hectares) of NTGVVP. The habitat score (representing the quality of the NTGVVP) is based on survey criteria established by DSE. This effectively ranks NTGVVP quality on a scale of 0.0 – 1.0 with 1 being the highest and representing pristine grasslands. The habitat score is multiplied by the number of hectares to derive the total 'habitat hectares' to be cleared. High quality NTGVVP (few weeds or exotics and high biodiversity) typically has habitat scores of 0.6 - 0.9. Low quality NTGVVP (high weed cover, low biodiversity and degraded) typically rates 0.0 - 0.3.

The required offset to achieve a net gain is the 'habitat hectare' value to be cleared times an offset multiplier based on the vegetative class and its scarcity (approx. 2:1 in this case). Applying the prescribed formulae, the NTGVVP offset required for the Regional Rail Link, based on the clearing of 37 'habitat hectares', is 65 'habitat hectares'. This offset may be discharged in a number of ways including through acquisition, rehabilitation or other recognised habitat credits contributing to net gain. As an example, acquisition of 130ha of medium to high quality NTGVVP (with a habitat score of 0.5) in the grassland reserves would meet the offset requirements for the Regional Rail Link based on the above calculations (eg $130\text{ha} \times 0.5 = 65$ 'habitat hectares').

Implementation of the overall endorsed Program will achieve the following key outcomes:

- Two conservation reserves totalling 15,000ha of which 10,000ha is NTGVVP, to be owned and managed by the Victorian Government.
- 20 per cent remaining NTGVVP in the Victorian Volcanic Plains Bioregion (compared to two per cent currently) will be secured in these reserves.
- Additional retention of NTGVVP within the new urban growth areas of 2,674 ha in retained reserves and open spaces.
- Environmental Significance Overlays outside the growth areas will be added to planning schemes for Melton and Wyndham Local Government Areas (where most NTGVVP remains) providing legislative protection for listed grasslands on private farm lands outside the reserves.

Whilst all NTGVVP within the immediate rail corridor is expected to be cleared, the offsets required will contribute to achievement of the above outcomes. Protection of NTGVVP at the bioregional and landscape scale within the proposed western grassland reserves will also secure long term protection for listed species typically associated with this ecological community such as the Golden Sun Moth, Spiny Rice-flower, Striped Legless Lizard and Matted Flax-lily.

The department concludes that impacts of the Regional Rail Link on NTGVVP, while significant, will be adequately offset through the establishment of the grassland reserves. The department believes that the grassland reserve will ensure the future protection and management of NTGVVP, currently threatened by Melbourne's urban expansion, at an ecosystem scale such that survival of the community will be assured. The department considers that this is an important and worthwhile outcome of the Program.

Golden Sun Moth (Synemon plana)

A summary of the current status, expected impacts and conservation outcomes from the Program for the listed critically endangered Golden Sun Moth is in the MNES tables at [Attachment C1](#). Further information is in the department's assessment report at [Attachment D](#).

The Golden Sun Moth is typically associated with NTGVVP and loss of this habitat type may impact on the species. Survey of grasslands potentially impacted by the Regional Rail Link have been completed and have not located populations of this species to date. The following assessment assumes that the 95ha of NTGVVP to be lost provides potential habitat. While the species is listed as critically endangered, intensive surveys over the last five years indicate that it is perhaps more widespread and persistent than envisaged at the time of the listing. The species is cryptic and it is only recently that reliable survey techniques have been developed to systematically locate populations.

Any impacts on the Golden Sun Moth (if present) will be offset in accordance with the prescription for this species and will contribute to the overall conservation outcomes for the endorsed Program. As indicated in the department's assessment report ([Attachment D](#)), the Program's proposed conservation outcomes for the Golden Sun Moth are acceptable. In summary, implementation of the Program and prescription will achieve the following key outcomes:

- Large areas (at least 15,000ha) of permanently protected grassland habitat to the south west of Melbourne will be established and managed in a way that enables the species to be sustained over the long term through a series of connected populations and adaptive management regimes.
- Large areas (1,200ha) of permanently protected grassy woodland habitat to the north of Melbourne.
- Protection of an additional three reserves, known to support important populations of Golden Sun Moth within the new urban growth boundary, totalling 300ha.
- Eighty per cent of highest priority habitats for this species within the Victorian Volcanic Plains Bioregion (confirmed sites contributing most to species persistence as defined in the methodology guiding the prescription for this species) will be permanently protected and managed.
- Greatly improved information on Golden Sun Moth distribution within Victoria, to support important research and management knowledge, as a consequence of the commitment by DSE in the Program to undertake surveys across the Victorian Volcanic Plains Bioregion over the next two years.

The Golden Sun Moth prescription applying to the Regional Rail Link requires the following offsets to be obtained:

- Well connected native vegetation with a confirmed population of Golden Sun Moth (high contribution habitat) will require a 2:1 offset comprising 'like for like' (eg equivalent high contribution habitat (X 2) must be found and protected in secure conservation reserves).
- Well connected exotic vegetation or areas with greater than 25 per cent weed cover with a confirmed population of Golden Sun Moth (medium contribution habitat) will be offset with an equivalent area of *native vegetation* that contains Golden Sun Moth.
- If clearing isolated exotic vegetation or areas with greater than 25 per cent weed cover with a confirmed population of Golden Sun Moth (low contribution habitat) then surveys must be carried out in an area outside the growth areas to confirm the presence of an equivalent area of high contribution habitat. This increases the knowledge of suitable areas available for satisfying offsetting requirements.

Offsets for impacts of the Regional Rail Link on the Golden Sun Moth, if needed, are expected to be sourced from the western grassland reserves. These reserves will protect the highest quality and most extensive native grasslands remaining throughout the Victorian Volcanic Plains Bioregion. Protection of this ecological community at the bioregional and landscape scale within these large conservation reserves will also secure long term protection for the Golden Sun Moth.

Spiny Rice-flower (Pimelea spinescens subsp. spinescens)

A summary of the current status, expected impacts and conservation outcomes from the Program for the listed critically endangered Spiny Rice-flower is in the MNES tables at [Attachment C1](#). Further information is in the department's assessment report at [Attachment D](#).

The Spiny Rice-flower is typically associated with NTGVVP and loss of this habitat type may impact on the species. Survey of grasslands potentially impacted by the Regional Rail Link have been completed and have located 19 individual plants. The following assessment assumes that the 95ha of NTGVVP to be lost provides potential habitat.

Impacts on the Spiny Rice-flower will be offset in accordance with the prescription for this species and will contribute to the overall conservation outcomes for the endorsed Program. As indicated in the department's assessment report ([Attachment D](#)), the Program's proposed conservation outcomes for the Spiny Rice-flower are acceptable. In summary, implementation of the Program and prescription will achieve the following key outcomes:

- Large areas (at least 15,000ha reserve) of permanently protected grassland habitat will be established and managed in a way that enables the species to be sustained over the long term through a series of connected populations and adaptive management regimes.
- Eighty per cent of highest priority habitats for this species within the Victorian Volcanic Plains Bioregion (confirmed sites contributing most to species persistence as defined in the methodology guiding the prescription for this species) will be permanently protected and managed.
- Protection of four of the seven known populations of more than 200 plants (two of these are currently protected and the remaining population falls outside the Program area).

The Spiny Rice-flower prescription applying to the Regional Rail Link requires that the following offsets be obtained:

- Native vegetation with a confirmed population of Spiny Rice-flower (high contribution habitat) will require a 2:1 offset comprising 'like for like' (eg equivalent high contribution habitat (X 2) containing populations of Spiny Rice-flower must be found and protected in secure conservation reserves).

The prescription also requires that, prior to clearing of individual plants, a fully funded propagation and translocation plan be prepared and implemented to the satisfaction of DSE. Translocation must follow the Translocation Protocol prepared by the *Pimelea spinescens* Recovery Team (Mueck 2009) (or as updated) or the *Guidelines for the Translocation of Threatened Plants in Australia*, 2nd Edition (or as updated).

Offsets for impacts of the Regional Rail Link on the Spiny Rice-flower are expected to be sourced from the western grassland reserves. These reserves will protect the highest quality and most extensive native grasslands remaining throughout the Victorian Volcanic Plains Bioregion. Protection of this ecological community at the bioregional and landscape

scale within these large conservation reserves will also secure long term protection for the Spiny Rice-flower. The department considers that this outcome is highly desirable.

Striped Legless Lizard (Delma impar)

A summary of the current status, expected impacts and conservation outcomes from the Program for the listed vulnerable Striped Legless Lizard is in the MNES tables at Attachment C1. Further information is in the department's assessment report at Attachment D.

The Striped Legless Lizard is typically associated with NTGVVP and loss of this habitat type may impact on the species. Survey of grasslands potentially impacted by the Regional Rail Link have been completed and have not located populations of this species to date. The following assessment assumes that the 95ha of NTGVVP to be lost provides potential habitat.

Impacts on the Striped Legless Lizard, if present, will be offset in accordance with the prescription for this species and will contribute to the overall conservation outcomes for the endorsed Program. As indicated in the department's assessment report (Attachment D), the Program's proposed conservation outcomes for the Striped Legless Lizard are acceptable. Implementation of the Program and prescription will achieve the following key outcomes:

- Large areas (at least 15,000ha reserves) of permanently protected grassland habitat will be established and managed in a way that enables the species to be sustained over the long term through a series of connected populations and adaptive management regimes.
- Large areas (1,200ha) of permanently protected grassy woodland habitat will be established and managed in a way that enables Striped Legless Lizard to be sustained.
- A series of reserves and other managed areas will be established such that viable populations are maintained across the known metropolitan distribution of the species.
- A program of research and monitoring will be undertaken to provide a basis for adaptive management of the Striped Legless Lizard in the grassland reserves.

The Striped Legless Lizard prescription applying to the Regional Rail Link requires offsets for all permitted clearing if the species is present. Offsets will be 'like for like' habitat containing populations of Striped Legless Lizard habitat and are expected to be sourced from the grassland reserves. The required offsets will include a monetary premium specifically to assist with the targeted management and monitoring of the species in the reserve areas.

The grassland reserves are yet to be fully surveyed for this species, however, substantial populations are expected to exist based on modelling, habitat availability and its presence in adjacent and nearby similar habitats. Ongoing surveys have found populations in two locations to date.

The prescription also requires that, if individual Striped Legless Lizards occur within an area of habitat that will be cleared, a fully costed salvage and translocation plan must be prepared to the satisfaction of the DSE and following any protocols agreed between DSE and the National Recovery Team. This requirement can be waived by the DSE in particular situations and following advice from the National Recovery Team. Any translocation attempted must be fully documented and monitored.

The Striped Legless Lizard is associated with NTGVVP and protection of this ecological community at the bioregional and landscape scale will also secure long term protection of suitable habitat for this species. The Striped Legless Lizard is particularly vulnerable to edge effects and one-off catastrophic occurrences that may affect smaller urban reserves, and is not likely to persist in such circumstances. Implementation of the Program will secure a substantive net gain in protection and conservation of the species and its habitat.

Matted Flax-lily (Dianella amoena)

A summary of the current status, expected impacts and conservation outcomes from the Program for the listed endangered Matted Flax-lily is in the MNES tables at [Attachment C1](#). Further information is in the department's assessment report at [Attachment D](#).

This species is more typically associated with the Grassy Eucalypt Woodland of the Victorian Volcanic Plain ecological community which does not occur within the corridor for the Regional Rail Link. However, the species does occur in suitable habitat associated with the NTGVVP (typically well watered and sunny areas often associated with road edges and fence lines). Targeted surveys along the construction footprint have located the presence of an individual specimen. The following assessment makes the conservative assumption that the 95ha of NTGVVP to be lost provides potential habitat.

Impacts on the Matted Flax-lily will be offset in accordance with the prescription for this species and will contribute to the overall conservation outcomes for the endorsed Program. As indicated in the department's assessment report ([Attachment D](#)), the Program's proposed conservation outcomes for the Matted Flax-lily are acceptable. Implementation of the Program and prescription will achieve the following key outcomes:

- Large areas (1,200ha) of permanently protected grassy woodland habitat managed in a way that enables Matted Flax-lily to be sustained over the long term through a series of connected populations and adaptive management regimes.
- Large areas (at least 15,000ha reserve) of permanently protected grassland habitat will be established and managed in a way that *potentially* enables the species to be sustained over the long term (surveys are yet to be undertaken to confirm that the species is present).
- Eighty per cent of highest priority habitats for this species within the relevant bioregions (confirmed sites contributing most to species persistence as defined in the methodology guiding the prescription for this species) will be permanently protected and managed.
- An additional 600ha network of grasslands, grassy woodlands and riparian corridors will be retained in the northern growth zone (where the species is most likely to occur), with further surveys and sympathetic management for the species.

The Matted Flax-lily prescription applying to the Regional Rail Link requires the following offsets:

- Native vegetation with a confirmed population of Matted Flax-lily (high contribution habitat) will require a 2:1 offset comprising 'like for like' (eg equivalent high contribution habitat (X 2) containing populations of Matted Flax-lily must be found and protected in secure conservation reserves).

The prescription also requires implementation of a fully costed translocation and propagation plan to ensure protection of genetic stock where clearing is allowed. The species is amenable to translocation which has occurred at a number of sites in the Melbourne region. Plants are to be translocated to areas of suitable habitat within secure conservation reserves (either on or off site), preferably to the proposed northern grassland woodland reserve unless a better outcome is likely to be achieved elsewhere. Translocation must follow the *Guidelines for the*

Translocation of Threatened Plants in Australia, 2nd Edition (or as updated).

The department considers that the impacts of the Regional Rail Link on the Matted Flax-lily are acceptable and will not result in significant population loss at the local, regional, state or national scale. Implementation of the Program will secure a net gain in protection and conservation of the species.

Other EPBC Act Listed Species

The following listed species have been recorded from within 5km of the study area or may otherwise occur in the Program area:

- Small Golden Moth *Diuris basaltica* (endangered)
- Sunshine Diuris *Diuris fragrantissima* (endangered)
- Button Wrinklewort *Rutidosia leptorhynchoides* (endangered)
- Clover Glycine *Glycine latrobeana* (vulnerable)
- Fragrant Leek-orchid *Prasophyllum suaveolens* (vulnerable)
- Large-headed Fireweed *Senecio macrocarpus* (vulnerable)
- Plains Wanderer *Pedionomus torquatus* (vulnerable)
- Australian Painted Snipe *Rostratula australis* (vulnerable)
- Yarra Pygmy Perch *Nannoperca obscura* (vulnerable)
- Australian Grayling *Prototroctes maraena* (vulnerable)

Targeted surveys to date have not located these species within the anticipated construction footprint for the Regional Rail Link and impacts are not expected. In the event any such species are located, and are potentially impacted, a prescription will be developed by DSE to manage impacts on the species. This must be approved by the Minister prior to any impacts being permitted.

Conclusion on listed species and ecological communities

Construction associated with the Regional Rail Link will result in loss of 95ha of listed NTGVVP and potential habitat for listed grassland species (Golden Sun Moth, Spiny Rice-flower, Striped Legless Lizard and Matted Flax-lily). The presence of Spiny Rice-flower and Matted Flax-lily in areas to be cleared has been confirmed through surveys. The final alignment of the rail corridor has been sited to avoid larger patches of NTGVVP and further avoidance is not possible without significant constraints on future urban expansion.

The loss of NTGVVP and associated habitat for listed species will be offset in accordance with Victoria's *Native Vegetation Management Framework 2002* and prescriptions for the MNES approved by the Minister. This will result in a substantive 'Net Gain' in the conservation and protection of the relevant MNES. Offsets are expected to be provided within the 15,000ha grassland reserve to the south-west of Melbourne and the 1,200ha grassy woodland reserve to the north of Melbourne. The creation of these large conservation reserves will secure long term protection for populations and suitable habitat for the ecological community and species impacted by the project. The department considers that impacts of the Regional Rail Link on listed threatened species and communities will be acceptable provided the project is implemented in accordance with the Program.

Wetlands of International Importance

The Regional Rail Link will not have direct impacts on the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site. The rail corridor runs through the catchment for the Avalon-Werribee and Point Cook Marine Reserve sections of the

Ramsar site and there is potential for indirect impacts through runoff and sedimentation during construction. The key ecological character of these sections of the Ramsar site relate to values for migratory birds. The Avalon-Werribee section, in particular, contains the Melbourne Water Corporation Sewage Farm and Western Treatment Plant which seasonally supports important populations of migratory birds.

The main potential for impact is at bridge crossings of the Werribee River and Lollypop Creek (about 5km upstream of the Avalon-Werribee section of the Ramsar site) and Skeleton Creek (about 7km upstream of the Point Cook section of the Ramsar site). The Program states that bridge and rail construction will meet required state prescriptions to minimise land disturbance, soil erosion and discharge of sediments. Necessary measures will be incorporated into the Environmental Impact Management Plan (EIMP) to be prepared to manage the impacts of the Regional Rail Link on MNES.

The department notes that the catchments for the potentially affected sections of the Ramsar site include urban, semi-urban and rural lands already subject to disturbance. Construction will occur some distance from the Ramsar sites and will be managed to control sedimentation and runoff risks. In these circumstances, the department concludes that impacts on the ecological character of the Ramsar sites are not expected or likely.

Listed Migratory Species

Specialist flora and fauna reports identified the potential occurrence of 31 migratory bird species in the Program area. The report concluded that none of these species were likely to utilise the railway corridor and would therefore not be directly impacted. The potential may exist for indirect impacts through sedimentation affecting the downstream Avalon-Werribee section of the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site. As noted above, impacts on the ecological character of the Ramsar site, including values for listed migratory waterbirds, are not expected or likely.

Legal considerations – general considerations (economic and social matters)

Section 146F(1)(b) requires that you consider economic and social matters in deciding whether to approve actions under a Program and in setting conditions. The following discussion draws on the SIAR reports for the Program and the Regional Rail Link, and the department's assessment report (all documents are at Attachment D).

Economic and social matters

The proposed Regional Rail Link will provide significant economic and social benefits for Melbourne, particularly for the new communities in Melbourne's west within the expanded urban growth boundary and Victorian regional cities such as Geelong, Ballarat and Bendigo. Construction of the \$4.1 billion project over a five year period will provide significant employment benefits and contribute to economic development at the state and national level.

From a policy perspective, the state government committed to establishing the new rail corridor in *Meeting Our Transport Challenges* in 2006. The Regional Rail Link was also identified in the *Victorian Transport Plan 2008* as a nation building project within the overall \$38 billion plan to deliver a sustainable long-term transport network for Victoria. In May 2009, the Australian Government confirmed Commonwealth funding through the *Building Australia Fund* of \$3.2 billion. Combined with Victorian funding, the \$4.1 billion project will be the largest rail project in Victoria since the railways were originally built and electrified.

The project is in part a response to the significant growth in the amount of people utilising

trains, with 70 per cent growth in the last decade including 40 per cent growth in the last three years. This increase in train usage has seen even higher growth for trains that serve Melbourne's western and northern suburbs. The project is expected to double the capacity of the overall metropolitan rail network in servicing Geelong, Ballarat, Bendigo, Werribee, Craigieburn and Sunbury, as well as the new Melton/Wyndham growth areas that form part of the Program.

The project will allow separation of regional and suburban trains in western Melbourne that will reduce the level of congestion and inefficiencies that are currently experienced in the existing lines. It will provide improved capacity, reliability and shorter travelling times, particularly during peak hours.

According to the Victorian Government, economic and social benefits from the Regional Rail Link include:

- Improved access to opportunities for employment, education and services, particularly disadvantaged members of the community including people on low incomes, with disability, the young or the elderly.
- Integration of transport networks and urban development.
- Reduced costs in maintaining road infrastructure.
- Reduced household costs for transportation and car ownership.
- Encouraging healthy forms of transport by promoting cycling and walking to and from the public transport infrastructure areas.
- Improving linkages to Melbourne's open spaces.
- New retail and business hubs will be established in the new train station sites, providing local employment opportunities, and an agglomeration of supportive business activities.
- Resilience to fluctuations in the cost of automotive transport such as oil prices.

Planning Benefits

The Regional Rail Link will be an integral part of urban growth within the Melton and Wyndham growth areas. The new railway and its stations will provide the central focal point for planning and development of Precinct Structure Plans. According to the Victorian Government, this will lead to communities which are better placed to utilize public transport, and reduction in the dependence on cars and existing road networks.

Stations will initially be located at Manor Lakes in Wyndham Vale and Derrimut Road in Tarneit. Depending on future urban growth in the surrounding areas, additional stations are planned at Dohertys Road in Truganina, Davis Road in Tarneit and near Sewells Road in Tarneit (Figure 1 at Attachment C).

The proposed railway stations will serve as catalysts for higher-density, mixed-use regional centres that will accommodate employment, residential, community and other land uses. Typically the railway station will be at the core of each regional centre. Precinct planning will typically include high density development within walking distance of the stations (800m). According to the SIAR, such higher density development will provide substantive transport, social, economic and environmental benefits.

The Regional Rail Link may also contribute to reducing car dependence in the new Melton/Wyndham growth areas, particularly for trips to the Melbourne Central Business District (CBD). It will encourage regional centres where less vehicle travel is needed and it will integrate with on-road public transport networks to serve residential and industrial

areas beyond the activity centres. Cycling and walking tracks are proposed on either side of the new railway to facilitate access between stations and activity centres.

Community Impacts

The Regional Rail Link has the potential to cause social disruption through property acquisition. The footprint of the project will partially affect a total of 68 properties. The planning of the alignment has avoided impacts on major development such as established urban areas, residential dwellings and extractive industries. According to the Victorian Government, affected landowners are protected by appropriate legislation to ensure that they will be fairly compensated as a result of the project.

The Regional Rail Link also has the potential to disrupt social linkages including major transport infrastructure. The alignment has been planned to maintain existing road links, and construction will bridge most crossings where possible. Cycle and pedestrian crossings will also be provided as long term urban growth surrounds the corridor.

Cultural Heritage Impacts

The Regional Rail Link will intersect with sites of aboriginal and cultural heritage including:

- Areas of aboriginal cultural sensitivity (defined as 100m either side of watercourses) including Doherty's Creek, Skeleton Creek, Werribee River and Lollypop Creek.
- Aboriginal cultural heritage sites - three surface scatters of stone artefacts.
- Victorian heritage inventory (of archaeological interest at state level) – one dry stone wall at Ravenhall.
- Heritage overlay places – the railway will start within 100m of the Truganina Cemetery.

A cultural heritage management plan will be prepared before construction to guide the management and reduction of impacts on any extant cultural heritage sites.

Conclusion

The proposed Regional Rail Link will provide considerable economic and social benefits for Melbourne's west and the wider state economy. Construction of this major railway infrastructure prior to new urban development will incur significant benefits in terms of planning for higher density development and reducing reliance on private car travel to the Melbourne CBD.

Legal considerations – general considerations (ecologically sustainable development)

Section 146F(2) requires that you take into account the principles of ecologically sustainable development (ESD) in deciding whether to approve actions under a Program and in setting conditions. ESD principles are defined at section 3A of the EPBC Act. The following discussion draws on the SIAR reports for the Program and the Regional Rail Link, and the department's assessment report (all documents are at [Attachment D](#)).

Decision making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations.

The SIAR describe how the Victorian Government has integrated both short and long-term economic, environmental, social and equity considerations into the strategic planning process for the long term development of Melbourne of which the Regional Rail Link is one element.

The Victorian Government's economic considerations include the ongoing provision of land and housing supplies to meet projected demand resulting from Melbourne's increasing population. The demand for affordable housing is a key driver behind the expansion of the

urban growth boundary addressed by the Program. The Regional Rail Link is a key component of the state government's plan to integrate public transport with urban expansion (*Victorian Transport Plan*). The development of transport projects associated with the Program, including the Regional Rail Link, will provide a diversity of options for commuters as well as increasing the capacity of metropolitan rail lines to accommodate an increase in public transport users. It will also enable freight movement to proceed more efficiently between major freight terminals located within Melbourne and Geelong.

The proposed Regional Rail Link demonstrates consideration of the environment through appropriate route selection and mitigation of impacts on MNES through prescriptions approved by the Minister. This will ensure a net gain in the protection and conservation of affected MNES through mandated offsets. These offsets are integral to the creation of the large grassland and woodland reserves which will provide protection at the landscape and ecosystem scale.

That if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

The Program includes a number of activities and commitments to reduce uncertainty and risks of unanticipated environmental degradation, including:

- The proposed railway route has been selected to minimise habitat and vegetation loss.
- Further targeted flora and fauna surveys are being undertaken to establish the precise impacts on key species, and determine whether additional prescriptions will be required.
- Mandatory offset measures are being adopted through the implementation of the prescriptions. These will contribute to the creation of large contiguous reserves legally protected from development and managed for conservation in a consistent manner.
- The new reserves are of sufficient landscape and ecosystem scale to ensure protection of MNES against uncertainty from climate change and other predictive scenarios.
- The focus on achieving conservation gains in targeted areas containing the best quality NTGVVP remaining in proximity to Melbourne will lead to improved long-term outcomes compared with the existing approach of *ad hoc* offsetting requirements generated by individual development actions.
- Commitment to an ongoing regime of monitoring, auditing and reporting requirements that are designed to lower the risk of environmental damage.
- Results of reporting will be utilised in the adaptive management framework to be agreed between the Australia and Victorian Governments.
- Best practice design for crossing waterways will be adopted to protect aquatic habitats and minimise runoff.

The principle of inter-generation equity- that the present generation should ensure the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.

To ensure the maintenance and enhancement of the environment, the Victorian Government aims to manage native vegetation to achieve a net gain in vegetation quality. The temporal scale of the Program, and the application of adaptive management commitments, provides the opportunity to increase the security provided to broader biodiversity across the Victorian landscape over time.

Offsets from the Regional Rail Link will contribute to the creation of large integrated conservation reserves across the greater Melbourne region covering 16,200ha. In addition,

riparian corridors and other open spaces will be retained within the new suburbs to be established under the Program to contribute to maintenance of key environmental assets. Environmental Significance Overlays and targeted conservation zoning will be placed on additional good quality native grassland habitats outside the Program area to ensure continued maintenance and enhancement of these areas for the benefit of future generations.

As previously discussed, large well managed reserves provide landscape-scale improvement and benefits for individual species through allowing free movement and preventing isolation from further disturbance. Smaller patches are considered to be more at risk to invasion and degradation by exotic species, urban edge effects and management limitations. However, areas providing high ecological function services will be protected and managed to maintain the health and diversity of specific MNES across the landscape. Combined with integrated management these areas will facilitate optimal outcomes for MNES in the long term.

The endorsed Program, of which the Regional Rail Link is a part, establishes statutory and policy mechanisms and committed funding under which the majority of conservation activities will be achieved. Monitoring, reporting and adaptive management will provide an opportunity for improved environmental outcomes to be achieved as ecological systems are better understood over time.

The conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making.

Selection of the Regional Rail Link route considered biological diversity and ecological integrity principles in deciding the final route. The final route avoids larger and more ecologically functional areas of native grasslands, including areas of high ecological significance west towards Mount Cottrell. The Program's planning framework of legislation and integrated biodiversity strategies provides a sound basis for addressing biodiversity and ecological integrity in planning for Melbourne's urban expansion.

The Regional Rail Link also contributes to the conservation of biological diversity and ecological integrity through the implementation of the offsetting measures contained within the prescriptions which will contribute to the creation of the proposed western grassland reserves. These large scale reserves will provide ongoing protection and management in perpetuity of the key biological and ecological values of the landscape that is impacted by Melbourne's urban expansion.

Improved valuation, pricing and incentive mechanisms should be promoted.

The Regional Rail Link project will utilise the Victoria's well established *Native Vegetation Management Framework 2002* to determine offset values. This offsetting approach is a metric based environmental valuation method that provides detailed information on the gains or losses of ecological characteristics. By knowing the values of the environment prior to impacts, the Victorian Government can calculate the expected loss to occur as a result the program and establish an area for net conservation gain.

The existing Bush Broker mechanism will be used in establishing the required offsets. Bush Broker creates, advertises and sells native vegetation credits (offsets) generated by environmental improvements made elsewhere. The calculation of losses and gains in native vegetation and required offsets will be in accordance with Victoria's *Native Vegetation Management Framework 2002*. Through the Bush Broker system the Victorian Government will offer native vegetation credits for sale to developers, with the proceeds

progressively funding the establishment and ongoing management of the western grassland reserves. Prior to the necessary acquisition overlays for the proposed western grassland reserves being in place, DSE will act as a broker for developers by calculating offsets required in accordance with the prescriptions and the Program, and will accept receipt of the required funds from developers. These funds will be held in trust and will then be used by Bush Broker to purchase offset lands in the new grassland reserves.

The approved prescription requirements for offsetting incorporate the valuation and pricing of environmental impacts and creates an incentive for developers to minimise the extent of impacts due to the cost associated with securing and managing suitable offsets. The requirement to secure necessary offset values before impacts are authorised also provides an incentive to retain higher value environmental assets rather than offset them, if they would prove difficult, time consuming or expensive to locate or secure.

The Victorian Government has committed to commencing the acquisition of the grassland reserves, with a view to being able to establish a “bank” of offsets from which developers can more efficiently secure the necessary offset values. This approach represents an innovative method to simultaneously deliver on conservation outcomes and improve the efficiency of development approval processes.

Conclusion

The Program integrates existing state processes and Australian Government requirements under the EPBC Act to deliver a landscape scale gain in protection and conservation of critically endangered native grasslands and associated protected species. The integrated approach will deliver new reserves for the benefit of future generations.

Legal considerations - Approvals relating to protected matters

Sections 146G to 146M describe additional requirements for decision-making relating to protected matters. Sections 146G (World Heritage properties), 146H (National Heritage places) 146M (nuclear actions) are not relevant to the Program and are not considered further.

Approvals relating to declared Ramsar wetlands

Section 146J requires:

If the approval relates to a declared Ramsar wetland, the Minister must not act inconsistently with Australia’s obligations under the Ramsar Convention.

The Regional Rail Link will not have direct impacts on the ecological character of the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site. As discussed previously, the potential may exist for indirect impacts through construction works within the catchments for the Avalon-Werribee and Point Cook Marine Reserve sections of the Ramsar site. Construction will occur some 5 – 7km upstream of the Ramsar sites within the urbanised and semi-rural catchments. Significant adverse impacts on the ecological character of the Ramsar sites are not expected or likely.

Approval of actions associated with the Regional Rail Link project under the Program will not be inconsistent with Australia’s obligations under the Ramsar Convention.

Approvals relating to listed threatened species and ecological communities

Section 146K(2) requires:

The Minister must not act inconsistently with:

(a) Australia's obligations under:

- (i) the Biodiversity Convention; or*
- (ii) the Apia Convention; or*
- (iii) CITES; or*

(b) a recovery plan for the species or community or a threat abatement plan.

The Regional Rail Link is not inconsistent with Australia's obligations under the Biodiversity Convention, the Apia Convention or CITES because the project aims to avoid high biodiversity sites, mitigate impacts on listed threatened species and ecological communities and offset losses of native vegetation and species to achieve a net gain in conservation and protection of biodiversity.

Natural Temperate Grassland of the Victorian Volcanic Plain (NTGVVP)

There is no current recovery, or draft recovery, plan for NTGVVP. The NTGVVP advice prepared by the Threatened Species Scientific Committee (TSSC) at the time of listing recommended that 'there be a bioregional plan for the Victorian Volcanic Plain as a strategic initiative'. The committee advice also states that the conservation value of a patch of the ecological community is enhanced if it shows any of the following features:

- A high native plant species richness;
- Large patch size;
- Minimal weed invasion;
- Presence of threatened plant and/or animal species;
- Presence of natural exposed rock platforms and outcrops; or
- Presence of mosses, lichens or a soil crust on the soil surface.

The endorsed Program and resultant strategic identification, protection and management of the 15,000ha grassland reserve areas is consistent with the TSSC advice recommending a bioregional approach to protection. The reserves will provide for the protection of the highest quality patches of the NTGVVP ecological community consistent with the conservation values described by the TSSC above. Development of the Regional Rail Link will result in loss of 95ha of NTGVVP, but is not inconsistent with conservation advices made by the TSSC.

Golden Sun Moth

There is not currently a national recovery plan under the EPBC Act or other relevant conservation advice issued by the TSSC for Golden Sun Moth. The department has prepared and published significance threshold guidelines to assist developers and other stakeholders determine when referral under the EPBC Act is likely to be required. These only relate to significance thresholds for referral of individual projects under the EPBC Act.

Spiny Rice-flower

A national recovery plan has been prepared for the Spiny Rice-flower under the EPBC Act (12 December 2006). The stated goal of the plan is to minimise the probability of extinction of the species in the wild and to increase the probability of important populations becoming self-sustaining in the long term. More specific objectives are stated as:

- Acquisition of accurate information for conservation status assessments.
- Identification of habitat that is critical, common or potential.
- Ensuring that all populations and their habitat are protected and managed appropriately.
- Management of threats to populations.

- Identification of key biological functions.
- Determination of the growth rates and viability of populations.
- Building community support for conservation.

The Regional Rail Link component of the endorsed Program is consistent with the goals of the recovery plan in that its implementation will contribute to the protection of known self-sustaining populations in the grassland reserves as well as an additional four grassland areas currently supporting more than 200 plants. The surveys to be undertaken by DSE and the Growth Areas Authority will provide accurate information for conservation status assessments and identification of habitat that is critical, common or potential (the endorsed Program has developed and utilised a methodology meeting this objective). The endorsed Program will also manage threats to populations and identify key biological functions through management of the grassland reserves.

The recovery plan also states that all populations and their habitat should be protected. While the recovery plan does not define a population, the recovery team has advised that such a population might comprise 20 or more individual plants. Based on surveys to date, the Regional Rail Link will result in loss of 19 plants. Arguably, construction of the Regional Rail Link is inconsistent as it will result in the clearing of 95ha of potential habitat. In the department's view, this unavoidable loss will be appropriately offset such that there is a net gain in the conservation and protection of the Spiny Rice-flower.

The department considers that development of the Regional Rail Link will contribute to the conservation outcomes under the Program for the Spiny Rice-flower and that these outcomes are consistent with the intent and key goals of the recovery plan.

Striped Legless Lizard

A national recovery plan has been prepared for the Striped Legless Lizard under the EPBC Act (16 July 2000). The stated primary conservation goal is to ensure the long-term survival of the Striped Legless Lizard and to maintain its potential for evolutionary development in the wild across its natural geographic range. The key objective is to ensure viable populations or cluster populations are represented and maintained in reserves or appropriately managed sites across the known distribution of the species.

More specific objectives include:

- Determine the current distribution and abundance of the Striped Legless Lizard in Victoria, New South Wales, the Australian Capital Territory and South Australia.
- Establish a series of reserves and other managed areas such that viable populations are maintained across the known distribution of the species.
- Determine the habitat use and ecological requirements of Striped Legless Lizard.
- Identify the nature and extent of threatening processes affecting Striped Legless Lizard.
- Undertake a program of research and monitoring to provide a basis for adaptive management of Striped Legless Lizard.
- Assess the need for salvage and translocation, determine their feasibilities, develop protocols and undertake a trial translocation if appropriate.

Development of the Regional Rail Link is not inconsistent with the draft recovery plan. The endorsed Program addresses goals of the recovery plan in that it will ensure the protection of self-sustaining populations in the grassland reserves at a scale allowing for evolutionary development in the wild. The endorsed Program will also manage threats to populations and identify key biological functions through management of the grassland reserves. The

prescription requires 'best practice' salvage and relocation plans to be implemented and requires a premium offset specifically to advance scientific knowledge and management of the species.

Matted Flax-lily

There is currently no national recovery plan for the Matted Flax-lily under the EPBC Act, although a draft plan is currently on exhibition for public comment (prepared October 2008 with comments closing 12 April 2010). The stated objective of the draft plan is to minimise the probability of extinction of the Matted Flax-lily in the wild and to increase the probability of populations becoming self-sustaining in the long term. Other stated objectives include:

- Determining distribution, abundance and population structure.
- Determining habitat requirements.
- Managing threats to populations.
- Identifying key biological functions.
- Determining growth rates and viability of populations.
- Establishing a population in cultivation.

Development of the Regional Rail Link is not inconsistent with the draft recovery plan. Outcomes for the endorsed Program and Matted Flax-lily prescription are consistent with the objective of minimising risks of extinction and securing self-sustaining populations through the establishment of large reserves. The Program and prescription, through the requirements for surveys, will contribute to knowledge about distribution, populations structures, habitat requirements, management of threats and cultivation of populations.

Approvals relating to listed migratory species

Section 146L requires:

If the approval relates to a listed migratory species, the Minister must not act inconsistently with whichever of the following conventions or agreements because of which the species is listed:

- (a) *the Bonn Convention;*
- (b) *CAMBA;*
- (c) *JAMBA;*
- (d) *an international agreement approved under subsection 209(4).*

Specialist flora and fauna reports identified the potential occurrence of thirty-one migratory bird species listed under CAMBA and JAMBA in the Program area (attached reports). The report concluded that none of these species were likely to utilise the railway corridor and would therefore not be directly impacted. The potential may exist for indirect impacts through sedimentation affecting the downstream Avalon-Werribee section of the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site. As noted above, impacts on the ecological character of the Ramsar site, including values for listed migratory waterbirds, are not expected or likely. Therefore, the department considers that a decision to approve the Regional Rail Link is not inconsistent with the Bonn Convention, CAMBA, JAMBA or an international agreement approved under subsection 209(4).

Legal considerations – other requirements

Section 391A states that you must have regard to information in the Register of the National Estate kept under the *Australian Heritage Council Act 2003* in making any decision under the EPBC Act to which the information is relevant.

There are twelve sites listed on the Register of the National Estate within the area covered by the Program, and an additional eight “indicative” places. None of these places are expected to be directly or indirectly impacted by development of the Regional Rail Link

Legal considerations – conditions of approval

Sections 146B(2)(e) and 146E(b) provide for you to add conditions to an approval for actions or classes of actions under an endorsed Program. Considerations to be taken into account in deciding what conditions (if any) to attach to an approval have been discussed above.

The department considers that the commitments and undertakings within the Program are appropriate in ensuring adequate protection of MNES. However, additional approval conditions are considered appropriate in addressing the following matters:

- Reinforcement of the Program requirement to ensure approval and implementation of MNES prescriptions prior to construction (particularly to reinforce requirements for protection of listed species found in ‘non native’ vegetation, to clarify requirements for new prescriptions if additional listed species are found during detailed flora and fauna surveys, and to ensure an appropriate role for the Australian Government and DSE).
- Ensure that the Australian Government has a role in considering and approving the Environmental Impact Management Plan (EIMP) which is the key vehicle for managing MNES impacts from the Regional Rail Link project.
- Ensure appropriate monitoring and reporting to the Australian Government on any construction for the Regional Rail Link commencing in 2010 prior to implementation of the formal reporting requirements for the overall Program (to commence by early 2011).

Victoria legislation does not provide for protection of ‘non-native’ vegetation. MNES prescriptions requiring protection of ‘non native’ habitat for listed species therefore do not have a state legislative underpinning. This means that the compliance with such requirements could be successfully challenged by developers. The species potentially affected are the Golden Sun Moth and, to a lesser extent, the Spiny Rice-flower and Matted Flax-lily. While these species are usually associated with NTGVVP, the Golden Sun Moth has been recorded in grasslands with a high proportion of exotics, including Serrated Tussock, that do not meet the requirements for the listed NTGVVP.

The approval conditions make it clear that developers must comply with the MNES prescriptions to gain the benefits of an approval under the Program and provides the legislative underpinning for the prescriptions if clearing of ‘non-native’ habitat is required. If developers do not comply, they risk breach of the EPBC Act or will need to go through a separate referral, assessment and approval process (which will result in a requirement to comply with the MNES prescriptions in the Program, in any case, on top of any other requirements).

As explained earlier in this document, the department received comment from Victorian agencies on the draft conditions. The table at [Attachment B](#) summarises the comments received and any subsequent changes to the wording of the final approval notice and conditions (at [Attachment A](#)).

Proposed conditions are in the final decision notice at [Attachment A](#). Further information on the suggested conditions is in the table below.

Table: Explanation of final conditions

No.	Description	Rationale
1	The person(s) taking the action must undertake the action in accordance with the endorsed program as set out in the document <i>Delivering Melbourne's Newest Sustainable Communities Program Report</i> , Victorian Government, December 2009.	<ul style="list-style-type: none"> ▪ This allows application of s142 (civil and criminal penalties) and s143 (variation of conditions) thereby increasing options for compliance responses or variation of Program requirements.
2	The person(s) taking the action must undertake the action in accordance with the prescriptions required under the Program for protection of matters of national environmental significance (MNES) that may be impacted by the action. Each prescription must be approved by the Minister prior to commencement of any activity that may impact on the subject MNES. All relevant approved prescriptions must be implemented to the satisfaction of the Victorian Department of Sustainability and Environment.	<ul style="list-style-type: none"> ▪ This condition removes any doubt that works must be in accordance with the MNES prescriptions even if mitigation or offset is required for clearing of 'non-native' vegetation that forms habitat for listed species (and which is not a normal legal requirement under existing state laws). ▪ This condition ensures that, if any new prescriptions are developed after this approval is given, then the new prescription must also be implemented to actions not yet undertaken. ▪ This ensures that failure to act in accordance with the approved prescriptions may be considered a breach of condition and not just simply a failure to act in accordance with the endorsed Program. ▪ The condition also ensures that any dispute between developers and DSE about interpretation of the prescriptions must be resolved to the satisfaction of DSE (in the event of VCAT or other challenges).
3	The person(s) taking the action must submit draft Regional Rail Link Ecological Impact Management Plan(s) (EIMPs), as required under the endorsed Program, to the Minister for approval. Each EIMP (whether submitted for staged works or for the entirety of works associated with the project) must be approved by the Minister prior to commencement of the relevant works. The approved plans must be implemented.	<ul style="list-style-type: none"> ▪ The Program only requires Victoria to 'consult' with the Australian Government in preparing the EIMPs. This condition provides a more meaningful approval role. ▪ This condition also allows for the submission and/or approval of staged EIMP's.
4	At a minimum, the EIMPs must: <ul style="list-style-type: none"> a. Provide the results of targeted field surveys of native flora and fauna along the construction footprint of the proposed action. b. Identify measures to mitigate the impacts of the Regional Rail Link on MNES. c. Identify the outcomes of the implementation of the MNES prescriptions. d. Identify how offset requirements will be achieved. e. Identify measures to manage stormwater run-off from the Regional Rail Link to avoid any adverse impacts on the ecological character of the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site. f. Identify measures to implement a regime of monitoring, reporting and evaluation of the outcomes and ongoing management of the impacts of the Regional Rail Link on MNES. 	<ul style="list-style-type: none"> ▪ This condition reinforces what the Program states the EIMP will achieve, providing a minimum benchmark, and to ensure the conditions are stand alone as far as possible. ▪ This condition also specifies that management of stormwater must be managed to avoid adverse impacts on the ecological character of the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula site.

5	If the person taking the action wishes to carry out any activity otherwise than in accordance with the EIMPs, the person taking the action must submit for the Minister's approval a revised version of any such plan. If the Minister approves such a revised plan, the plan must be implemented in place of the plan originally approved.	<ul style="list-style-type: none"> ▪ Standard condition to provide for approved variations to EIMPs.
6	If the Minister believes that it is necessary or desirable for the better protection of MNES to do so, the Minister may request that the person(s) taking the action make specified revisions to the relevant EIMP and submit the revised plan for the Minister's approval. The person(s) taking the action must comply with any such request. The revised EIMP must be implemented.	<ul style="list-style-type: none"> ▪ Standard condition to provide for the Minister to vary the EIMPs.
7	Within one month of the 6 month anniversary of the commencement of works, the person(s) taking the action(s) must submit to the Department a report describing the measures taken to implement the EIMPs. Subsequent reports must be provided in accordance with the monitoring, auditing and reporting framework for the overall Program to be agreed between the Victorian Government and the Minister.	<ul style="list-style-type: none"> ▪ To provide for reporting on implementation of the EIMPs before formal reporting procedures for the Program come into force (to commence by early 2011).
8	The person taking the action must maintain accurate records substantiating all activities associated with or relevant to these conditions of approval, including measures taken to implement the EIMPs, and make them available upon request to the Minister.	<ul style="list-style-type: none"> ▪ Standard condition to facilitate audit, if required, prior to formal independent audit and reporting procedures required under the Program coming into affect (to commence by early 2011).

Additional legal considerations – section 134, Part 9 (Approval of actions)

Advice from the Australian Government Solicitor (AGS) suggest that section 134 needs to be addressed when attaching conditions to approvals granted under Part 10 of the EPBC Act. In particular, section 146D(3) requires that:

Subject to subsection (4), section 134 and Divisions 2,3 and 4 of Part 9 apply in relation to an approval of the taking of an action that is taken to have been given under Part 9 because of paragraph (1)(b).

Section 134 (1A) requires that:

An approval of the taking of an action by a person (the first person) is subject to the condition that, if the first person authorises, permits or requests another person to undertake any part of the action, the first person must take all reasonable steps to ensure:

- (a) that the other person is informed of any condition attached to the approval that restricts or regulates the way in which that part of the action may be taken; and*
- (b) that the other person complies with any such condition.*

The effect of 134(1A) is to ensure that conditions attached to an approval apply to contractors and other third parties employed, contracted, authorised, permitted or requested by the 'action person' to carry out the action that is the subject of this approval decision.

Section 134(1) requires that:

The Minister may attach a condition to the approval of the action if he or she is satisfied that the condition is necessary or convenient for:

- (a) protecting a matter protected by a provision of Part 3 for which the approval has effect (whether or not the protection is protection from the action); or*
- (b) repairing or mitigating damage to a matter protected by a provision of Part 3 for which the approval has effect (whether or not the damage has been, will be or is likely to be caused by the action).*

The conditions attached to the approval decision for the Regional Rail Link (Attachment A) are considered necessary to ensure satisfactory protection and mitigation of impacts on matters protected by provisions of Part 3 of the EPBC Act including:

- listed threatened species and communities
- wetlands of international importance, and
- listed migratory species.

Section 134(2) requires that:

The Minister may attach a condition to the approval of the action if he or she is satisfied that the condition is necessary or convenient for:

- (a) protecting from the action any matter protected by a provision of Part 3 for which the approval has effect; or*
- (b) repairing or mitigating damage that may or will be, or has been, caused by the action to any matter protected by a provision of Part 3 for which the approval has effect.*

The conditions attached to the approval decision for the Regional Rail Link (Attachment A) are considered necessary in order to provide satisfactory protection and mitigation of impacts on matters protected by provisions of Part 3 of the EPBC Act including:

- listed threatened species and communities
- wetlands of international importance, and
- listed migratory species

Section 134(3) outlines the kinds of conditions that can be attached to an approval decision. The subsection does not limit the kinds of conditions that may be attached to an approval. The conditions attached to the approval decision for the Regional Rail Link are consistent with the examples provided in section 134(3).

Section 134(3A) states that:

the following kinds of condition cannot be attached to the approval of an action unless the holder of the approval has consented to the attachment of the condition:

- (a) a condition referred to in paragraph (3)(aa), if the activities specified in the condition are not reasonably related to the action;*
- (b) a condition referred to in paragraph (3)(ab).*

Paragraph (3)(aa) refers to conditions required to protect protected matters. The Regional Rail Link conditions are reasonably related to the action for which approval is proposed. Section (3)(ab) refers to a condition requiring a specified financial contribution to be made for the purposes of protecting protected matters. Although the MNES prescriptions

envisage payment of monetary offsets, this is an indirect consequence of the Program and not a matter specifically conditioned such that the prohibition applies. The department also notes that the Victorian Government has consented to carry out the proposal in accordance with the conditions attached to the approval decision for the Regional Rail Link.

Section 134(3B) states that, once consent is given by an 'action person' in relation to section 134(3A), this consent cannot be withdrawn. This is not relevant to the Regional Rail Link approval and conditions.

Section 134(3C) requires that:

A condition attached to an approval under paragraph (3)(c) may require a person taking the action to comply with conditions specified in an instrument of a kind referred to in that paragraph:

(a) as in force at a particular time; or

(b) as is in force or existing from time to time;

even if the instrument does not yet exist at the time the approval takes effect.

Sub-section (3C) is not relevant to the Regional Rail Link approval and conditions.

Section 134(4) requires consideration of:

In deciding whether to attach a condition to an approval, the Minister must consider:

(a) any relevant conditions that have been imposed, or the Minister considers are likely to be imposed, under a law of a State or self-governing Territory or another law of the Commonwealth on the taking of the action; and

The endorsed Program describes all relevant legislation and policies applying to actions undertaken under the Program ([Attachment D](#)). These were fundamental considerations in the decision to endorse the Program and have been adequately considered for the current approval.

Section 134(aa) requires consideration of

information provided by the person proposing to take the action or by the designated proponent of the action; and

The draft Program and draft Strategic Impact Assessment Report were released for public comment and finalised in light of comments by the Victorian Government. Information provided by the Victorian Government has been taken into account in the Regional Rail Link approval and conditions, including comments made on the draft approval.

Section 134(b) requires consideration of

the desirability of ensuring as far as practicable that the condition is a cost-effective means for the Commonwealth and a person taking the action to achieve the object of the condition.

The department considers that the approval conditions are a cost effective means for the Victorian Government to achieve the objective of the endorsed Program and relevant conditions. The conditions build on the legislation and commitments made by the Victorian Government in the endorsed Program and are complementary to state approval requirements. The conditions are a cost-effective means for the Commonwealth and the person taking the action to achieve the object of the endorsed Program and protection of matters of national environmental significance.

Section 134(4A) states that if:

- (a) a condition (the principal condition) attached to an approval under paragraph (3)(c) requires a person taking the action to comply with conditions (the other conditions) specified in an instrument of a kind referred to in that paragraph; and*
- (b) the other conditions are in excess of the power conferred by subsection (1); the principal condition is taken to require the person to comply with the other conditions only to the extent that they are not in excess of that power.*

This section is not relevant to the conditions attached to the proposed approval decision for the regional rail link.

Section 134(5) states that:

- A failure to consider information as required by paragraph (4)(aa) does not invalidate a decision about attaching a condition to the approval.*

This is not relevant to the approval decision.



Australian Government

Department of the Environment, Water, Heritage and the Arts

DRAFT APPROVAL DECISION FOR THE TAKING OF ACTIONS IN ACCORDANCE WITH AN ENDORSED PROGRAM UNDER THE *ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999* (EPBC ACT)

This draft decision is being considered pursuant to section 146B of the EPBC Act which provides for the Minister to approve actions, or classes of actions, undertaken in accordance with an endorsed policy, plan or program. The effect of an approval under section 146B is that individual referral, assessment and approval of actions and activities related to development of the project will not be required.

Relevantly, on 2 February 2010, the Minister for Environment Protection, Heritage and the Arts, the Hon Peter Garrett AM MP (the Minister), endorsed a program by the Victorian Government to undertake actions associated with Melbourne's urban growth as described in *Delivering Melbourne's Newest Sustainable Communities* (Victorian Government, December 2009). The endorsed program includes actions associated with the construction and operation of the Regional Rail Link project. For the purposes of the program, this project comprises a new 30 kilometre rail link between the existing Melbourne – Geelong railway (commencing at a point west of Werribee) to the existing Melbourne – Ballarat railway at Deer Park.

Person to whom the approval is granted	Victorian Government and its agencies
Approved action/class of actions	Actions and activities associated with development and operation of the Regional Rail Link project (from the existing Melbourne – Geelong railway corridor to the existing Melbourne – Ballarat railway corridor at Deer Park) under the endorsed program for <i>Delivering Melbourne's Newest Sustainable Communities</i> , Victorian Government, December 2009.
Relevant controlling provisions	The approval has effect for: <ul style="list-style-type: none"> • Wetlands of international important (sections 16 & 17B) • Listed threatened species and communities (sections 18 & 18A) • Listed migratory species (sections 20 & 20A)
Conditions of approval	This approval is subject to the conditions specified at Annexure 1
Period for which approval has effect	The approval has effect until 2060

Person authorised to make decision

Name and Position	The Hon Peter Garrett AM MP Minister for Environment Protection, Heritage and the Arts
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Signature

DRAFT ONLY

Date of decision

DRAFT ONLY

ANNEXURE 1

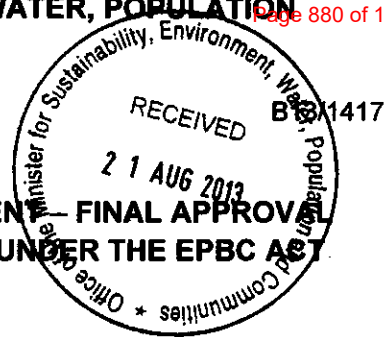
The action must be undertaken in accordance with the following conditions to ensure protection of listed threatened species and ecological communities, the ecological character of the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site and listed migratory species.

1. The person(s) taking the action must undertake the action in accordance with endorsed program as set out in the document *Delivering Melbourne's Newest Sustainable Communities Program Report*, Victorian Government, December 2009 at Attachment 1 (the Program).
2. The person(s) taking the action must undertake the action in accordance with the prescriptions required under the Program for protection of matters of national environmental significance (MNES) that may be impacted by the action. Each prescription must be approved by the Minister prior to commencement of any activity that may impact on the subject MNES. All relevant approved prescriptions must be implemented to the satisfaction of the Victorian Department of Sustainability and Environment.
3. The person(s) taking the action must submit the draft Regional Rail Link Ecological Impact Management Plan(s) (EIMPs), as required under the endorsed Program, to the Minister for approval. The EIMPs must be approved by the Minister prior to commencement of works that may impact on any MNES. The approved plan must be implemented.
4. At a minimum, the EIMP must:
 - a. Provide the results of targeted field surveys of native flora and fauna along the construction footprint of the proposed action.
 - b. Identify measures to mitigate the impacts of the Regional Rail Link on MNES.
 - c. Identify the outcomes of the implementation of the MNES prescriptions.
 - d. Identify how offset requirements will be achieved.
 - e. Identify measures to manage stormwater run-off from the Regional Rail Link, and how these measures are consistent with best practice stormwater management.
 - f. Identifies measures to implement a regime of monitoring, reporting and evaluation of the outcomes and ongoing management of the impacts of the Regional Rail Link on MNES.
5. If the person taking the action wishes to carry out any activity otherwise than in accordance with the EIMPs, the person taking the action must submit for the Minister's approval a revised version of any such plan. If the Minister approves such a revised plan, the plan must be implemented in place of the plan originally approved.
6. If the Minister believes that it is necessary or desirable for the better protection of listed threatened species and communities to do so, the Minister may request that the person(s) taking the action make specified revisions to the EIMPs and submit the revised plans for the Minister's approval. The person(s) taking the action must comply with any such request. The revised EIMPs must be implemented.
7. Within one month of the 6 month anniversary of the commencement of works, the person(s) taking the action(s) must submit to the Department a report describing the measures taken to implement the EIMPs. Subsequent reports must be provided in accordance with the monitoring, auditing and reporting framework for the overall endorsed program to be agreed between the Victorian Government and the Minister.
8. The person taking the action must maintain accurate records substantiating all activities associated with or relevant to these conditions of approval, including measures taken to implement the EIMP, and make them available upon request to the Minister.

To: Minister (for decision)

**MELBOURNE GROWTH CORRIDORS STRATEGIC ASSESSMENT – FINAL APPROVAL
FOR URBAN DEVELOPMENT IN NEW GROWTH CORRIDORS UNDER THE EPBC ACT**

Timing: 26 August 2013 - to complete the approval decision.



Recommendations:

1. Make the final decision to approve classes of actions to allow residential development in three growth corridors pursuant to the Melbourne strategic assessment.

Approved / Not approved

2. Sign the final approval decision notice (**Attachment A**) and letters advising Victorian Ministers of your decision (**Attachment B**).

Signed / Not signed

3. Note the department's view that this decision can be made during the caretaker period and does not require consultation with the Opposition.

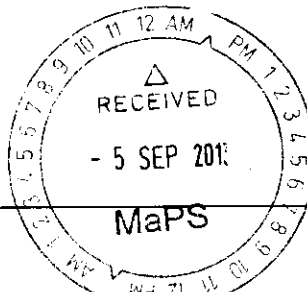
Noted / Please discuss

Minister:

Date:

5/9/13

Comments:



Key Points:

1. The program by the Victorian Government to locate Melbourne's urban growth in four new growth corridors has been assessed and endorsed under the strategic assessment provisions of the EPBC Act. You made a draft decision to approve classes of actions associated with urban development in three of the corridors on 2 August 2013. This briefing package completes the EPBC Act approval process by recommending you make the final approval decision.
2. You invited comment from relevant Ministers on the draft decision for 10 business days as required under the EPBC Act. A copy of the signed brief for the draft approval is at **Attachment C**. No substantive comments were received and the final approval is substantially the same as the draft approval with a marked up version at **Attachment E**.
3. The four growth corridors occupy about 40,000 hectares on the fringes of Melbourne (figures and summary at **Attachment D**). According to the Victorian Government, the program will result in over 350,000 new households supporting one million people, 15 major town centres, 85 local town centres and 350,000 new jobs, with an estimated net present value (2013) of \$50 billion.
4. There are currently three growth corridors to be considered for approval (**Figure 1**):
 - Western corridor (Melton and Wyndham)
 - Northern corridor (Hume, Whittlesea and Mitchell)
 - North-western corridor (Sunbury).

5. The fourth growth corridor (South-eastern corridor) requires further assessment of impacts on the protected Southern Brown Bandicoot by Victoria before it can be considered for approval. Further briefing will be provided when the assessment is completed.

Legal requirements

6. Under section 146 of the EPBC Act you may approve the taking of classes of actions in accordance with an endorsed program. Relevant legal considerations that you must take into account are at **Attachment F**. A detailed assessment is at **Attachment G**.
7. The approval includes conditions enforcing compliance with the *Biodiversity Conservation Strategy* (approved by you on 2 August 2013). The approval excludes developments in Hearn's Swamp which has been identified as an important occurrence of *Seasonal Herbaceous Wetlands*. The final approval also excludes developments in specified lots at Diggers Rest which are subject to a separate approval under Part 9 of the EPBC Act, with the agreement of the proponent.

Conclusion

8. The department considers that implementation of the program will provide a significant net gain in conservation. The program provides a unique opportunity to secure landscape-scale protection for key ecological communities and species threatened by Melbourne's expansion. The consolidation of offsets into large, contiguous reserves that are actively managed for conservation will promote enhanced conservation outcomes.

Caretaker conventions

9. The program was endorsed by the then Minister on 2 February 2010 and you decided to give draft approval for the three growth corridors on 2 August 2013, prior to the caretaker period. The final approval is a legislative step under the EPBC Act to complete the statutory approval process.
10. The decision is not expected to attract significant media. Several individual developers and conservation groups have previously made representations to you and may follow up their concerns. These concerns were addressed in the department's previous briefing (see also **Attachment G**).

Dr Kimberley Dripps
Deputy Secretary
Ph: 02 6274 1500
Mob: s. 22(1)(a)(ii)
19 August 2013

Policy Officer: Dean Knudson
First Assistant Secretary
Environment Assessment and Compliance Division
Ph: 02 6274 1077
Mob: s. 22(1)(a)(ii)

ATTACHMENTS

- Attachment A: Final Approval Notice (FOR SIGNATURE)
Attachment B: Letters to Victorian Ministers (2 LETTERS FOR SIGNATURE)
Attachment C: Draft Approval Brief (B13/1151)
Attachment D: Summary and Figures
Attachment E: Marked up Version comparing draft and final approval
Attachment F: Legal considerations for approval
Attachment G: Department's assessment of approved *Biodiversity Conservation Strategy*
Attachment H: Copies of relevant conservation advices, recovery plans and threat abatement plans
Attachment I: *Biodiversity Conservation Strategy* and sub-regional strategies
Attachment J: Submissions received on the final *Biodiversity Conservation Strategy*
Attachment K: Background reports (Final Program, Strategic Assessment Report, Supplementary Report, Department's recommendations report, Public Consultation Report on *Biodiversity Conservation Strategy* and sub-regional strategies, Victorian Government Habitat Compensation Report, Victorian Government report on Seasonal Herbaceous Wetlands)



APPROVAL DECISION FOR THE TAKING OF ACTIONS IN ACCORDANCE WITH AN ENDORSED PROGRAM UNDER THE ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999 (EPBC ACT)

FINAL APPROVAL FOR URBAN DEVELOPMENT IN THREE GROWTH CORRIDORS UNDER THE MELBOURNE URBAN GROWTH PROGRAM STRATEGIC ASSESSMENT

This approval decision is for actions falling within the specified class of actions below. Conditions of approval are at [Annexure 1](#). Further information and explanation is at [Annexure 3](#).

Approved class of actions All actions associated with urban development in the Western growth corridor (Melton and Wyndham), North-western growth corridor (Sunbury) and Northern growth corridor (Hume, Whittlesea and Mitchell) in the expanded Melbourne 2010 Urban Growth Boundary as described at page 4 in the *Biodiversity Conservation Strategy for Melbourne's Growth Corridors* (Victorian Government Department of Environment and Primary Industries, June 2013) approved under the endorsed Program - *Delivering Melbourne's Newest Sustainable Communities* (Victorian Government, December 2009).

The approved class of actions excludes development in the Northern growth corridor within the boundary of Hearn's Swamp as shown at [Annexure 2](#).

The approved class of actions excludes developments in properties 3, 4, 6, 7 and 9 identified in the Victorian Government *Diggers Rest Precinct Structure Plan* (Growth Areas Authority, 2012).

Relevant controlling provisions This approval has effect for:

- World heritage properties (sections 12 and 15A)
- National heritage places (sections 15B and 15C)
- Wetlands of international importance (sections 16 & 17B)
- Listed threatened species and communities (sections 18 & 18A)
- Listed migratory species (sections 20 & 20A).

Conditions of approval This approval is subject to the conditions specified at [Annexure 1](#).

Period for which approval has effect The approval has effect until 31 December 2060.

General Further explanatory information related to this approval decision is at [Annexure 3](#).

Person authorised to make decision

Name and Position The Hon Mark Butler MP
Minister for the Environment, Heritage and Water

Signature

Date of decision

5/9/13

ANNEXURE 1**CONDITIONS OF APPROVAL**

Actions must be undertaken in accordance with the following conditions to ensure protection of listed threatened species and ecological communities, listed migratory species and the ecological character of the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site and the Western Port Ramsar site.

Actions must be undertaken in accordance with approved strategies

- 1) Persons taking actions must undertake the actions in accordance with the following strategies approved by the Minister pursuant to the Program of the Victorian Government for Melbourne's urban growth, as described in *Delivering Melbourne's Newest Sustainable Communities* (Victorian Government, December 2009), for protection of matters of national environmental significance:
 - a) *Biodiversity Conservation Strategy for Melbourne's Growth Corridors* (Victorian Government Department of Environment and Primary Industries, June 2013)
 - b) *Sub-regional Species Strategy for the Golden Sun Moth* (Victorian Government Department of Environment and Primary Industries, May 2013)
 - c) *Sub-regional Species Strategy for the Growling Grass Frog* (Victorian Government Department of Environment and Primary Industries, May 2013).

Actions cannot occur in conservation areas without agreement

- 2) Persons must not take any actions, resulting in a net loss of habitat for listed ecological communities and listed species, in any of the 36 conservation areas described in Section 5 of the *Biodiversity Conservation Strategy for Melbourne's Growth Corridors* (Victorian Government Department of Environment and Primary Industries, June 2013) unless agreed by the Minister.

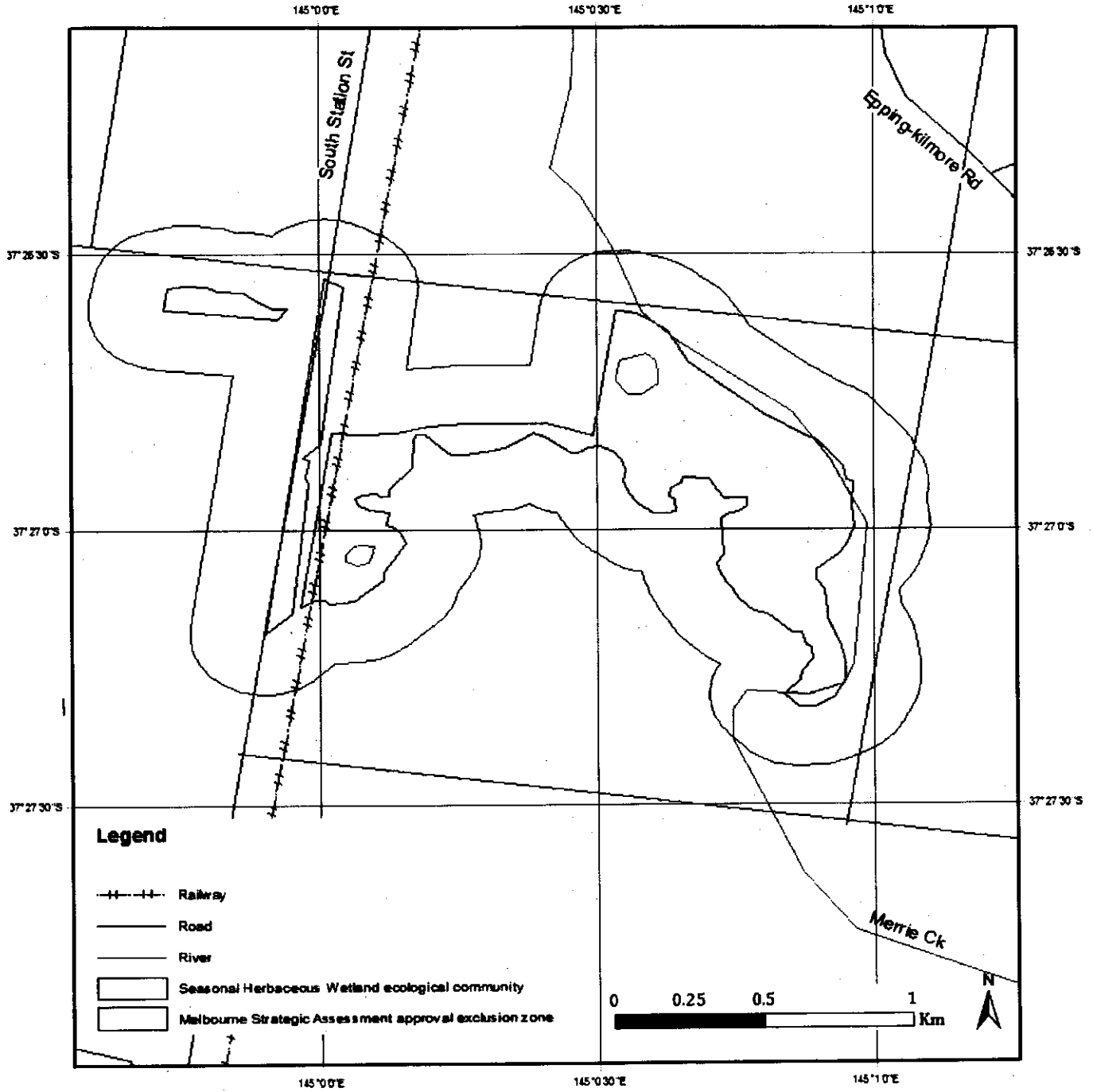
Changes to the area or boundaries of conservation areas cannot occur without agreement

- 3) Persons must not take any actions that would cause, or otherwise facilitate, a net loss of area of the conservation areas numbered 10, 14, 15, 18, 20, 21, 28, 33, 34, 35 and 36 as described in Section 5 of the *Biodiversity Conservation Strategy for Melbourne's Growth Corridors* (Victorian Government Department of Environment and Primary Industries, June 2013), unless agreed by the Minister.
- 4) Persons must not take any actions that would cause, or otherwise facilitate, a change in the boundaries of the conservation areas numbered 1 to 9, 11 to 13, 16, 17, 19, 22 to 27, and 29 to 32 as described in Section 5 of the *Biodiversity Conservation Strategy for Melbourne's Growth Corridors* (Victorian Government Department of Environment and Primary Industries, June 2013), unless agreed by the Minister.

Habitat compensation requirements for actions potentially affecting listed ecological communities and species

- 5) Persons taking actions must comply with the habitat compensation arrangements and fees described in the following documents:
 - *Biodiversity Conservation Strategy for Melbourne's Growth Corridors* (Victorian Government Department of Environment and Primary Industries, June 2013)
 - *Habitat compensation under the Biodiversity Conservation Strategy – Melbourne Strategic Assessment* (Victorian Government Department of Environment and Primary Industries, August 2013) and as amended by the Victorian Government from time to time.

Map of Hearn's Swamp showing area excluded from the approved class of actions



EXPLANATORY INFORMATION

Background

This approval decision is made under section 146B of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) which provides for the Minister responsible for administering the Act (the Minister) to approve actions, or classes of actions, undertaken in accordance with an endorsed policy, plan or program. An approval under section 146B of the EPBC Act has the same effect as an approval given under Part 9 of the Act. Actions approved under this decision, and taken in compliance with this approval and conditions at Annexure 1, will not require separate referral, assessment or approval under the EPBC Act in order to be taken.

On 2 February 2010 the Minister endorsed, pursuant to section 146 of the EPBC Act, the Program of the Victorian Government for Melbourne's urban growth as described in *Delivering Melbourne's Newest Sustainable Communities* (Victorian Government, December 2009). The endorsed Program includes actions associated with urban development in four growth corridors in the 2010 Melbourne Urban Growth Boundary as well as 28 precincts located within the 2005 Melbourne Urban Growth Boundary.

Actions associated with urban development within the 28 precincts identified on page 17 of the endorsed Program were approved by the Minister on 8 July 2010 subject to prescriptions approved by the Minister for protection of matters of national environmental significance.

The endorsed Program included a commitment by the Victorian Government to prepare a *Biodiversity Conservation Strategy* for the four growth corridors, and accompanying sub-regional strategies for the Growling Grass Frog, Golden Sun Moth and Southern Brown Bandicoot, and for these strategies to be approved by the Minister.

The Minister has approved the following strategies:

- a) *Biodiversity Conservation Strategy for Melbourne's Growth Corridors* (Victorian Government Department of Environment and Primary Industries, June 2013)
- b) *Sub-regional Species Strategy for the Golden Sun Moth* (Victorian Government Department of Environment and Primary Industries, May 2013)
- c) *Sub-regional Species Strategy for the Growling Grass Frog* (Victorian Government Department of Environment and Primary Industries, May 2013).

The *Biodiversity Conservation Strategy* has applied the protection requirements of the approved prescriptions to identify conservation areas. The requirements in the prescriptions relating to offsetting, salvage and translocation and conservation management plans have been incorporated into the *Biodiversity Conservation Strategy*. Implementation of the *Biodiversity Conservation Strategy* will therefore give effect to the prescriptions to ensure protection of matters of national environmental significance.

Compliance with the *Biodiversity Conservation Strategy* will satisfy the requirements of the prescriptions in relation to the existing 28 precincts for which a planning scheme amendment to introduce a precinct structure plan is approved after 1 March 2012, as well as the Truganina Employment Area (described at page 4 of the approved *Biodiversity Conservation Strategy*).

To remove doubt, compliance with the *Biodiversity Conservation Strategy* will fully meet the requirements of the approval made by the Minister on 8 July 2010 for the precincts included in the approved *Biodiversity Conservation Strategy*. The previous approval made on 8 July 2010 continues to apply for the remainder of the 28 precincts. There are also several additional areas of land within specified precincts in the growth corridors for which the prescription for Golden Sun Moth will continue to apply (page 16 of the *Biodiversity Conservation Strategy*).

In implementing this approval, the endorsed Program and approved *Biodiversity Conservation Strategy* will provide the basis for any necessary interpretation and resolution. The Minister will provide final interpretation and guidance if required.

Excluded actions

This approval excludes actions within the area of land at Hearn's Swamp in the Northern growth corridor shown at Annexure 2 containing potential occurrences of *Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains*, a listed ecological community under the EPBC Act.

The excluded area has been identified from the report *The Impact of Melbourne's growth on 'Seasonal herbaceous wetlands (freshwater) of the temperate lowland plains'* (Victorian Government Department of Environment and Primary Industries, May 2013). This report identified potential occurrences of the listed ecological community at Hearn's Swamp. The area excluded includes a 200 metre buffer from the mapped potential occurrences of the ecological community.

To remove doubt, actions within the area of land identified at Annexure 2 are not prohibited by this approval, but must meet the normal requirements of the EPBC Act and may be referred and considered in accordance with the requirements of Parts 7, 8 and 9 of the EPBC Act.

The approval also excludes developments in properties 3, 4, 6, 7 and 9 identified in the Victorian Government *Diggers Rest Precinct Structure Plan* (Growth Areas Authority, 2012) which, at the time of this approval, were subject to separate consideration under Parts 7, 8 and 9 of the EPBC Act.

Approval conditions

The approval conditions require actions (whether individually or collectively) to fully comply with the approved *Biodiversity Conservation Strategy* and sub-regional species strategies for Golden Sun Moth and Growling Grass Frog for avoidance, mitigation and offset of impacts on matters of national environmental significance. In addition, all actions must comply with the habitat compensation arrangements and fees described in the document *Habitat compensation under the Biodiversity Conservation Strategy – Melbourne Strategic Assessment* (Victorian Government Department of Environment and Primary Industries, August 2013) and as amended from time to time by the Victorian Government.

Approval condition (2) states that no actions associated with urban development, resulting in a net loss of habitat for listed ecological communities and listed species, will occur in the 36 conservation areas described at Section 5 (pages 47 to 126 and identified in Figures 23 to 51) of the *Biodiversity Conservation Strategy* unless agreed by the Minister. This is to ensure that urban-related developments, such as roads, bridges and utility corridors, do not erode the values of the conservation areas for matters of national environmental significance over time.

Condition (2) does not require approval for actions where there is no net loss in habitat for an individual conservation area. Habitat means an area of land containing a listed ecological community under the EPBC Act or supporting individuals or populations of listed threatened species under the EPBC Act. The condition recognises that there may be instances where urban infrastructure cannot be avoided and there could be a net loss of habitat in an individual conservation area. Such instances will need to be approved by the Minister. Instances may be approved if there are no reasonable alternatives, there is a net conservation gain elsewhere for the relevant protected matters and it can be demonstrated that the values of the conservation area will be maintained.

Approval condition (3) states that no actions that could result in, or facilitate, a *net loss of area* of the specified conservation areas can occur unless agreed by the Minister. The *Biodiversity Conservation Strategy* (Section 5) provides for minor changes to the boundaries of the specified conservation areas. This is permitted under the condition provided there is no net loss in the area.

Approval condition (4) states that no actions that could result in, or facilitate, a *change in the boundary* of the specified conservation areas can occur unless agreed by the Minister. The intent is to ensure that the boundaries of the specified conservation areas do not change over the life of the Program.

Program evaluation and consistency reports

Program evaluation, monitoring and reporting requirements for approved classes of actions under the Program are described at Section 11 of the Program report. These requirements are the responsibility of the Victorian Government. In particular, the Victorian Government must prepare and submit a Monitoring and Reporting Framework to the Minister for approval.

As an interim measure, the Victorian Government Department of Environment and Primary Industries has agreed, consistent with the requirements of the Program, to provide reports to the department on implementation of this approval for each of the precincts covered by the approval. The reports will be provided within 28 calendar days following adoption of each Precinct Structure Plan. The reports will demonstrate how the relevant measures in the approved *Biodiversity Conservation Strategy* have been applied and the measurable outcomes achieved for protection of matters of national environmental significance. Each report will include the following minimum information:

- a) Applicable measures, requirements and commitments for each matter of national environmental significance from the *Biodiversity Conservation Strategy* for each precinct.
- b) Implementation of conservation area requirements (if any) identified in the *Biodiversity Conservation Strategy* for each matter of national environmental significance.
- c) Implementation of avoidance, mitigation and habitat compensation requirements identified in the *Biodiversity Conservation Strategy* and relevant sub-regional species plans for each matter of national environmental significance, including calculated habitat compensation requirements.
- d) Figure or maps showing final conservation areas.



**THE HON MARK BUTLER MP
MINISTER FOR CLIMATE CHANGE
MINISTER FOR THE ENVIRONMENT, HERITAGE AND WATER**

B13/1417

The Hon Matthew Guy MLC
Minister for Planning
Level 7
1 Spring Street
MELBOURNE VIC 3000

- 5 SEP 2013

Dear Minister

I am writing in regard to the Victorian Government's Program for Melbourne's urban expansion entitled *Delivering Melbourne's Newest Sustainable Communities* (the Program).

As you are aware, I wrote to you on 2 August 2013 to advise of my intention to approve classes of actions associated with urban development in three of the four growth corridors. This is pursuant to the Program endorsed on 2 February 2010 under the strategic assessment provisions of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). I also advised of my approval of the *Biodiversity Conservation Strategy for Melbourne's Growth Corridors*, the *Sub-regional Species Strategy for the Golden Sun Moth* and the *Sub-regional Species Strategy for the Growling Grass Frog*.

I wish to advise that final approval has now been made for the three growth corridors in accordance with the requirements of the EPBC Act (notice of approval attached). Actions approved under this decision will not require separate referral, assessment or approval under the EPBC Act in order to be taken. Actions must be compliant with the approved *Biodiversity Conservation Strategy for Melbourne's Growth Corridors* and associated habitat compensation framework.

Thank you for your assistance on this matter. I have written to the Victorian Minister for Environment and Climate Change, the Hon Ryan Smith MLA, in similar terms.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Mark Butler', written over a white background.

Mark Butler

Enc



**THE HON MARK BUTLER MP
MINISTER FOR CLIMATE CHANGE
MINISTER FOR THE ENVIRONMENT, HERITAGE AND WATER**

B13/1417

The Hon Ryan Smith MLA
Minister for Environment and Climate Change
Level 17
8 Nicholson Street
MELBOURNE VIC 3002

- 5 SEP 2013

Dear Minister

I am writing in regard to the Victorian Government's Program for Melbourne's urban expansion entitled *Delivering Melbourne's Newest Sustainable Communities* (the Program).

As you are aware, I wrote to you on 2 August 2013 to advise of my intention to approve classes of actions associated with urban development in three of the four growth corridors. This is pursuant to the Program endorsed on 2 February 2010 under the strategic assessment provisions of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). I also advised of my approval of the *Biodiversity Conservation Strategy for Melbourne's Growth Corridors*, the *Sub-regional Species Strategy for the Golden Sun Moth* and the *Sub-regional Species Strategy for the Growling Grass Frog*.

I wish to advise that final approval has now been made for the three growth corridors in accordance with the requirements of the EPBC Act (notice of approval attached). Actions approved under this decision will not require separate referral, assessment or approval under the EPBC Act in order to be taken. Actions must be compliant with the approved *Biodiversity Conservation Strategy for Melbourne's Growth Corridors* and associated habitat compensation framework.

Thank you for your assistance on this matter. I have written to the Victorian Minister for Planning, the Hon Matthew Guy MLC, in similar terms.

Yours sincerely

A handwritten signature in black ink, appearing to read 'M. Butler', written over a white background.

Mark Butler

Enc

DEPARTMENT OF SUSTAINABILITY, ENVIRONMENT, WATER, POPULATION
AND COMMUNITIES

Ref: B13/1151

To: Minister (for decision)

MELBOURNE URBAN GROWTH CORRIDORS STRATEGIC ASSESSMENT - APPROVAL
OF BIODIVERSITY CONSERVATION STRATEGIES AND DRAFT APPROVAL FOR NEW
URBAN DEVELOPMENT

Timing: 15 July 2013 – To implement the endorsed strategic assessment program

Recommendations:1. Approve the following strategies pursuant to the strategic assessment (at **Attachment G**):

- *Biodiversity Conservation Strategy for Melbourne's Growth Corridors* (June 2013)
- *Sub-regional Species Strategy for the Growling Grass Frog* (May 2013)
- *Sub-regional Species Strategy for the Golden Sun Moth* (May 2013).

Approved / Not approved

2. Agree to the draft approval decision for 3 growth corridors at **Attachment A**.

Approved / Not approved

3. Sign the letters at **Attachment B** advising relevant Ministers of your decisions.

Approved / Not approved

Minister:



Date 2/8/13

Comments:

Key Points:

1. A program by the Victorian Government to house Melbourne's population growth in 4 new growth corridors has been assessed and endorsed under the *Environment Protection and Biodiversity Conservation Act* (EPBC Act). The Act provides for strategic assessment of such planning programs and for you to approve development under an endorsed program. This avoids the need for projects to be individually approved under the EPBC Act and delivers upfront certainty for project planning and investment decisions.
2. This briefing recommends you approve strategies for the protection of matters of national environmental significance that have been prepared under the program. The brief also recommends you approve developments in three of the four growth corridors and provide your draft decision to relevant Ministers (**Attachments A and B**).
3. The program was endorsed by the then Minister on 2 February 2010 under the EPBC Act and will be delivered over 30 years. The Minister also approved two components of the program (Regional Rail Link and development in 28 precincts) on 11 June and 8 July 2010.
4. The program requires the Victorian Government to prepare a *Biodiversity Conservation Strategy*, and accompanying sub-regional species strategies, to describe how conservation outcomes for matters of national environmental significance in the four new growth corridors will be achieved. The strategies must be approved by the Commonwealth and were published by Victoria on 13 May 2013 and further updated on 24 June 2013 (**Attachment G**).

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5. The four growth corridors assessed under the program occupy about 40,000 hectares on the fringes of Melbourne (figures and summary at **Attachment C**). According to the Victorian Government, implementation of the program will result in over 350,000 new households supporting one million people, 15 major town centres, 85 local town centres and 350,000 new jobs, with an estimated net present value (2013) of \$50 billion.
 6. There are currently three growth corridors to be considered for approval (**Figure 1**):
 - Western corridor (Melton and Wyndham)
 - Northern corridor (Hume, Whittlesea and Mitchell)
 - North-western corridor (Sunbury).
 6. The fourth growth corridor (South-eastern corridor) requires further assessment of impacts on the protected Southern Brown Bandicoot by Victoria before it can be considered for approval. Further briefing will be provided when the assessment is completed.

Outcomes for matters of national environmental significance

7. The endorsed program provides for development resulting in loss of up to 3,278 hectares of the EPBC Act listed threatened ecological community *Natural Temperate Grasslands* and 167 hectares of *Grassy Eucalypt Woodland*, as well as habitat for 5 associated species (Golden Sun Moth, Spiny Rice-flower, Striped Legless Lizard and Matted Flax-lily). Habitat for the EPBC Act listed Growling Grass Frog is also affected.
8. The loss of these ecological communities and habitats will be offset as described in the *Biodiversity Conservation Strategy*. There will be a net gain in conservation through:
 - Two new Western Grassland Reserves to the west of Melbourne of 15,000 hectares (containing 10,000 hectares of *Natural Temperate Grasslands*).
 - A new reserve for *Grassy Eucalypt Woodland* to Melbourne's north of 1,200 hectares.
 - A system of 36 conservation areas within the growth corridors totalling 5,735 hectares.
9. The *Biodiversity Conservation Strategy* also commits to conservation of 80% of high quality habitat for the Golden Sun Moth, Spiny Rice Flower and Matted Flax Lily at the bioregion level. In addition to the habitat described above, further reserves will be secured outside the growth corridors for these species (Golden Sun Moth (680 hectares), Spiny Rice Flower (394 hectares) and Matted Flax Lily (529 hectares)).
10. The Western Grassland Reserves will protect most high quality remnants of *Natural Temperate Grasslands* close to Melbourne and increase representation in the conservation estate from the current 2% to 20%. The *Grassy Eucalypt Woodland* reserve will contain the most extensive and best quality woodlands in the greater Melbourne area.
11. *Seasonal Herbaceous Wetlands* were listed under the EPBC Act as an ecological community on 27 March 2012 after the program was endorsed. Approval decisions after this date must take into account impacts on the community. Victoria investigated potential impacts and the department's assessment is at **Attachment E**. The program will result in loss of 139 hectares of the community and protection of 383 hectares. This includes retention of an additional occurrence (Hearnes Swamp to the north of Melbourne) identified by the department as important. The occurrences to be lost have been affected by cropping and are not likely to persist in the longer term as urban development proceeds.

How will conservation outcomes be achieved?

12. Conservation outcomes have been costed by the Victorian Government at \$1 billion and will be funded by cost recovery from development using prescribed flat fees and calculated offsets. Victoria has published a document describing the cost recovery model and detailing the fee structure and prices to be collected from developers (**Attachment I**).

13. A monitoring and reporting framework is being developed by the Victorian Government to ensure compliance with the Program. This will be submitted within 6 months of the date of your approval of classes of actions, and must be approved by the Commonwealth.

Legal requirements

14. Information relevant to your approval for the strategies is at **Attachment E** (department's assessment) and **Attachment F** (legal considerations). The department's assessment concludes that the strategies provide acceptable outcomes for matters of national environmental significance and can be approved.
15. The department also recommends approval for developments in the three growth corridors as described in the draft decision notice at **Attachment A**. The approval includes conditions enforcing compliance with the *Biodiversity Conservation Strategy* and offset requirements, including establishment of the 36 conservation reserves in the growth corridors. The approval excludes developments in Hearn's Swamp which has been identified as an important occurrence of *Seasonal Herbaceous Wetlands*.

Conclusion

16. The department considers that implementation of the program will provide a significant net gain in conservation. The program provides a unique opportunity to secure landscape-scale protection for key ecological communities and species threatened by Melbourne's expansion. The consolidation of offsets into large, contiguous reserves that are actively managed for conservation will promote enhanced conservation outcomes.

Views of other parties

17. A summary and assessment of comments received on the final strategy is at **Attachment F** (Appendix 4) and the submissions are at **Attachment H**. A number of developers have made individual representations arguing that implementation of the strategy will remove developable lands for conservation. These issues were considered in finalising the strategy.
18. Conservation groups have argued that additional reserve areas are needed to protect the Growling Grass Frog. Studies supporting the final 36 reserves describe the basis and rationale for each reserve, including changes from the draft strategy. The department accepts that the final reserves will ensure adequate protection and are a good balance between conservation and development.
19. Victoria has also undertaken detailed assessment of the suitability of all proposed frog habitat based on site surveys, hydrological investigations and best scientific advice. The department considers investigations have been rigorous and that the outcomes are scientifically defensible. A program to enhance retained Growling Grass Frog habitat, including creation of 400 dedicated wetlands and ponds, will be implemented.

Next steps

20. The letters at **Attachment B** invite relevant Ministers to comment on the draft approval decision. The department will provide briefing to enable you to make the final approval once the mandated 10 business day comment period is finished.

Dr Kimberley Dripps
Deputy Secretary
Ph: 02 6274 1500 Mob: s. 22(1)(a)(ii)
3 July 2013

Policy Officer: Dean Knudson
First Assistant Secretary
EACD
Ph: 02 6274 1077

ATTACHMENTS

LEX-26598

Page 893 of 1027

- Attachment A: Draft Approval Notice (not for signature)
- Attachment B: Letters to relevant Ministers – 4 letters for signature
- Attachment C: Nutshell summary and Figures
- Attachment D: Summary
- Attachment E: Department's assessment of *Biodiversity Conservation Strategy* and sub-regional strategies
- Attachment F: Legal considerations for approval
- Attachment G: *Biodiversity Conservation Strategy* and sub-regional strategies for approval
- Attachment H: Submissions received on the final *Biodiversity Conservation Strategy*
- Attachment I: Background reports (Final Program, Strategic Assessment Report, Supplementary Report, Department's recommendations report, Public Consultation Report on *Biodiversity Conservation Strategy* and sub-regional strategies, Victorian Government draft habitat compensation report, Victorian Government report on Seasonal Herbaceous Wetlands)



PROPOSED APPROVAL DECISION FOR THE TAKING OF ACTIONS IN ACCORDANCE WITH AN ENDORSED PROGRAM UNDER THE *ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999* (EPBC ACT)

PROPOSED APPROVAL FOR URBAN DEVELOPMENTS IN THREE GROWTH CORRIDORS UNDER THE MELBOURNE URBAN GROWTH PROGRAM STRATEGIC ASSESSMENT

This proposed decision is made under section 146B of the EPBC Act (strategic assessment provisions) which provides for the Minister to approve actions, or classes of actions, undertaken in accordance with an endorsed policy, plan or program. An approval under section 146B of the EPBC Act has the same effect as an approval given under Part 9 of the Act. Actions approved under this decision will therefore not require separate referral, assessment or approval under the EPBC Act in order to be taken.

On 2 February 2010, the Program of the Victorian Government for Melbourne's urban growth, as described in *Delivering Melbourne's Newest Sustainable Communities* (Victorian Government, December 2009), was endorsed under the EPBC Act. The endorsed Program includes actions associated with urban development in four growth corridors within the 2010 Melbourne Urban Growth Boundary and in 28 precincts within the 2005 Melbourne Urban Growth Boundary.

This proposed approval decision is for actions falling within the specified class of actions below. Recommended conditions of approval are at [Annexure 1](#). Further information and explanation is at [Annexure 3](#).

Approved class of actions	All actions associated with urban development in the Western growth corridor (Melton and Wyndham), North-western growth corridor (Sunbury) and Northern growth corridor (Hume, Whittlesea and Mitchell) in the expanded Melbourne 2010 Urban Growth Boundary as described at page 4 in the <i>Biodiversity Conservation Strategy for Melbourne's Growth Corridors</i> (Victorian Government Department of Environment and Primary Industries, June 2013) approved under the endorsed Program - <i>Delivering Melbourne's Newest Sustainable Communities</i> (Victorian Government, December 2009).
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The approved class of actions excludes developments in the Northern growth corridor within the boundary of Hearn's Swamp as shown at [Annexure 2](#).

Relevant controlling provisions	<p>The approval has effect for:</p> <ul style="list-style-type: none"> • World heritage properties (sections 12 and 15A) • National heritage places (sections 15B and 15C) • Wetlands of international importance (sections 16 & 17B) • Listed threatened species and communities (sections 18 & 18A) • Listed migratory species (sections 20 & 20A)
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Conditions of approval	This approval is subject to the conditions specified at Annexure 1 .
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Period for which approval has effect	The approval has effect until 31 December 2060
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General	Further explanatory information related to this approval decision is at Annexure 3 .
----------------	--

Person authorised to make decision

Name and Position The Hon Mark Butler MP
Minister for the Environment, Heritage and Water

Signature
PROPOSED DECISION ONLY – NOT SIGNED

Date of decision
PROPOSED DECISION ONLY – NOT SIGNED

CONDITIONS OF APPROVAL

Actions must be undertaken in accordance with the following conditions to ensure protection of listed threatened species and ecological communities, listed migratory species and the ecological character of the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site and the Western Port Ramsar site.

Actions must be undertaken in accordance with approved strategies

- 1) Persons taking actions must undertake the actions in accordance with the following strategies approved by the Minister pursuant to the Program of the Victorian Government for Melbourne's urban growth, as described in *Delivering Melbourne's Newest Sustainable Communities* (Victorian Government, December 2009), for protection of matters of national environmental significance:
 - a) *Biodiversity Conservation Strategy for Melbourne's Growth Corridors* (Victorian Government Department of Environment and Primary Industries, June 2013)
 - b) *Sub-regional Species Strategy for the Golden Sun Moth* (Victorian Government Department of Environment and Primary Industries, May 2013)
 - c) *Sub-regional Species Strategy for the Growling Grass Frog* (Victorian Government Department of Environment and Primary Industries, May 2013).

Actions cannot occur in conservation areas without agreement

- 2) Persons must not take any actions, resulting in a net loss of habitat for listed ecological communities and listed species, in any of the 36 conservation areas described in Section 5 of the *Biodiversity Conservation Strategy for Melbourne's Growth Corridors* (Victorian Government Department of Environment and Primary Industries, June 2013) unless agreed by the Minister.

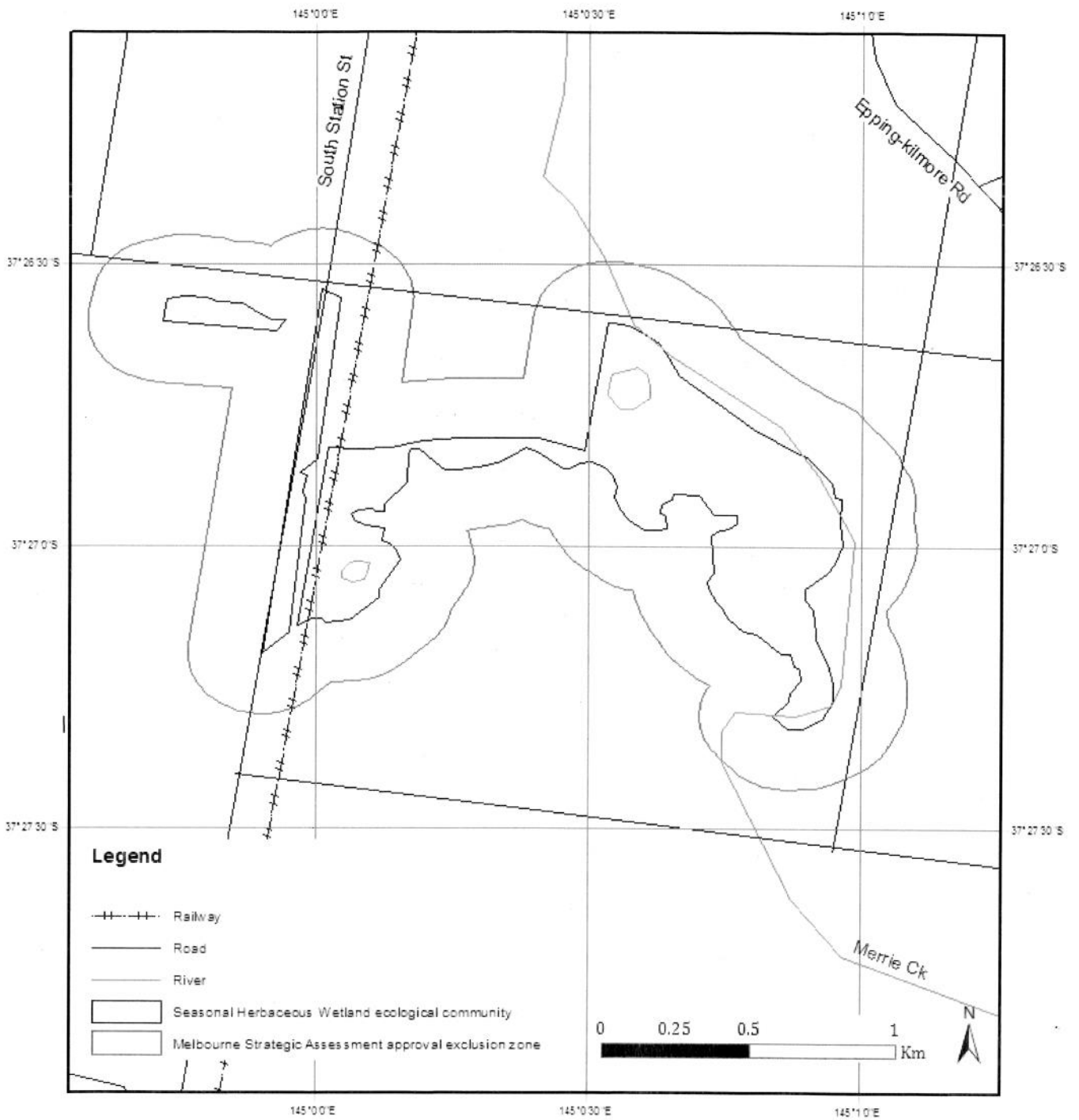
Changes to the area or boundaries of conservation areas cannot occur without agreement

- 3) Persons must not take any actions that would cause, or otherwise facilitate, a net loss of area of the conservation areas numbered 10, 14, 15, 18, 20, 21, 28, 33, 34, 35 and 36 as described in Section 5 of the *Biodiversity Conservation Strategy for Melbourne's Growth Corridors* (Victorian Government Department of Environment and Primary Industries, June 2013), unless agreed by the Minister.
- 4) Persons must not take any actions that would cause, or otherwise facilitate, a change in the boundaries of the conservation areas numbered 1 to 9, 11 to 13, 16, 17, 19, 22 to 27, and 29 to 32 as described in Section 5 of the *Biodiversity Conservation Strategy for Melbourne's Growth Corridors* (Victorian Government Department of Environment and Primary Industries, June 2013), unless agreed by the Minister.

Habitat compensation requirements for actions potentially affecting listed ecological communities and species

- 5) Persons taking actions must comply with the habitat compensation arrangements and fees described in the following documents:
 - *Biodiversity Conservation Strategy for Melbourne's Growth Corridors* (Victorian Government Department of Environment and Primary Industries, June 2013)
 - *Habitat compensation under the Biodiversity Conservation Strategy – Melbourne Strategic Assessment* (Victorian Government Department of Environment and Primary Industry, June 2013) and as amended by the Victorian Government from time to time.

Map of Hearn's Swamp showing area excluded from the approved classes of action



EXPLANATORY INFORMATION

Background

This approval decision is made under section 146B of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) which provides for the Minister responsible for administering the Act (the Minister) to approve actions, or classes of actions, undertaken in accordance with an endorsed policy, plan or program. An approval under section 146B of the EPBC Act has the same effect as an approval given under Part 9 of the Act. Actions approved under this decision, and taken in compliance with this approval and conditions at Annexure 1, will not require separate referral, assessment or approval under the EPBC Act in order to be taken.

On 2 February 2010 the Minister endorsed, pursuant to section 146 of the EPBC Act, the Program of the Victorian Government for Melbourne's urban growth as described in *Delivering Melbourne's Newest Sustainable Communities* (Victorian Government, December 2009). The endorsed Program includes actions associated with urban development in four growth corridors in the 2010 Melbourne Urban Growth Boundary as well as 28 precincts located within the 2005 Melbourne Urban Growth Boundary.

Actions associated with urban development within the 28 precincts identified on page 17 of the endorsed Program were approved by the Minister on 8 July 2010 subject to prescriptions approved by the Minister for protection of matters of national environmental significance.

The endorsed Program included a commitment by the Victorian Government to prepare a *Biodiversity Conservation Strategy* for the four growth corridors, and accompanying sub-regional strategies for the Growling Grass Frog, Golden Sun Moth and Southern Brown Bandicoot, and for these strategies to be approved by the Minister.

The Minister has subsequently approved the following strategies:

- a) *Biodiversity Conservation Strategy for Melbourne's Growth Corridors* (Victorian Government Department of Environment and Primary Industries, June 2013)
- b) *Sub-regional Species Strategy for the Golden Sun Moth* (Victorian Government Department of Environment and Primary Industries, May 2013)
- c) *Sub-regional Species Strategy for the Growling Grass Frog* (Victorian Government Department of Environment and Primary Industries, May 2013)

The *Biodiversity Conservation Strategy* has applied the protection requirements of the approved prescriptions to identify conservation areas. The requirements in the prescriptions relating to offsetting, salvage and translocation and conservation management plans have been incorporated into the *Biodiversity Conservation Strategy*. Implementation of the *Biodiversity Conservation Strategy* will therefore give effect to the prescriptions to ensure protection of matters of national environmental significance.

Compliance with the *Biodiversity Conservation Strategy* will satisfy the requirements of the prescriptions in relation to the existing 28 precincts for which a planning scheme amendment to introduce a precinct structure plan is approved after 1 March 2012, as well as the Truganina Employment Area (described at page 4 and shown in Figures 1 and 2 of the approved *Biodiversity Conservation Strategy*).

To remove doubt, compliance with the *Biodiversity Conservation Strategy* will fully meet the requirements of the approval made by the Minister on 8 July 2010 for the precincts included in the approved *Biodiversity Conservation Strategy*. The previous approval made on 8 July 2012 continues to apply for the remainder of the 28 precincts. There are also several additional areas of land within specified precincts in the growth corridors for which the

In implementing this approval, the endorsed Program and approved *Biodiversity Conservation Strategy* will provide the basis for any necessary interpretation and resolution. The Minister will provide final interpretation and guidance if required.

Excluded actions

This approval excludes actions within the area of land at Hearn's Swamp in the Northern growth corridor shown at Annexure 2 containing potential occurrences of *Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains*, a listed ecological community under the EPBC Act.

The excluded area has been identified from the report *The Impact of Melbourne's growth on 'Seasonal herbaceous wetlands (freshwater) of the temperate lowland plains* (Victorian Government Department of Environment and Primary Industries, May 2013). This report identified potential occurrences of the listed ecological community at Hearn's Swamp. The area excluded includes a 200 metre buffer from the mapped potential occurrences of the ecological community.

To remove doubt, actions within the area of land identified at Annexure 2 are not prohibited by this approval, but must meet the normal requirements of the EPBC Act and may be referred and considered in accordance with the requirements of Parts 7, 8 and 9 of the EPBC Act.

Approval conditions

The approval conditions require actions (whether individually or collectively) to fully comply with the approved *Biodiversity Conservation Strategy* and sub-regional species strategies for Golden Sun Moth and Growling Grass Frog for avoidance, mitigation and offset of impacts on matters of national environmental significance. In addition, all actions must comply with the habitat compensation arrangements and fees described in the document *Draft Habitat compensation under the Biodiversity Conservation Strategy – Melbourne Strategic Assessment* (Victorian Government Department of Environment and Primary Industry, May 2013) and as amended from time to time by the Victorian Government.

Approval condition (2) states that no actions associated with urban development, resulting in a net loss of habitat for listed ecological communities and listed species, will occur in the 36 conservation areas described at Section 5 (pages 67 to 137 and identified in Figures 23 to 51) of the *Biodiversity Conservation Strategy* unless agreed by the Minister. This is to ensure that urban-related developments, such as roads, bridges and utility corridors, do not erode the values of the conservation areas for matters of national environmental significance over time.

Condition (2) does not require approval for actions where there is no net loss in habitat for an individual conservation area. Habitat means an area of land contained a listed ecological community under the EPBC Act or supporting individuals or populations of listed threatened species under the EPBC Act. The condition recognises that there may be instances where urban infrastructure cannot be avoided and there could be a net loss of habitat in an individual conservation area. Such instances will need to be approved by the Minister. Instances may be approved if there are no reasonable alternatives, there is a net conservation gain elsewhere for the relevant protected matters and it can be demonstrated that the values of the conservation area will be maintained.

Approval condition (3) states that no actions that could result in, or facilitate, a *net loss of area* of the specified conservation areas can occur unless agreed by the Minister. The *Biodiversity Conservation Strategy* (Section 5) provides for minor changes to the boundaries of the specified conservation areas. This is permitted under the condition provided there is no net loss in the area.

Approval condition (4) states that no actions that could result in, or facilitate, a *change in the boundary* of the specified conservation areas can occur unless agreed by the Minister. The intent is to ensure that the boundaries of the specified conservation areas do not change over the life of the Program.

Program evaluation and consistency reports

Program evaluation, monitoring and reporting requirements for approved classes of actions under the Program are described at Section 11 of the Program report. These requirements are the responsibility of the Victorian Government. In particular, the Victorian Government must prepare and submit a Monitoring and Reporting Framework to the Minister for approval.

As an interim measure, the Victorian Government Department of Environment and Primary Industries has agreed, consistent with the requirements of the Program, to provide reports to the department on implementation of this approval for each of the precincts covered by the approval. The reports will be provided within 28 calendar days following adoption of each Precinct Structure Plan. The reports will demonstrate how the relevant measures in the approved *Biodiversity Conservation Strategy* have been applied and the measurable outcomes achieved for protection of matters of national environmental significance. Each report will include the following minimum information:

- a) Applicable measures, requirements and commitments for each matter of national environmental significance from the *Biodiversity Conservation Strategy* for each precinct.
- b) Implementation of conservation area requirements (if any) identified in the *Biodiversity Conservation Strategy* for each matter of national environmental significance.
- c) Implementation of avoidance, mitigation and habitat compensation requirements identified in the *Biodiversity Conservation Strategy* and relevant sub-regional species plans for each matter of national environmental significance, including calculated habitat compensation requirements.
- d) Figure or maps showing final conservation areas.



**THE HON MARK BUTLER MP
MINISTER FOR CLIMATE CHANGE
MINISTER FOR THE ENVIRONMENT, HERITAGE AND WATER**

02 AUG 2013

B13/1151

The Hon Jenny Macklin MP
Minister for Families, Community Services and Indigenous Affairs
Parliament House
CANBERRA ACT 2600

Dear Minister

I am writing in regard to the Victorian Government's Program for Melbourne's urban expansion entitled *Delivering Melbourne's Newest Sustainable Communities* (the Program). The Program has been considered under the strategic assessment provisions of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The Program will deliver over 350,000 new households supporting one million people, 15 major town centres, 85 local town centres and 350,000 new jobs in Melbourne's four new growth corridors. Biodiversity outcomes will be delivered through developer-funded offsets including new 15,000 hectare native grassland reserves to the west of Werribee.

The Program was endorsed under the EPBC Act on 8 July 2010 by the then Minister for the Environment. The next step is for me to consider approval for urban development in the new growth corridors undertaken in accordance with the Program. This will avoid the need for future approvals of individual projects, significantly cut red tape, and provide upfront certainty about the requirements needed to satisfy the EPBC Act over the life of the Program.

At this stage, I intend to approve three of the four new growth corridors. There are a number of biodiversity issues still to be resolved for the final South-eastern growth corridor (Casey and Cardinia) and I will consider approval for this corridor at a later date.

The EPBC Act requires me to invite comment on my proposed approval decision from any Commonwealth Ministers with relevant responsibilities. The Act provides for a ten business day comment period.

A copy of my proposed decision is attached for any comment you may wish to make. I will take into account any response prior to making my final decision and advise you accordingly.

Yours sincerely


Mark Butler

Enc



**THE HON MARK BUTLER MP
MINISTER FOR CLIMATE CHANGE
MINISTER FOR THE ENVIRONMENT, HERITAGE AND WATER**

The Hon Anthony Albanese MP
Minister for Infrastructure and Transport
Parliament House
CANBERRA ACT 2600

02 AUG 2013

B13/1151

Dear Minister 

I am writing in regard to the Victorian Government's Program for Melbourne's urban expansion entitled *Delivering Melbourne's Newest Sustainable Communities* (the Program). The Program has been considered under the strategic assessment provisions of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The Program will deliver over 350,000 new households supporting one million people, 15 major town centres, 85 local town centres and 350,000 new jobs in Melbourne's four new growth corridors. Biodiversity outcomes will be delivered through developer-funded offsets including new 15,000 hectare native grassland reserves to the west of Werribee.

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Yours sincerely


Mark Butler

Enc



THE HON MARK BUTLER MP
MINISTER FOR CLIMATE CHANGE
MINISTER FOR THE ENVIRONMENT, HERITAGE AND WATER

B13/1151

The Hon Matthew Guy MLC
Minister for Planning
Parliament House
EAST MELBOURNE VIC 3002

02 AUG 2013

Dear Minister

I am writing in regard to the Victorian Government's Program for Melbourne's urban expansion entitled *Delivering Melbourne's Newest Sustainable Communities* (the Program).

As you are aware, the former Minister endorsed the Program on 2 February 2010 under the strategic assessment provisions of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Since then, approvals have been made under the EPBC Act for classes of actions associated with residential development in 28 precincts within the 2005 Melbourne Urban Growth Boundary and the Regional Rail Link Project (West of Werribee to Deer Park).

The Program requires me to approve biodiversity conservation strategies demonstrating how matters of national environmental significance will be protected in the new growth corridors. I am pleased to advise that I have now approved the *Biodiversity Conservation Strategy for Melbourne's Growth Corridors*, the *Sub-regional Species Strategy for the Golden Sun Moth* and the *Sub-regional Species Strategy for the Growling Grass Frog* published on 13 May 2013.

The next step is for me to consider approval for urban development in the new growth corridors undertaken pursuant to the Program and biodiversity conservation strategies. This will avoid the need for future approvals of individual projects, significantly cut red tape, and provide upfront certainty about the requirements needed to satisfy the EPBC Act over the life of the Program.

At this stage, I intend to approve urban developments in three of the four growth corridors. I understand the strategy for protection of the Southern Brown Bandicoot is yet to be finalised for the South-eastern growth corridor. I will consider approval for this corridor at a later date.

The EPBC Act requires me to invite comment on my proposed approval from Commonwealth Ministers with relevant responsibilities over a ten business day period. While comment is not required from State Ministers, a copy of my proposed decision is attached for your information.

I have written to the Victorian Minister for Environment and Climate Change, the Hon Ryan Smith MLA, in similar terms. I will write again to advise you of my final decision.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Mark Butler', written over a light blue horizontal line.

Mark Butler

Enc



**THE HON MARK BUTLER MP
MINISTER FOR CLIMATE CHANGE
MINISTER FOR THE ENVIRONMENT, HERITAGE AND WATER**

B13/1151

The Hon Ryan Smith MLA
Minister for Environment and Climate Change
Parliament House
EAST MELBOURNE VIC 3002

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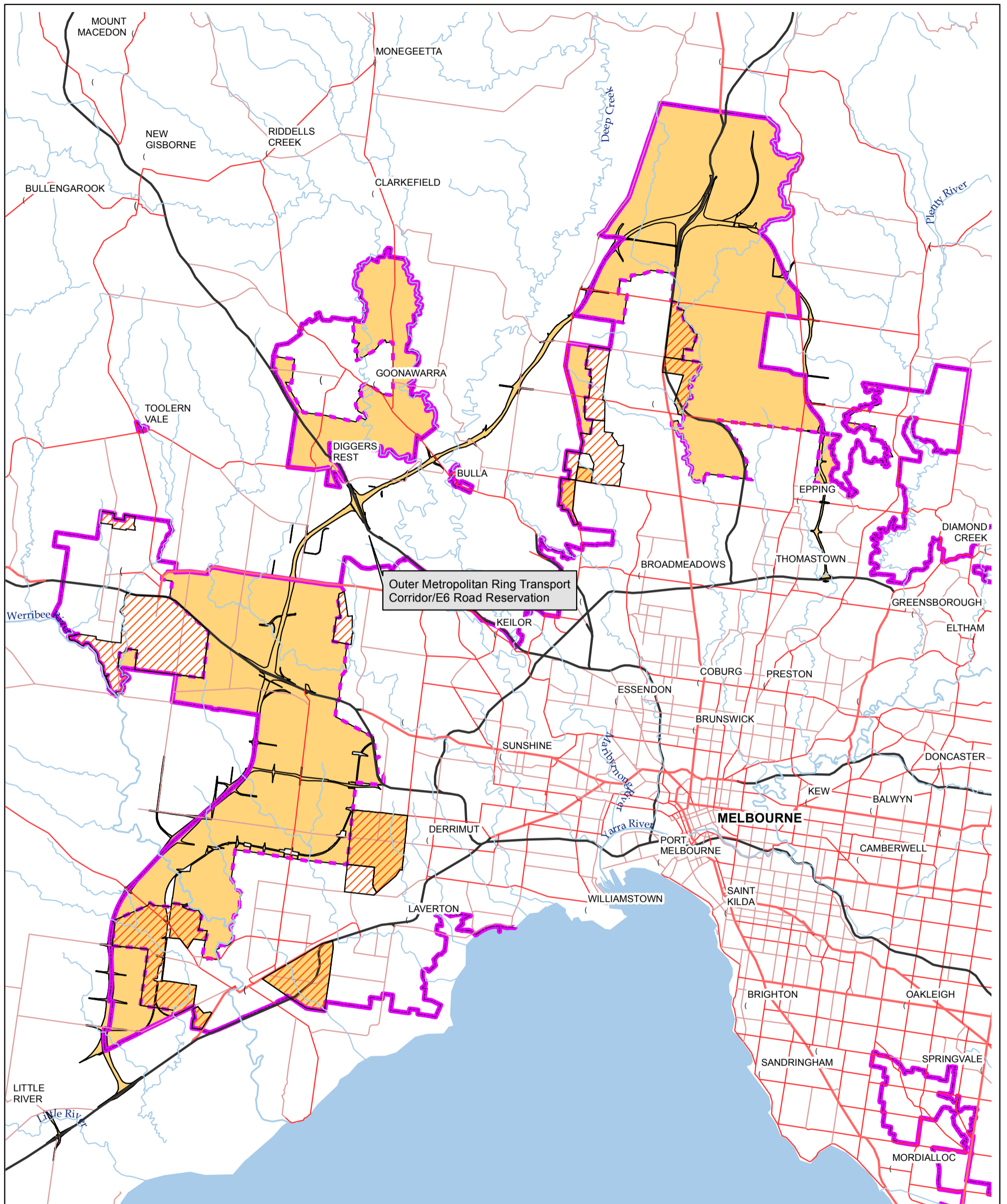
I have written to the Victorian Minister for Planning, the Hon Matthew Guy MLC, in similar terms. I will write again to advise you of my final decision.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Mark Butler', written over a light blue horizontal line.

Mark Butler

Enc



Legend

- | | | |
|--|-----------|-------------------|
| 2010 Urban Growth Boundary | Freeway | Major Watercourse |
| 2005 Urban Growth Boundary | Highway | Minor Watercourse |
| Area covered by the Biodiversity Conservation Strategy | Main Road | |
| Existing 28 Precincts | Collector | |

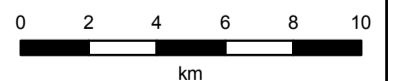
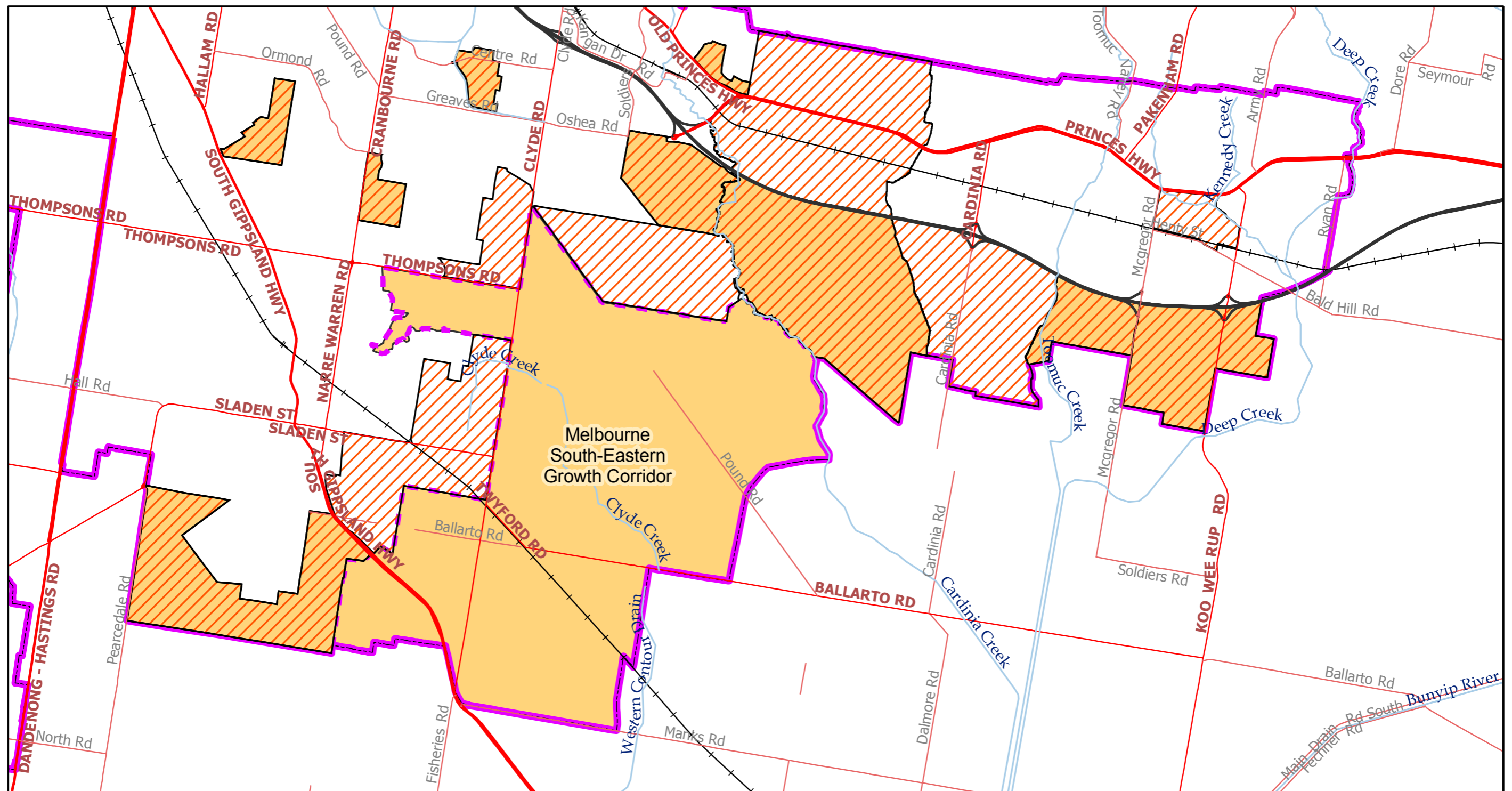


Figure 1: Area covered by the Biodiversity Conservation Strategy – Western, North-Western and Northern Growth Corridors



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Legend

- 2010 Urban Growth Boundary
- 2005 Urban Growth Boundary
- Area covered by the Biodiversity Conservation Strategy
- Existing 28 Precincts

Roads

- Freeway
- Highway

Main Road

- Main Road (Unsealed)
- Collector

Watercourses

- Major Watercourse
- Minor Watercourse

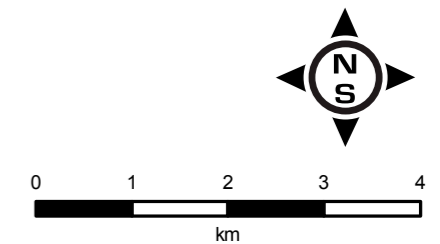
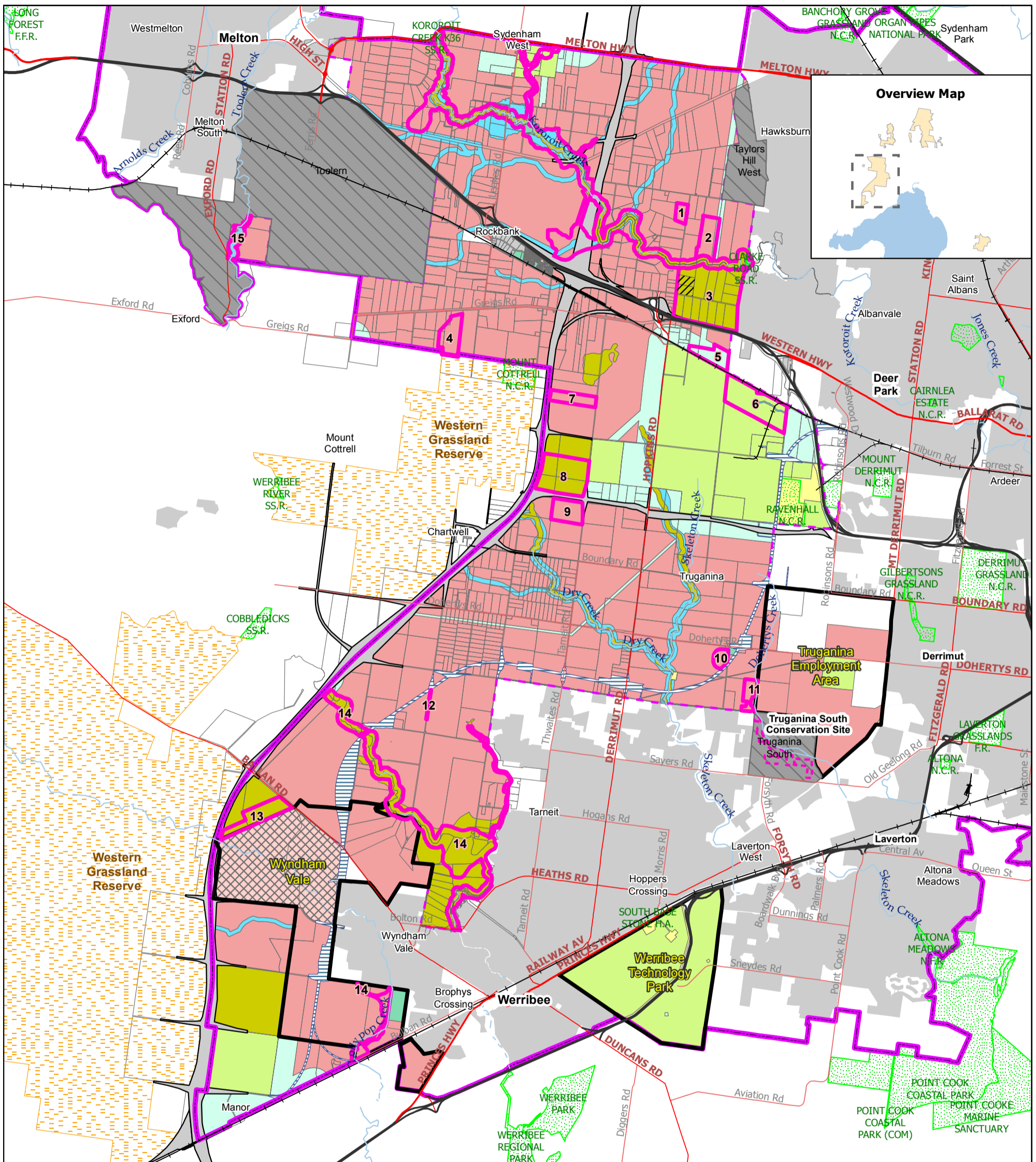


Figure 2: Area covered by the Biodiversity Conservation Strategy – South-Eastern Growth Corridor

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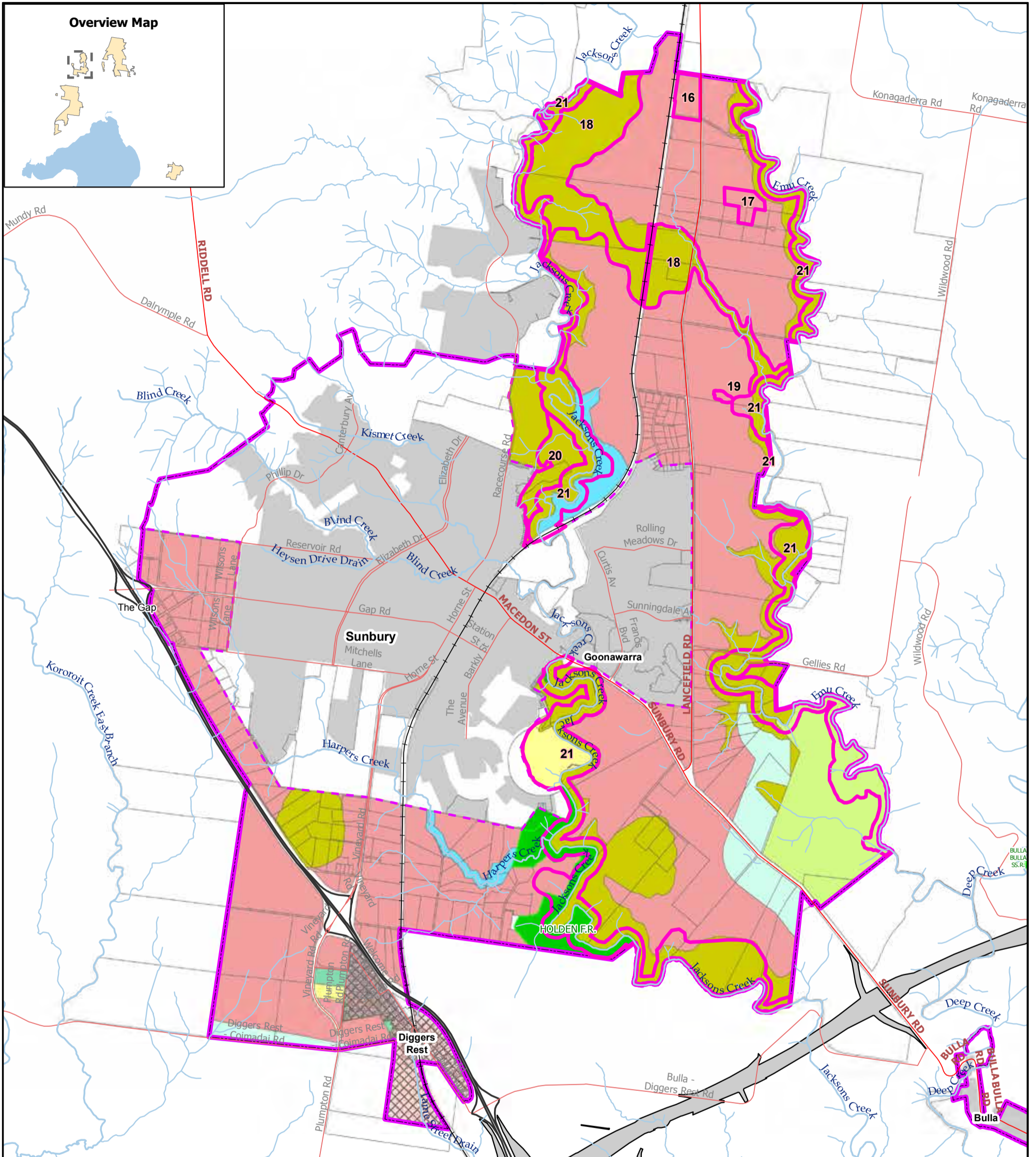


Legend

- | | | | | |
|--|--------------------------------------|---------------------------------|----------------------|--|
| 2010 Urban Growth Boundary | Property Boundaries | Public Park and Recreation Zone | Conservation Area | Named Watercourse |
| 2005 Urban Growth Boundary | Urbanised Area | Public Use Zone | Roads | To be excised from Conservation Area if required for active open space |
| Western Grassland Reserve | Precinct Structure Plan area | Rural Conservation Zone | Freeway | Area not covered by the BCS and to be zoned for conservation |
| Outer Metropolitan Ring Transport Corridor/E6 Road Reservation | (existing 28 precincts) | Special Use Zone | Highway | N
S |
| Regional Rail Link | Incomplete | Urban Flood Zone | Main Road | |
| Parks or Reserves | Complete | Urban Growth Zone | Main Road (Unsealed) | 0 1 2 3 4 5
km |
| | Current Planning Scheme Zones | Other Urban Zones | Collector | |
| | Farm Zone | | | |

Figure 3: Conservation Areas – Western Growth Corridor

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Legend

- | | | | |
|--|---|--|---|
| <ul style="list-style-type: none"> 2010 Urban Growth Boundary 2005 Urban Growth Boundary Outer Metropolitan Ring Transport Corridor/E6 Road Reservation Parks or Reserves Property Boundaries Urbanised Area | <p>Precinct Structure Planning (existing 28 precincts)</p> <ul style="list-style-type: none"> Incomplete Complete <p>Current Planning Scheme Zones</p> <ul style="list-style-type: none"> Farm Zone Public Conservation and Recreation Zone | <p>Precinct Structure Planning (existing 28 precincts)</p> <ul style="list-style-type: none"> Public Park and Recreation Zone Public Use Zone Rural Conservation Zone Special Use Zone Urban Flood Zone Urban Growth Zone Other Urban Zones | <ul style="list-style-type: none"> Conservation Area Roads Freeway Highway Main Road Main Road (Unsealed) Collector Named Watercourse |
|--|---|--|---|

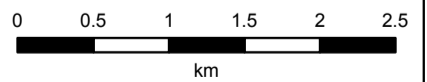
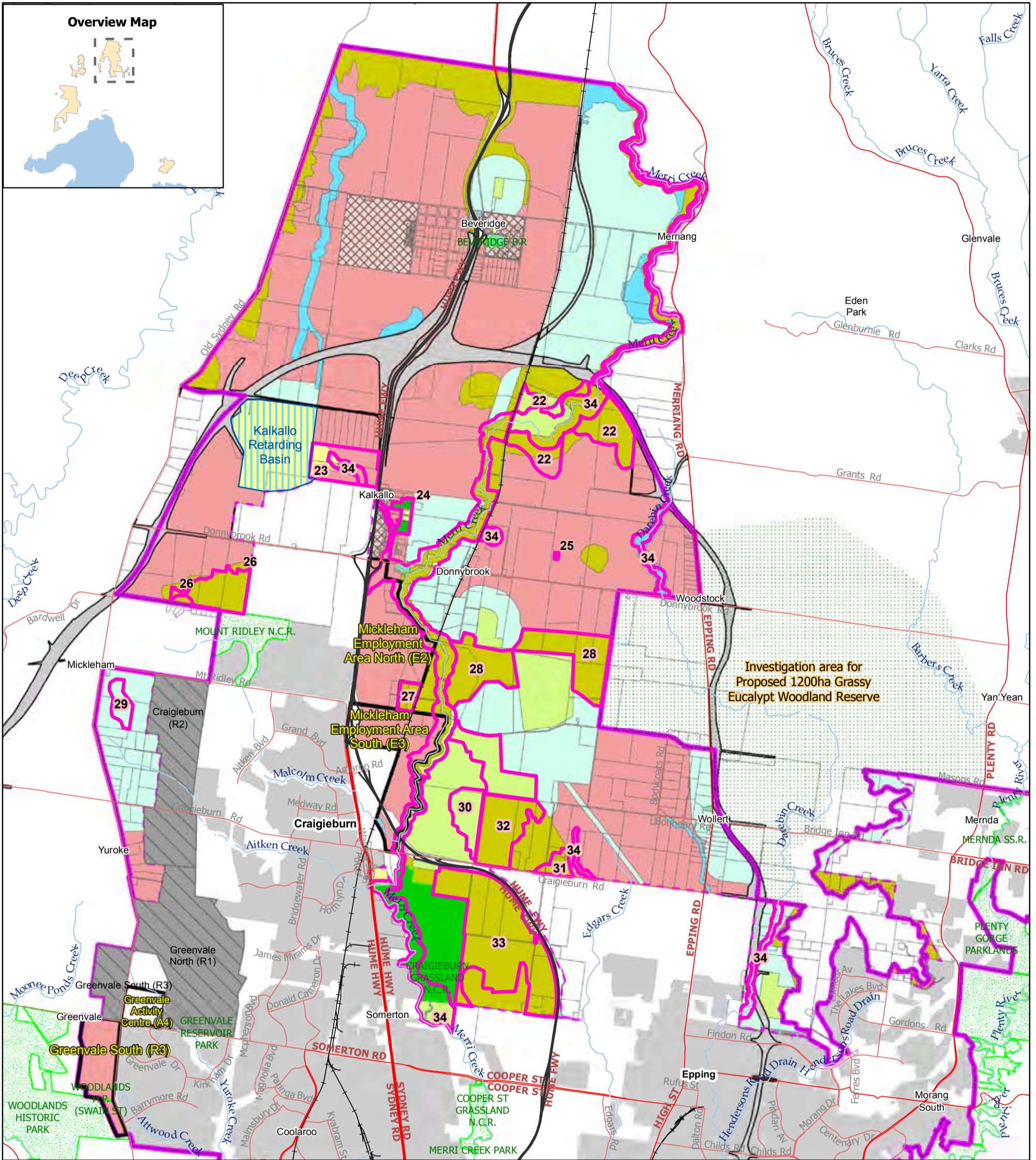


Figure 4: Conservation Areas – North-Western Growth Corridor



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Legend

- 2010 Urban Growth Boundary
- 2005 Urban Growth Boundary
- Outer Metropolitan Ring Transport Corridor/E6 Road Reservation
- Parks or Reserves
- Property Boundaries
- Urbanised Area
- Precinct Structure Plan area (existing 28 precincts)**
- Incomplete
- Complete
- Current Planning Scheme Zones**
- Farm Zone
- Public Conservation and Recreation Zone
- Public Park and Recreation Zone
- Public Use Zone
- Rural Conservation Zone
- Special Use Zone
- Urban Flood Zone
- Urban Growth Zone
- Other Urban Zones
- Conservation Area
- Roads**
- Freeway
- Highway
- Main Road
- Main Road (Unsealed)
- Collector
- Named Watercourse

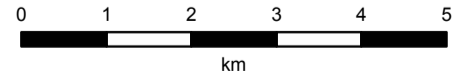
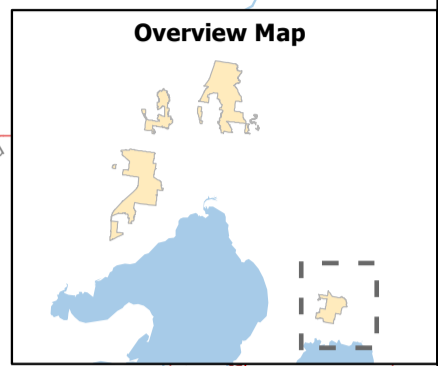
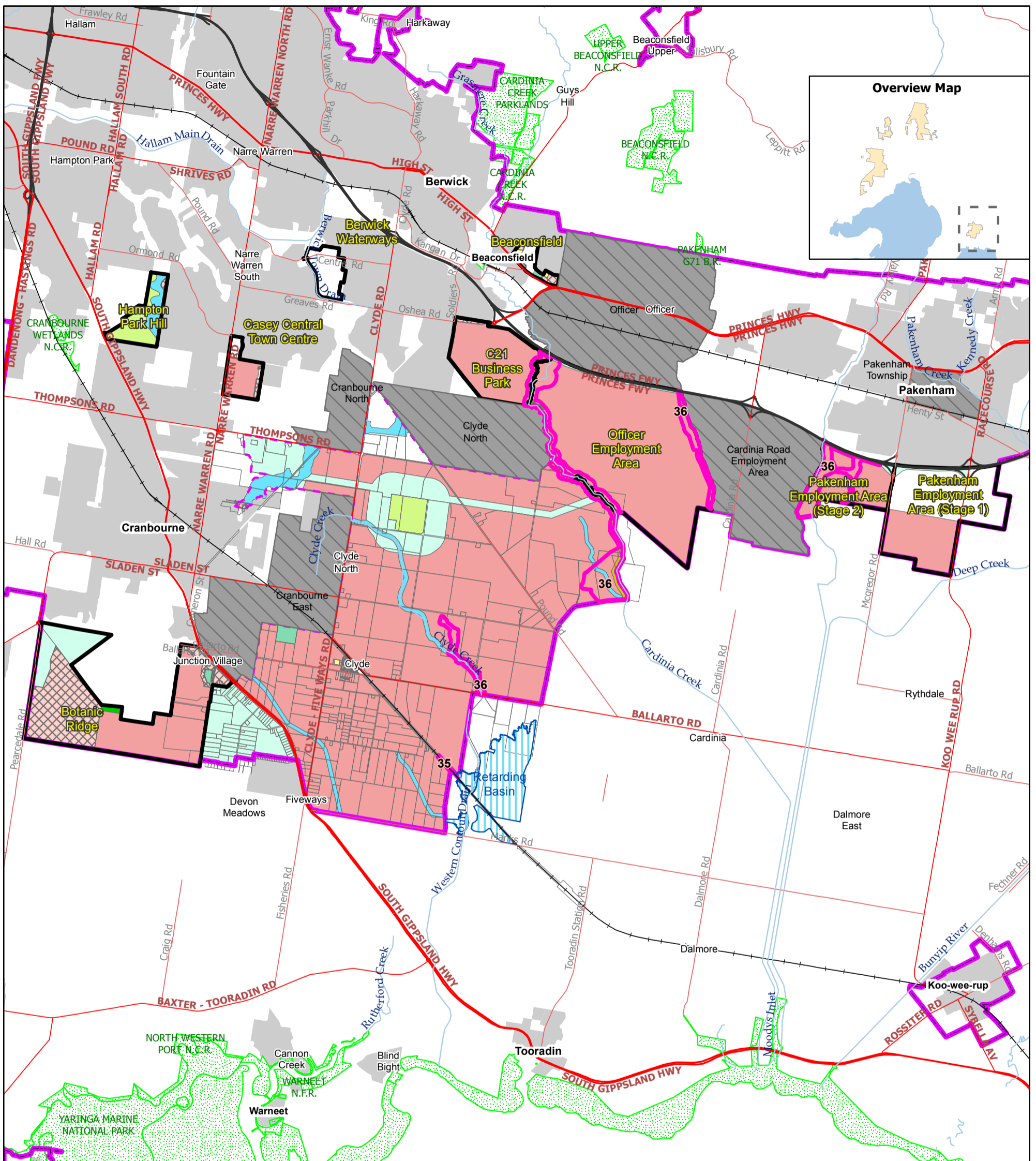


Figure 5: Conservation Areas – Northern Growth Corridor

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Legend

- 2010 Urban Growth Boundary
- 2005 Urban Growth Boundary
- Parks or Reserves
- Property Boundaries
- Urbanised Area
- Precinct Structure Plan area (existing 28 precincts)**
- Incomplete
- Complete
- Current Planning Scheme Zones**
- Farm Zone
- Public Conservation and Recreation Zone
- Public Park and Recreation Zone
- Public Use Zone
- Rural Conservation Zone
- Special Use Zone
- Urban Flood Zone
- Urban Growth Zone
- Other Urban Zones
- Conservation Area
- Roads**
- Freeway
- Highway
- Main Road
- Main Road (Unsealed)
- Collector
- Named Watercourse

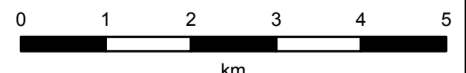


Figure 6: Conservation Areas – South-Eastern Growth Corridor

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MELBOURNE STRATEGIC ASSESSMENT – NUTSHELL SUMMARY

What is a strategic assessment?

- Strategic assessments are landscape-scale assessments of the impacts of a *Policy, Plan or Program* on matters of national environmental significance. A *Policy, Plan or Program* is essentially a planning document.
- There are four key steps to a strategic assessment:
 1. A Strategic Assessment Agreement signed between the Minister and proponent.
 2. The strategic assessment documents are released for public comment.
 3. The Minister endorses the final *Policy, Plan or Program*.
 4. If endorsed, the Minister approves 'classes of actions'.

Where is the Melbourne Strategic Assessment up to?

- The Strategic Assessment Agreement was signed with the Victoria Government in March 2009. A draft *Program Report*, describing the Program and commitments for protected matters, and the *Strategic Impact Assessment Report*, analysing environmental impacts, were released for public comment in June/July 2009.
- The then Minister endorsed the final *Program Report* on 2 February 2010 and approved two components of the Program (Regional Rail Link Stage 2 and development in 28 precincts) on 11 June and 8 July 2010 respectively.
- The Program required the Victorian Government to prepare a *Biodiversity Conservation Strategy*, and accompanying sub-regional species strategies, to describe how conservation outcomes for matters of national environmental significance in four new growth corridors would be achieved. The strategies were approved by the Minister on 2 August 2013.
- There are currently three growth corridors to be considered for final approval (Figure 1):
 - Western corridor (Melton and Wyndham)
 - Northern corridor (Hume, Whittlesea and Mitchell)
 - North-western corridor (Sunbury)
- The Minister advised relevant Ministers of his intention to grant approval, and proposed approval conditions, on 2 August 2013 and invited comment pursuant to the requirements of the EPBC Act. No substantive comments were received.
- The fourth growth corridor (South-eastern corridor shown at Figure 2) requires further assessment of impacts on the Southern Brown Bandicoot before it can be considered for approval. The final component in the Program, a new ring road around Melbourne, is many years from construction and will be considered for approval at a future date.

What is the Program?

- The Program describes actions by the Victorian Government to accommodate Melbourne's growth in four new growth corridors and to deliver acceptable protection for matters of national environmental significance. The Program will be delivered over 30 or more years.
- The four growth corridors occupy about 40,000 hectares on the fringes of Melbourne. The Program will deliver over 350,000 new households supporting one million people, 15 major town centres, 85 local town centres and 350,000 new jobs.
- Key conservation outcomes (Figures 3 – 6) include:
 - New Western Grassland Reserves to the west of Melbourne of 15,000 hectares.

- A new Grassy Woodland Reserve to the north of Melbourne of 1,200 hectares.
- A system of conservation areas within the growth corridors totalling 5,735 hectares.

What are the Program outcomes for matters of national environmental significance?

- Development in the growth corridors will result in loss of up to 3,278 hectares of listed *Natural Temperate Grasslands* and 167 hectares of *Grassy Eucalypt Woodland*, as well as habitat for associated species such as the Golden Sun Moth, Spiny Rice-flower, Striped Legless Lizard and Matted Flax-lily. Some 314 hectares of *Grassy Eucalypt Woodland* was avoided during the assessment through changes to the growth boundary.
- The loss of these ecological communities and habitats will be offset as described in the *Biodiversity Conservation Strategy*. This will result in a substantive net gain in conservation through the 15,000 hectare Western Grassland Reserves (containing 10,000 hectares of *Natural Temperate Grasslands*) and the Northern Woodland Reserve (containing up to 1,200 hectares of *Grassy Eucalypt Woodland*).
- The Western Grassland Reserves contain the highest quality and largest remnants of Natural Temperate Grasslands known to remain across the 2.3 million hectare Victorian Volcanic Plains bioregion. The reserves will protect most high quality remnants close to Melbourne and increase representation in conservation from the current 2% to 20%.
- The Grassy Woodland Reserve contains the most extensive and best quality *Grassy Eucalypt Woodlands* in the greater Melbourne area. The reserve will secure long term protection for listed species associated with this community such as the Matted Flax-lily.
- The *Biodiversity Conservation Strategy* commits to an additional 36 conservation areas within the growth corridors. These reserves include 2,558 hectares targeting *Natural Temperate Grasslands* and 259 hectares for *Grassy Eucalypt Woodland*.
- The ecological community of *Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains* was listed on 27 March 2012 after completion of the strategic assessment. Approval decisions subsequent to this date must take into account the acceptability of impacts on the ecological community.
- Implementation of the Program will result in loss of 139 hectares of *Seasonal Sebaceous Wetlands* and protection of 383 hectares. The wetlands to be lost are generally of lower quality and have been subject to grazing and cropping pressures. The losses will occur in urban development areas where protection is difficult because of local catchment and hydrology changes. Protected examples mainly occur in the Western Grassland Reserves where catchment and buffer protection is assured.
- The department assessed patches of the ecological community to be cleared and has recommended that one further occurrence be retained. This is Hearn's Swamp which occupies about 55 hectares in the Northern growth corridor (retention of this occurrence is assumed in the above calculations). Further detail is at [Attachment G](#).
- The *Biodiversity Conservation Strategy* also commits to conservation of 80% of high persistence habitat for the Golden Sun Moth, Spiny Rice Flower and Matted Flax Lily across the Victorian Volcanic Plains bioregion (Northern bioregion for the Matted Flax-lily). In addition to the habitat described above, further reserves will be secured outside the growth corridors for these species (Golden Sun Moth (680 hectares), Spiny Rice Flower (394 hectares) and Matted Flax Lily (529 hectares)). These requirements may be met concurrently, and may also be met from the Northern Woodland Reserve.

- The Strategy requires protection and management of 2,918.04 hectares of important habitat and habitat corridors for the Growling Grass Frog. Commitments in the Strategy include:
 - Up to 400 dedicated frog wetlands and ponds created or enhanced within the habitat corridors, spaced every 300 – 700 metres within population nodes.
 - Provision of a minimum 100 metres of managed terrestrial habitat around each frog wetland (subject to landform constraints), including 10 metres immediately adjacent to the wetland of high quality, densely planted indigenous vegetation.
 - Management of habitat within the 15,000 hectare Western Grassland Reserves.
- The department considers that impacts on listed threatened species and communities will be acceptable. Implementation of the Program provides an opportunity to secure 'once in a life-time' landscape-scale protection.

How will these outcomes be achieved?

- Conservation outcomes have been costed by the Victorian Government at about \$1 billion. This will be funded through cost recovery from development using a mixture of prescribed flat fees and calculated offsets. All offsets will be calculated based on 'time stamping' maps that have been prepared by the Victorian Government to describe remnant native vegetation on every developable parcel of land in the growth corridors.
- The Victorian Government has published a document describing the cost recovery model and detailing the fee structure and prices required from developers. The document explains the principles underpinning the model and the method for setting the fees.
- According to the Victorian Government, the offset requirements will not come into effect until the Commonwealth has approved the *Biodiversity Conservation Strategy* and has also approved 'classes of actions' in the relevant growth corridors.
- A monitoring and reporting framework is being developed by the Victorian Government to ensure processes and outcomes are compliant with the Program. This must be approved by the Commonwealth. The framework will be submitted for approval within 6 months of the date of the Commonwealth's approval of classes of actions.
- The Program commits to appointment of an independent monitor to undertake regular audits to ensure that the Victorian Government is compliant with the Program, and to investigate potential breaches. Terms of Reference for audits will be agreed with the department.

The department's recommendation

- The department recommends approval for classes of actions associated with the three growth corridors. The consolidation of offsets into large, contiguous reserves that are actively managed for conservation promotes enhanced conservation outcomes compared to equivalent scattered offsets from project-by-project approvals.
- The approval conditions ([Attachment A](#)) require the conservation areas in the *Biodiversity Conservation Strategy* to remain unaltered over the Program life (unless agreed by the Commonwealth). They also reinforce compliance with the offset mechanisms described in the Strategy given their criticality in providing the funding stream to achieve the conservation outcomes. The approval also excludes developments under the Program in Hearn's Swamp (Northern growth corridor) which is an importance occurrence of the listed *Seasonal Herbaceous Wetlands*.

Summary of the Program - *Delivering Melbourne's Newest Sustainable Communities*

The Program

The Program, *Delivering Melbourne's Newest Sustainable Communities*, was endorsed by the former Minister on 2 Feb 2010. The Program describes actions by the Victorian Government to accommodate Melbourne's growth in four new growth corridors and to deliver acceptable protection of matters of national environmental significance. The Program will be delivered over 30 or more years.

According to the Victorian Government, implementation of the endorsed Program will result in over 350,000 new households supporting one million people, 15 major town centres, 85 local town centres and 350,000 new jobs, with an estimated net present value (2013 dollars) of over \$50 billion. Delivery of conservation outcomes required under the endorsed Program will cost an estimated \$1 billion to be delivered through developer offsets. The majority of offset costs (\$444 million) are associated with land acquisitions for conservation.

The Victorian Government states the Program represents a significant cost savings to landholders, in the order of \$500 million over 30 years, compared to project by project approvals. These savings arise from reductions in holding costs, avoidance of opportunity costs associated with land take in the growth corridors, and reductions in information, administrative, monitoring and reporting costs.

The Program includes the following main elements (see also Figures 1 - 2 ([Attachment D](#))):

- Urban development within 28 existing precincts containing 15,581ha of land for up to 75,000 new homes (approved 8 July 2010)
- A new four-track Regional Rail Link in the west and north of Melbourne passing through the new growth corridors (approved 11 June 2010)
- Urban development in four new growth corridors comprising over 40,000 hectares of land (final approval for three of these corridors is the subject of this briefing package)
- The Outer Metropolitan Ring Road/E6 (OMR/E6) corridor (not proposed for construction for at least 10 years)
- The Western Grassland Reserves to the west of Melbourne totalling 15,000 hectares
- The Grassy Woodland Reserve to the north of Melbourne of at least 1,200* hectares
- A system of conservation areas within the growth corridors totalling 5,735 hectares
- Up to 1,603* hectares of reserves outside the growth corridors to meet protection targets for the Golden Sun Moth, Spiny Rice-flower and Matted flax-lily.

Delivery of the Program

The Program will be delivered through existing Victorian planning legislation and instruments. Local Government Planning Schemes will be progressively amended under the Victorian *Planning and Environment Act 1987*. These amendments must occur before developments can proceed and provide the statutory basis for implementing the Program.

Broad-scale planning

The key broad-scale statutory planning instruments are Growth Corridor Plans. These plans guide the creation of new communities, in accordance with state planning policies, and show land use patterns including urban development, transport corridors, important waterways and conservation areas. The plans are informed and guided by a *Biodiversity Conservation Strategy* which must be approved by the Commonwealth (approved 2 August 2013). The *Strategy* directs specific conservation outcomes in the growth corridors to protect matters of national environmental significance.

* These reserve targets may be met concurrently

The Victorian Government released Growth Corridor Plans for the four growth corridors in mid-June 2012. These plans do not need to be approved by the Commonwealth, but must reflect the conservation outcomes of the *Biodiversity Conservation Strategy*. While the release of the framework plans by the Victorian Government may be seen as premature, development under the strategic assessment provisions of the EPBC Act cannot commence until the Commonwealth has approved the *Strategy* and classes of actions.

The Victorian Government finalised and published the *Biodiversity Conservation Strategy* and supporting sub-regional strategies on 13 May 2013. The department considers that these strategies will ensure acceptable protection of matters of national environmental significance and will result in a net gain in conservation (department's assessment at [Attachment G](#)). The strategies were approved by the Minister on 2 August 2013.

Precinct level planning

Precinct Structure Plans define the structure of a suburb, or group of suburbs, detailing the location of housing, activity centres, employment centres, community facilities, local transport networks and open space. They also identify the location of conservation areas required under the *Biodiversity Conservation Strategy*.

The Precinct Structure Plans must be prepared in accordance with the Growth Corridor Plans and *Precinct Structure Planning Guidelines* approved by the Victorian Government. The guidelines draw together all relevant planning legislation and policies that must be addressed in preparing statutory plans under the Program, including for management of biodiversity.

New reserves

The Victorian Government has committed in the Program to landscape-scale reserves to offset impacts from development. The Western Grassland Reserves, totalling 15,000 hectares, will be established in western Melbourne ([Figure 3](#)). The mechanisms to acquire and manage the reserves are as follows:

- A Public Acquisition Overlay for the reserves has been incorporated into local planning schemes. This reserves the private lands for voluntary or compulsory acquisition by the Victorian Government.
- Environmental Significance Overlays for the reserve areas have been incorporated into local planning schemes prohibiting developments on the native grasslands.
- Lands are being progressively acquired by the state as funds become available from new development areas. Currently about 10% has been acquired.
- National Park or reserve management plans will be prepared and implemented by Parks Victoria, based on an adaptive management approach.

The Victorian Government has also committed to the protection of at least 1,200 hectares of listed Grassy Eucalypt Woodlands (Grassy Woodland Reserve). Protection will include the planning mechanisms described above and permanent covenants with landholders (compulsory acquisitions are not envisaged). The reserve area is shown at [Figure 5 \(Attachment D\)](#).

The consolidation of offsets into large, contiguous reserves that are actively managed for conservation promotes enhanced conservation outcomes compared to equivalent scattered offsets. The department considers that these reserves are a key step in the long-term protection and conservation of threatened ecological communities and species across the 2.3 million hectare Victorian Volcanic Plains bioregion.

The *Biodiversity Conservation Strategy* also commits to conservation of 80% of high persistence habitat for the Golden Sun Moth, Spiny Rice Flower and Matted Flax Lily across the Victorian Volcanic Plains bioregion and outside the Program area. This will ensure that the

best quality populations and habitat are secure at the bioregion level.

Mechanism for offsets

Conservation outcomes have been costed by the Victorian Government at about \$1 billion. This will be funded through cost recovery from development.

The Victorian Government has published a document describing the cost recovery model and detailing the fee structure and prices to be collected from developers (*Habitat compensation under the Biodiversity Conservation Strategy - Melbourne Strategic Assessment* (August 2013)). The document explains the principles underpinning the model and the method for setting the fees. It also sets out governance, accountability and transparency measures to administer and review the fees.

The offset requirements will not come into effect until the Commonwealth has approved the *Biodiversity Conservation Strategy* and sub-regional strategies (approved 2 August 2013), and has also approved 'classes of actions' in the relevant growth corridors (draft approval made 2 August 2013 and the final approval is the subject of this briefing package).

Monitoring and Reporting

A monitoring and reporting framework is being developed by the Victorian Government to ensure processes and outcomes are compliant with the Program. This must be approved by the Commonwealth. The framework will be submitted for approval within 6 months of the date of Commonwealth final approval for the 'classes of actions'.

The Program commits to appointment of an independent monitor to undertake regular audits to ensure that the Victorian Government is compliant with the Program, and to investigate potential breaches. Terms of Reference for audits will be agreed with the department.

Compliance

An tenet of strategic approvals is that the actions must be taken in accordance with the endorsed Program, otherwise the approval for 'classes of actions' may lapse and developers will not receive any advantage from the Program (e.g. individual referrals must be made).

In approving 'classes of actions' under the endorsed Program, the Minister may also impose approval conditions. This means that the enforcement provisions of the EPBC Act will apply to any condition breaches by developers, whether collectively or individually.

The approval conditions (Attachment A) require the conservation areas in the *Biodiversity Conservation Strategy* to remain largely unaltered over the Program life (unless agreed by the Minister) and reinforce compliance with the offset mechanisms described in the *Strategy*. The approval also prohibits developments under the Program in Hearn's Swamp (Northern growth corridor) which is an importance occurrence of the listed critically endangered *Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains*.

Program justification and benefits

The Program is the Victorian Government's response to anticipated growth in Melbourne's population of another 1.8 million people over the next 30 years, to bring the total population past five million. To accommodate this growth, and provide affordable housing, the Victorian Government is planning for construction of 600,000 new dwellings in metropolitan Melbourne over the next 20 years, with over half in the growth corridors.

The Victorian Government anticipates a similar increase in the number of jobs in Melbourne with growth from 1.86 million to 3 million by 2036. The new growth corridors are expected to provide for up to 360,000 jobs. The Program employs a "polycentric" city structure that

includes several large employment centres that are centrally located in the growth corridors.

The Melbourne CBD and inner suburbs will still provide the majority of jobs and increased urban growth will further squeeze transport links. The Program includes design and integration of urban development around high capacity transport infrastructure such as the approved Regional Rail Link.

The Program also seeks to address the imbalance of Melbourne's growth that has focussed on eastward and south-eastward expansion. The Victorian Government believes that creation of the new growth corridors in the north and west will provide a greater balance to Melbourne's expansion with easier and more equitable access to affordable housing, employment and services for the growing population.

In summary, the Program for the new growth corridors seeks to:

- Deliver affordable housing in an orderly and planned manner.
- Provide high capacity, efficient transport infrastructure which does not contribute to inner city congestion.
- Integrate urban development with transport infrastructure to ensure easier and more equitable access to employment, education and services.
- Deliver net gains in conservation of matters of national environmental significance.

Program outcomes for matters of national environmental significance

Development under the endorsed Program will impact on 3 listed ecological communities and 5 key listed threatened species. These are the critically endangered *Natural Temperate Grasslands of the Victorian Volcanic Plain*, *Grassy Eucalypt Woodlands of the Victorian Volcanic Plain* and *Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains*, as well as associated species such as the critically endangered Golden Sun Moth and Spiny Rice Flower, endangered Matted Flax-lily and vulnerable Striped Legless Lizard. The vulnerable Growling Grass Frog will also be impacted.

Natural Temperate Grasslands of the Victorian Volcanic Plain (Natural Temperate Grasslands)

Development of the growth corridors under the Program will have the following outcomes:

- Clearing of up to 3,278 hectares of Natural Temperate Grasslands.
- Creation of the new Western Grassland Reserves (15,000 hectares) of which 10,000 hectares is Natural Temperate Grasslands.
- Retention of Natural Temperate Grasslands in 36 conservation areas (up to 2,558 hectares) within the growth corridors identified in the *Biodiversity Conservation Strategy*.

The maximum 3,278 hectares to be cleared is equivalent to 1,354 'habitat hectares' under the Victorian *Native Vegetation Management Framework* requirements endorsed through the Program. This is similar to the 'quality score' concept and calculation for native vegetation used in the Commonwealth *EPBC Act Environmental Offset Policy* (SEWPAC October 2012).

The low score of 'habitat hectares' (e.g. less than half of the grassland areas to be actually cleared) reflects the relatively poor condition class of the affected grasslands. Applying 'net gain' multipliers under the Victorian *Native Vegetation Management Framework* results in a total offset requirement of 2,541 'habitat hectares'.

The Western Grassland Reserves contain 10,000 hectares of Natural Temperate Grasslands equivalent to 4,154 'habitat hectares'. The 2,541 'habitat hectares' offset will be met through acquisitions, conservation and improvement of Natural Temperate Grasslands in the Western Grassland Reserves as development in the growth corridors proceeds. These acquisitions are

proceeding with 10% of the reserves acquired to date.

The Western Grassland Reserves contain the highest quality and largest remnants of Natural Temperate Grasslands known to remain across the 2.3 million hectare Victorian Volcanic Plains bioregion. The reserves will protect the majority of high quality remnants in proximity to Melbourne and increase representation in the conservation estate from the current 2% to 20%.

Grassy Eucalypt Woodland of the Victorian Volcanic Plain (Grassy Eucalypt Woodland)

Development of the growth corridors under the Program will have the following outcomes:

- Avoidance of 314 hectares of Grassy Eucalypt Woodland through changes to the growth boundary.
- Clearing of up to 167 hectares of potential Grassy Eucalypt Woodland (39% of the community within the growth corridors).
- Retention and conservation of an estimated 61% (259 hectares) of potential Grassy Eucalypt Woodland in the new growth corridors (within the 36 conservation areas identified in the *Biodiversity Conservation Strategy*).
- A new conservation reserve for Grassy Eucalypt Woodland (Grassy Woodland Reserve) outside the urban growth boundary of at least 1,200 hectares.

The boundary of the Grassy Woodland Reserve is yet to be finalised. The Program states that detailed surveys will identify the best areas followed by consultation, including with landholders, to finalise the boundaries and commence the statutory protection process. Scheduling and timing for this process are described in the *Biodiversity Conservation Strategy*.

The Grassy Woodland Reserve would represent the most extensive and best quality woodlands in the greater Melbourne area. The reserve will also secure long term protection for listed species associated with this ecological community such as the Matted Flax-lily.

Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains (Seasonal Herbaceous Wetlands)

This ecological community was listed on 27 March 2012 after completion of the strategic assessment. Approval decisions subsequent to this date must take into account the acceptability of impacts on the newly listed ecological community. The department's detailed assessment is at Attachment G.

There are an identified 533 hectares of likely Seasonal Herbaceous Wetlands in the growth corridors and Western Grassland Reserves. Of this total, up to 194 hectares (36%) will be lost to development and 339 hectares (64%) will be protected. The loss is in the range of 0.3 – 1% of the current estimated extent of the community in Victoria (10,875 – 12,623 hectares).

The department assessed patches of the ecological community to be cleared and concluded that one further occurrence should be retained. This is Hearn's Swamp which contains up to 55 hectares along the northern boundary of the Northern growth corridor. The swamp is thought to have once occupied about 300 hectares. The *Biodiversity Conservation Strategy* zones Hearn's Swamp for Urban Growth, Rural Conservation, Urban Flood and Farming.

The approval (Attachment A) specifically excludes development at Hearn's Swamp. Developments likely to have a significant impact on the ecological community will need to be individually referred, assessed and approved under the EPBC Act. This will allow a more detailed consideration of potential impacts and acceptability.

The loss of Seasonal Herbaceous Wetlands is reduced from 194 hectares to 139 hectares (decrease of 30%) and the total protected increased from 339 hectares to 383 hectares (increase of 13%) if Hearn's Swamp is excluded.

Golden Sun Moth (*Synemon plana*)

Development of the growth corridors under the Program will have the following outcomes:

- Loss of up to 3,278 hectares of Natural Temperate Grasslands providing potential habitat.
- Protection of 80% of highest quality habitat with confirmed Golden Sun Moth populations across the Victorian Volcanic Plain Bioregion through:
 - Conservation of 8,100 hectares of potential habitat within the 15,000 hectare Western Grassland Reserves.
 - Protection of 410 hectares within the 36 conservation areas in the growth corridors known to contain Golden Sun Moth.
 - Protection of an additional 680 hectares of confirmed habitat outside the Western Grassland Reserves and growth corridors.

The endorsed Program commits the Victorian Government to permanently protect and manage 80% of the highest priority habitats for the Golden Sun Moth in the 2.3 million hectare Victorian Volcanic Plains bioregion. The highest priority habitat generally coincides with good quality listed Natural Temperate Grasslands, or Grassy Eucalypt Woodlands, with confirmed populations of the moth and where the populations are likely to persist based on modelled data.

The approved *Biodiversity Conservation Strategy* and accompanying *Sub-regional Species Strategy for the Golden Sun Moth* (May 2013) prescribe how the 80% outcome will be achieved. The *Strategy* states that all clearing in the Western, North-western and Northern growth corridors (excluding any areas identified as Growling Grass Frog habitat) will invoke a compensatory habitat fee for the Golden Sun Moth. The fee has been calculated as a flat cost per hectare for non native vegetation (\$7,914 per hectare) and is already incorporated into the cost per hectare for all native vegetation (\$95,075).

Spiny Rice-flower (*Pimelea spinescens*)

Development of the growth corridors under the Program will have the following outcomes:

- Clearing of up to 3,278 hectares of Natural Temperate Grasslands which provides potential habitat for the Spiny Rice-flower.
- Protection of 80% of highest quality habitat with confirmed Spiny Rice-flower populations across the Victorian Volcanic Plain Bioregion through:
 - Creation of the new Western Grassland Reserves totalling 15,000 hectares, of which 10,000 hectares is Natural Temperate Grasslands providing potential habitat for the Spiny Rice-flower.
 - Addition retention of potential Natural Temperate Grassland habitat in 36 conservation areas (covering 2,757 hectares) within the growth corridors identified in the *Biodiversity Conservation Strategy*. This includes protection of four of the seven known populations of more than 200 plants (two of these are currently protected and the remaining population falls outside the Program area).
 - Additional conservation of 394 hectares of high quality and confirmed habitat for the Spiny Rice-flower outside the Urban Growth Boundary.

The endorsed Program commits the Victorian Government to permanently protect and manage 80% of the highest priority habitats for the Spiny Rice Flower in the Victorian Volcanic Plains bioregion. The highest priority habitat generally coincides with good quality listed Natural Temperate Grasslands, or Grassy Eucalypt Woodlands, with confirmed populations of the plant and where the populations are likely to persist based on modelled data.

The approved *Biodiversity Conservation Strategy* states that all land within patches of native vegetation in the Western and North-western growth corridors will invoke a flat compensatory

habitat fee for Spiny Rice-flower if cleared (\$7,937 per hectare). This will cover the cost of acquiring, establishing and managing conservation areas for Spiny Rice-flower in the Western Grassland Reserves, *in situ* conservation areas and 394 hectares outside the Urban Growth Boundary.

Striped Legless Lizard (*Delma impar*)

Development of the growth corridors under the Program will have the following outcomes:

- Clearing of up to 3,278 hectares of Natural Temperate Grasslands which may provide potential habitat for the Striped Legless Lizard.
- Creation of the new Western Grassland Reserves totalling 15,000 hectares, of which 10,000 hectares is Natural Temperate Grasslands that may provide potential habitat for the Striped Legless Lizard.
- Protection of the majority of current known populations, and additional retention of known or potential habitat, in 21 of the 36 conservation areas.
- A program of research and monitoring to provide a basis for adaptive management of the Striped Legless Lizard in the Western Grassland Reserves.

The Victorian Government has prepared a salvage and translocation protocol that must be applied if potential habitat is being cleared (*Striped Legless Lizard Salvage and Translocation Strategic and Operational Plan*, 2011). The protocol defines the type of salvage that must be implemented.

The Western Grassland Reserves are yet to be fully surveyed for this species. However, substantial populations are expected to exist based on modelling, habitat availability and its presence in adjacent and similar habitats nearby.

Implementation of the Program will see large areas (at least 15,000 hectares) of permanently protected grassland habitat established and managed in a way that enables the species to be sustained over the long term through a series of connected populations and adaptive management regimes. The Striped Legless Lizard is particularly vulnerable to edge effects, and one-off catastrophic occurrences that may affect smaller urban reserves, and is not likely to persist in such circumstances.

Matted Flax-lily (*Dianella amoena*)

Development of the growth corridors under the Program will have the following outcomes:

- Avoidance of 314 hectares of potential habitat (Grassy Eucalypt Woodland) through changes to the growth boundary.
- Clearing of up to 167 hectares of 'highly likely' Grassy Eucalypt Woodland (providing potential habitat).
- Protection of 80% of highest quality habitat with confirmed Matted Flax-lily populations across the Victorian Volcanic Plain Bioregion through:
 - Conservation of an estimated 61% (259 hectares) of potential Grassy Eucalypt Woodland habitat in the new growth corridors (within the 36 conservation areas identified in the *Biodiversity Conservation Strategy*).
 - A new conservation reserve (Grassy Woodland Reserve) with potential habitat of 1,200 hectares.
 - Additional retention of 529 hectares of high quality and confirmed habitat for the Matted Flax Lily outside the Urban Growth Boundary (this commitment may also be met from the Grassy Woodland Reserve).

The endorsed Program commits the Victorian Government to permanently protect and manage 80% of the highest priority habitat for the Matted Flax Lily in the northern bioregion. The 80% target has been calculated based on surveys and predictive modelling undertaken by DSE. The habitat required outside the Urban Growth Boundary to meet this target is 529 hectares.

The *Biodiversity Conservation Strategy* states that all patches of native vegetation in the Northern growth corridor will invoke a flat compensatory habitat fee for Matted Flax Lily if cleared (\$11,196 per hectare). This will cover the cost of acquiring, establishing and managing conservation areas including the 529 hectares outside the Urban Growth Boundary.

The *Biodiversity Conservation Strategy* also requires implementation of a fully costed translocation and propagation plan to ensure protection of genetic stock where clearing is allowed. The species is amenable to translocation which has occurred at a number of sites in the Melbourne region.

Growling Grass Frog (*Litoria raniformis*)

Implementation of the Program will result in the following key outcomes:

- Loss of up to 9,374 hectares (comprising 8,001 hectares in the 4 growth corridors and 1,373 hectares in the already approved 28 precincts) of potential foraging habitat (estimate based on maximum possible usage by the frog following a series of wet years).
- Retention and management of 2,918.04 hectares of known important habitat for the Growling Grass Frog within or adjacent to the new growth centres, with connectivity along creeks between core populations.
- Management of suitable habitat within the 15,000 hectare Western Grassland Reserves.
- Establishment of sustainable populations in new wetlands within a 300 hectare area at Koo-Wee-Rup to the south-east of Melbourne.

The approved *Sub-regional Species Strategy for the Growling Grass Frog* (May 2013) provides detail on the acquisition, design and management of reserve areas for Growling Grass Frog to ensure protection of key breeding populations and movement corridors. The sub-regional strategy commits to the following minimum requirements:

- Up to 400 dedicated frog wetlands and ponds created or enhanced within the Urban Growth Areas, spaced every 300 – 700 metres within metapopulation nodes.
- Provision of a minimum 100 metres of managed terrestrial habitat around each frog wetland (subject to landform constraints), including 10 metres immediately adjacent to the wetland of high quality, densely planted indigenous vegetation.
- An overall objective for the combination of dedicated frog wetlands/ponds and managed buffers (100 metres), and stormwater wetlands, to occupy at least 50% of habitat areas.
- Guidelines for management of predatory fish, and other indirect impacts, to be implemented in Conservation Management Plans for each precinct.
- A 10 year intensive survey period post-construction.

In addition, the Program will establish a new wetland complex within a 300 hectare area situated on the site of the former Koo Wee Rup swamp. This will be managed to provide habitat for the Growling Grass Frog as well as enhancing water quality runoff into the Western Port Ramsar site. The Growth Areas Authority and Melbourne Water have committed to undertake investigations for the establishment and management of these wetlands.

Conclusion on listed species and ecological communities

Development in the growth corridors will result in loss of up to 3,278 hectares of listed Natural Temperate Grasslands and 167 hectares of potential Grassy Eucalypt Woodland. Impacts on

these ecological communities will also lead to losses for associated listed species such as the Golden Sun Moth, Spiny Rice-flower, Striped Legless Lizard and Matted Flax-lily.

The loss of these ecological communities and habitat for listed species will be offset as described in the approved *Biodiversity Conservation Strategy*. This will result in a substantive net gain in conservation and protection through the 15,000 hectare Western Grassland Reserves (containing 10,000 hectares of Natural Temperate Grasslands) and the 1,200 hectare Grassy Woodland Reserve (containing up to 1,200 hectares of Grassy Eucalypt Woodland).

The *Strategy* commits to the establishment of an additional 36 conservation areas within the growth corridors to protect important regional and local biodiversity. These reserve areas include 2,558.30 hectares targeting Natural Temperate Grasslands and 259 hectares for Grassy Eucalypt Woodland.

The *Strategy* also commits to conservation of 80% of high persistence habitat for the Golden Sun Moth, Spiny Rice Flower and Matted Flax Lily across the broader bioregion. In addition to the reserves described above, further areas will be secured outside the growth corridors for these species (Golden Sun Moth (680ha), Spiny Rice Flower (394ha) and Matted Flax Lily (529ha)). These requirements may be met concurrently, and may also be met from the Grassy Woodland Reserve.

The *Strategy* also requires protection and management of 2,918.04 hectares of important habitat for the Growling Grass Frog. This will be managed to enhance values for the frog.

The department considers that impacts on listed threatened species and communities will be acceptable provided the project is implemented in accordance with the Program. Implementation of the Program provides an opportunity to secure 'once in a life-time' landscape-scale protection for affected matters of national environmental significance.

Commonwealth EPBC Act Environmental Offset Policy

Offset requirements and outcomes under the Program are consistent with the principles in the Commonwealth *EPBC Act Environmental Offset Policy* (SEWPAC October 2012). Implementation of the Program will result in a net conservation gain for matters of national environmental significance.

The Program was endorsed prior to completion of the Commonwealth policy and uses a different metric. However, both approaches share common features and calculated outcomes are similar. The Commonwealth policy states:

The policy applies to both project-by-project assessments and approvals under Parts 8 and 9 of the EPBC Act and to strategic assessments under Part 10 of the EPBC Act. Proposed new strategic assessments may consider alternative metrics other than the *Offset assessment guide* (e.g. if a jurisdiction has developed a metric tailored to their needs) provided the principles of this policy are met. This will be considered on a case by case basis.

Strategic assessments may provide a superior outcome than is implied by a straight out comparison of metrics and offset ratios. This is because of the efficiencies of scale and delivery of certainty about the conservation value of offsets. The following briefly describes key difference between offsets at the strategic and project-by-project levels.

A strategic assessment examines biodiversity at the landscape scale to identify the most beneficial offsets at the broadest practical scale. Offsets will be consolidated and managed to deliver the maximum benefit for biodiversity. This is a superior outcome compared to typical

individual project offsets that may be scattered across the landscape, of varying size and of uncertain long term conservation benefit. The outcomes for biodiversity are uncertain in the absence of a regional overview to ascertain the most beneficial offsets. Individual projects typically require high offset ratios because the offset may be more opportunistic and its value uncertain in achieving an overall net conservation gain.

Strategic assessments explicitly identify cumulative impacts from all developments and also capture clearing that may not be regulated under the EPBC Act. For example, clearing of a listed ecological community or habitat for threatened species must undergo a significance threshold test before it is regulated under Part 9 of the EPBC Act. Unregulated clearing can be cumulatively significant, but project by project offsets cannot account for this.

A strategic assessment does not have a significance threshold test and every square metre of the listed ecological community and habitat must be accounted for and offset. In the case of the Western Sydney Strategic Assessment, nearly 30% of the Cumberland Plain Woodland to be cleared (400 hectares of the total 1200 hectares) was assessed as below the threshold of significance (because of fragmented ownership) and would not require referral. A strategic approach explicitly takes into account all clearing in the offset calculation and may be fairer since regulated developers are not effectively paying a cost premium for unregulated clearing.

Strategic assessments typically identify biodiversity outcomes at the landscape scale. The societal cost (monetary) over the program life to achieve this outcome is then calculated. Finally, an equitable, transparent and fair pricing mechanism is implemented. A key principle is to ensure intergenerational equity across the life of the program. By comparison, a project by project approach may have affordable offset requirements now, but costs will increase as the offsets become increasingly scarce. In a free market, this means that clearing may eventually be unaffordable.

The strategic assessment approach explicitly accounts for intergenerational equity in the mechanism to pay for the identified biodiversity outcomes. The offset costs are distributed across the life of the Program so that the relative contribution to housing costs is the same now or in 30 years time (subject to indexing). This is fairer for future home owners because the burden is shared across generations.

APPROVAL DECISION FOR THE TAKING OF ACTIONS IN ACCORDANCE WITH AN ENDORSED PROGRAM UNDER THE ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999 (EPBC ACT)

FINAL APPROVAL FOR URBAN DEVELOPMENT IN THREE GROWTH CORRIDORS UNDER THE MELBOURNE URBAN GROWTH PROGRAM STRATEGIC ASSESSMENT

This approval decision is for actions falling within the specified class of actions below. Conditions of approval are at [Annexure 1](#). Further information and explanation is at [Annexure 3](#).

Approved class of actions	<p>All actions associated with urban development in the Western growth corridor (Melton and Wyndham), North-western growth corridor (Sunbury) and Northern growth corridor (Hume, Whittlesea and Mitchell) in the expanded Melbourne 2010 Urban Growth Boundary as described at page 4 in the <i>Biodiversity Conservation Strategy for Melbourne's Growth Corridors</i> (Victorian Government Department of Environment and Primary Industries, June 2013) approved under the endorsed Program - <i>Delivering Melbourne's Newest Sustainable Communities</i> (Victorian Government, December 2009).</p> <p>The approved class of actions excludes development in the Northern growth corridor within the boundary of Hearn's Swamp as shown at Annexure 2.</p> <p>The approved class of actions excludes developments in properties 3, 4, 6, 7 and 9 identified in the Victorian Government <i>Diggers Rest Precinct Structure Plan</i> (Growth Areas Authority, 2012).</p>
Relevant controlling provisions	<p>The approval has effect for:</p> <ul style="list-style-type: none"> • World heritage properties (sections 12 and 15A) • National heritage places (sections 15B and 15C) • Wetlands of international importance (sections 16 & 17B) • Listed threatened species and communities (sections 18 & 18A) • Listed migratory species (sections 20 & 20A)
Conditions of approval	<p>This approval is subject to the conditions specified at Annexure 1.</p>
Period for which approval has effect	<p>The approval has effect until 31 December 2060</p>
General	<p>Further explanatory information related to this approval decision is at Annexure 3.</p>

Person authorised to make decision

Name and Position The Hon Mark Butler MP
 Minister for the Environment, Heritage and Water

Signature

Date of decision

DRAFT

CONDITIONS OF APPROVAL

Actions must be undertaken in accordance with the following conditions to ensure protection of listed threatened species and ecological communities, listed migratory species and the ecological character of the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site and the Western Port Ramsar site.

Actions must be undertaken in accordance with approved strategies

- 1) Persons taking actions must undertake the actions in accordance with the following strategies approved by the Minister pursuant to the Program of the Victorian Government for Melbourne's urban growth, as described in *Delivering Melbourne's Newest Sustainable Communities* (Victorian Government, December 2009), for protection of matters of national environmental significance:
 - a) *Biodiversity Conservation Strategy for Melbourne's Growth Corridors* (Victorian Government Department of Environment and Primary Industries, June 2013)
 - b) *Sub-regional Species Strategy for the Golden Sun Moth* (Victorian Government Department of Environment and Primary Industries, May 2013)
 - c) *Sub-regional Species Strategy for the Growling Grass Frog* (Victorian Government Department of Environment and Primary Industries, May 2013).

Actions cannot occur in conservation areas without agreement

- 2) Persons must not take any actions, resulting in a net loss of habitat for listed ecological communities and listed species, in any of the 36 conservation areas described in Section 5 of the *Biodiversity Conservation Strategy for Melbourne's Growth Corridors* (Victorian Government Department of Environment and Primary Industries, June 2013) unless agreed by the Minister.

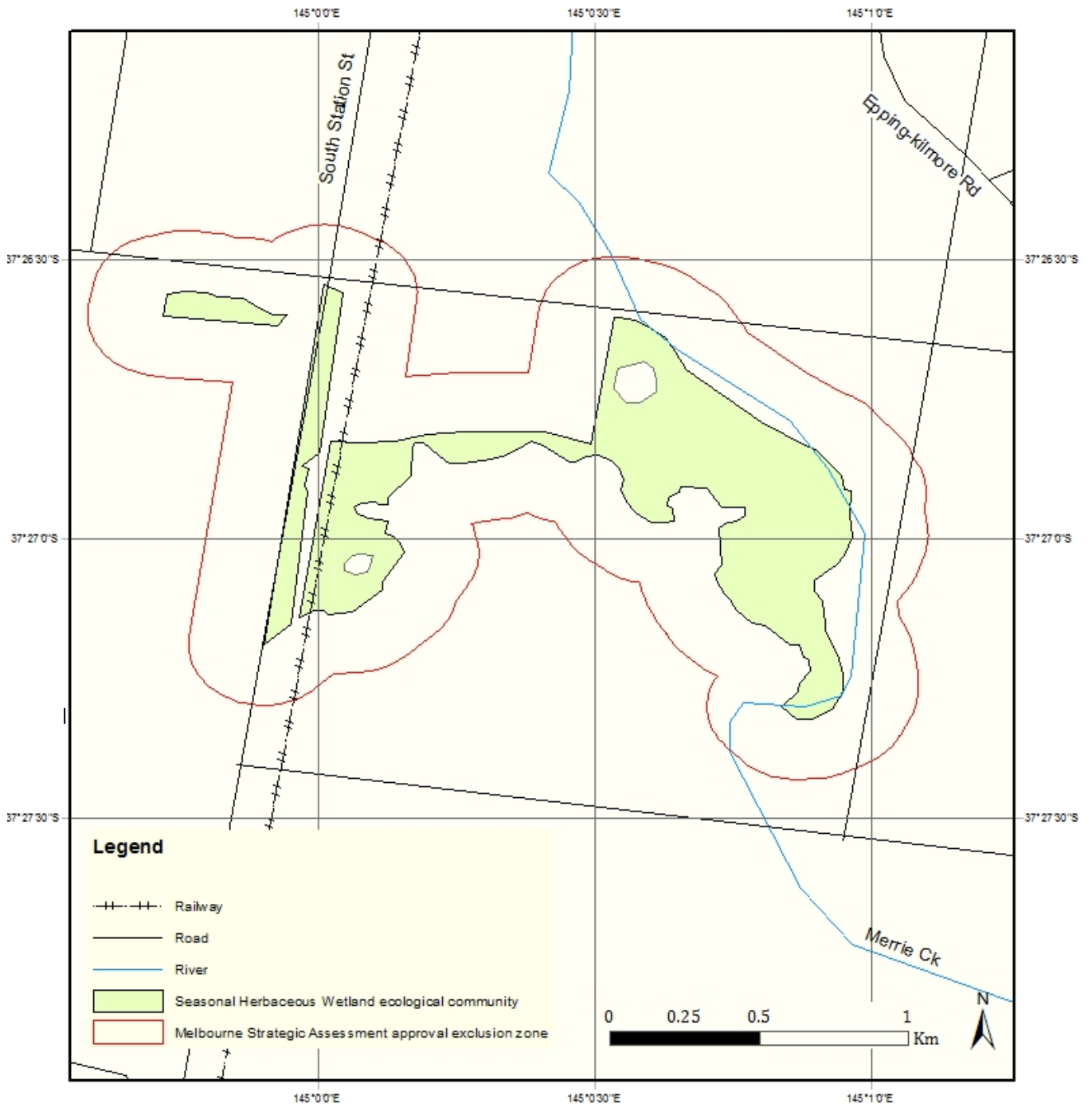
Changes to the area or boundaries of conservation areas cannot occur without agreement

- 3) Persons must not take any actions that would cause, or otherwise facilitate, a net loss of area of the conservation areas numbered 10, 14, 15, 18, 20, 21, 28, 33, 34, 35 and 36 as described in Section 5 of the *Biodiversity Conservation Strategy for Melbourne's Growth Corridors* (Victorian Government Department of Environment and Primary Industries, June 2013), unless agreed by the Minister.
- 4) Persons must not take any actions that would cause, or otherwise facilitate, a change in the boundaries of the conservation areas numbered 1 to 9, 11 to 13, 16, 17, 19, 22 to 27, and 29 to 32 as described in Section 5 of the *Biodiversity Conservation Strategy for Melbourne's Growth Corridors* (Victorian Government Department of Environment and Primary Industries, June 2013), unless agreed by the Minister.

Habitat compensation requirements for actions potentially affecting listed ecological communities and species

- 5) Persons taking actions must comply with the habitat compensation arrangements and fees described in the following documents:
 - *Biodiversity Conservation Strategy for Melbourne's Growth Corridors* (Victorian Government Department of Environment and Primary Industries, June 2013)
 - *Habitat compensation under the Biodiversity Conservation Strategy – Melbourne Strategic Assessment* (Victorian Government Department of Environment and Primary Industry, August 2013) and as amended by the Victorian Government from time to time.

Map of Hearn's Swamp showing area excluded from the approved classes of action



EXPLANATORY INFORMATION

Background

This approval decision is made under section 146B of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) which provides for the Minister responsible for administering the Act (the Minister) to approve actions, or classes of actions, undertaken in accordance with an endorsed policy, plan or program. An approval under section 146B of the EPBC Act has the same effect as an approval given under Part 9 of the Act. Actions approved under this decision, and taken in compliance with this approval and conditions at Annexure 1, will not require separate referral, assessment or approval under the EPBC Act in order to be taken.

On 2 February 2010 the Minister endorsed, pursuant to section 146 of the EPBC Act, the Program of the Victorian Government for Melbourne's urban growth as described in *Delivering Melbourne's Newest Sustainable Communities* (Victorian Government, December 2009). The endorsed Program includes actions associated with urban development in four growth corridors in the 2010 Melbourne Urban Growth Boundary as well as 28 precincts located within the 2005 Melbourne Urban Growth Boundary.

Actions associated with urban development within the 28 precincts identified on page 17 of the endorsed Program were approved by the Minister on 8 July 2010 subject to prescriptions approved by the Minister for protection of matters of national environmental significance.

The endorsed Program included a commitment by the Victorian Government to prepare a *Biodiversity Conservation Strategy* for the four growth corridors, and accompanying sub-regional strategies for the Growling Grass Frog, Golden Sun Moth and Southern Brown Bandicoot, and for these strategies to be approved by the Minister.

The Minister has subsequently approved the following strategies:

- a) *Biodiversity Conservation Strategy for Melbourne's Growth Corridors* (Victorian Government Department of Environment and Primary Industries, June 2013)
- b) *Sub-regional Species Strategy for the Golden Sun Moth* (Victorian Government Department of Environment and Primary Industries, May 2013)
- c) *Sub-regional Species Strategy for the Growling Grass Frog* (Victorian Government Department of Environment and Primary Industries, May 2013)

The *Biodiversity Conservation Strategy* has applied the protection requirements of the approved prescriptions to identify conservation areas. The requirements in the prescriptions relating to offsetting, salvage and translocation and conservation management plans have been incorporated into the *Biodiversity Conservation Strategy*. Implementation of the *Biodiversity Conservation Strategy* will therefore give effect to the prescriptions to ensure protection of matters of national environmental significance.

Compliance with the *Biodiversity Conservation Strategy* will satisfy the requirements of the prescriptions in relation to the existing 28 precincts for which a planning scheme amendment to introduce a precinct structure plan is approved after 1 March 2012, as well as the Truganina Employment Area (described at page 4 of the approved *Biodiversity Conservation Strategy*).

To remove doubt, compliance with the *Biodiversity Conservation Strategy* will fully meet the requirements of the approval made by the Minister on 8 July 2010 for the precincts included in the approved *Biodiversity Conservation Strategy*. The previous approval made on 8 July 2012 continues to apply for the remainder of the 28 precincts. There are also several additional areas of land within specified precincts in the growth corridors for which the

prescription for Golden Sun Moth will continue to apply (Page 16 of the *Biodiversity Conservation Strategy*).

In implementing this approval, the endorsed Program and approved *Biodiversity Conservation Strategy* will provide the basis for any necessary interpretation and resolution. The Minister will provide final interpretation and guidance if required.

Excluded actions

This approval excludes actions within the area of land at Hearn's Swamp in the Northern growth corridor shown at Annexure 2 containing potential occurrences of *Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains*, a listed ecological community under the EPBC Act.

The excluded area has been identified from the report *The Impact of Melbourne's growth on 'Seasonal herbaceous wetlands (freshwater) of the temperate lowland plains* (Victorian Government Department of Environment and Primary Industries, May 2013). This report identified potential occurrences of the listed ecological community at Hearn's Swamp. The area excluded includes a 200 metre buffer from the mapped potential occurrences of the ecological community.

To remove doubt, actions within the area of land identified at Annexure 2 are not prohibited by this approval, but must meet the normal requirements of the EPBC Act and may be referred and considered in accordance with the requirements of Parts 7, 8 and 9 of the EPBC Act.

The approval also excludes developments in properties 3, 4, 6, 7 and 9 identified in the Victorian Government *Diggers Rest Precinct Structure Plan* (Growth Areas Authority, 2012) which, at the time of this approval, were subject to separate consideration under Parts 7, 8 and 9 of the EPBC Act.

Approval conditions

The approval conditions require actions (whether individually or collectively) to fully comply with the approved *Biodiversity Conservation Strategy* and sub-regional species strategies for Golden Sun Moth and Growling Grass Frog for avoidance, mitigation and offset of impacts on matters of national environmental significance. In addition, all actions must comply with the habitat compensation arrangements and fees described in the document *Habitat compensation under the Biodiversity Conservation Strategy – Melbourne Strategic Assessment* (Victorian Government Department of Environment and Primary Industry, August 2013) and as amended from time to time by the Victorian Government.

Approval condition (2) states that no actions associated with urban development, resulting in a net loss of habitat for listed ecological communities and listed species, will occur in the 36 conservation areas described at Section 5 (pages 47 to 126 and identified in Figures 23 to 51) of the *Biodiversity Conservation Strategy* unless agreed by the Minister. This is to ensure that urban-related developments, such as roads, bridges and utility corridors, do not erode the values of the conservation areas for matters of national environmental significance over time.

Condition (2) does not require approval for actions where there is no net loss in habitat for an individual conservation area. Habitat means an area of land contained a listed ecological community under the EPBC Act or supporting individuals or populations of listed threatened species under the EPBC Act. The condition recognises that there may be instances where urban infrastructure cannot be avoided and there could be a net loss of habitat in an individual conservation area. Such instances will need to be approved by the Minister. Instances may be approved if there are no reasonable alternatives, there is a net

conservation gain elsewhere for the relevant protected matters and it can be demonstrated that the values of the conservation area will be maintained.

Approval condition (3) states that no actions that could result in, or facilitate, a *net loss of area* of the specified conservation areas can occur unless agreed by the Minister. The *Biodiversity Conservation Strategy* (Section 5) provides for minor changes to the boundaries of the specified conservation areas. This is permitted under the condition provided there is no net loss in the area.

Approval condition (4) states that no actions that could result in, or facilitate, a *change in the boundary* of the specified conservation areas can occur unless agreed by the Minister. The intent is to ensure that the boundaries of the specified conservation areas do not change over the life of the Program.

Program evaluation and consistency reports

Program evaluation, monitoring and reporting requirements for approved classes of actions under the Program are described at Section 11 of the Program report. These requirements are the responsibility of the Victorian Government. In particular, the Victorian Government must prepare and submit a Monitoring and Reporting Framework to the Minister for approval.

As an interim measure, the Victorian Government Department of Environment and Primary Industries has agreed, consistent with the requirements of the Program, to provide reports to the department on implementation of this approval for each of the precincts covered by the approval. The reports will be provided within 28 calendar days following adoption of each Precinct Structure Plan. The reports will demonstrate how the relevant measures in the approved *Biodiversity Conservation Strategy* have been applied and the measurable outcomes achieved for protection of matters of national environmental significance. Each report will include the following minimum information:

- a) Applicable measures, requirements and commitments for each matter of national environmental significance from the *Biodiversity Conservation Strategy* for each precinct.
- b) Implementation of conservation area requirements (if any) identified in the *Biodiversity Conservation Strategy* for each matter of national environmental significance.
- c) Implementation of avoidance, mitigation and habitat compensation requirements identified in the *Biodiversity Conservation Strategy* and relevant sub-regional species plans for each matter of national environmental significance, including calculated habitat compensation requirements.
- d) Figure or maps showing final conservation areas.

MANDATORY CONSIDERATIONS RELATING TO DECISION-MAKING UNDER PART 10

This briefing attachment addresses the mandatory considerations under the EPBC Act needed to inform your decision whether to approve classes of actions for urban development associated with the Program for three of Melbourne's four growth corridors (the proposed action), and any conditions to be imposed. You advised relevant Commonwealth Ministers of your intention to approve the relevant classes of actions on 2 August 2013 (B13/1151).

General

On 2 February 2010, the former Minister for the Environment endorsed the Victorian Government's Program for Melbourne's urban expansion as described in the document *Delivering Melbourne's Newest Sustainable Communities Program Report* (Victorian Government December 2009) – see [Attachment K](#) (the Program). On 8 July 2010, the former Minister approved development under the Program of 28 housing precincts within the former 2005 Urban Growth Boundary.

On 14 December 2012, the Victorian Government wrote to the department seeking approval of 'classes of actions' related to urban development for three of the four new growth corridors under the Program. The four growth corridors assessed under the Melbourne strategic assessment are contained within the 2010 Urban Growth Boundary and are generally located in the west, north-west, north and south-east of Melbourne's CBD – see maps at [Attachment D](#).

The endorsed Program required your approval of a Biodiversity Conservation Strategy (BCS) and Sub-regional Species Strategies (SRSS). These documents describe commitments to protect listed threatened ecological communities and species in the new growth corridors and were approved by you on 2 August 2013.

As part of the approval process, the department assessed the BCS and SRSSs for consistency with the Program commitments ([Attachment G](#)) and concluded that the strategies would provide adequate protection for listed species and ecological communities. The BCS and Program also provide adequate protection for the ecological community *Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains* which was listed on 27 May 2012 after completion of the strategic assessment.

This attachment draws on the department's assessment of the BCS and SRSSs ([Attachment G](#)) and the reports at [Attachment K](#), including the endorsed Program (*Delivering Melbourne's Newest Sustainable Communities Program Report* (Victorian Government 2009), Strategic Impact Assessment Report for the endorsed Program (*Delivering Melbourne's Newest Sustainable Communities Strategic Impact Assessment Report*, Victorian Government 2009) and the department's recommendations report.

In 2011, the Victorian Government identified an additional 6000 hectares of land for 'logical inclusions' in the growth corridors. These 'logical inclusions' are not covered by the endorsed Program and any actions likely to have a significant impact on matters of national environmental significance in these areas will require separate EPBC Act referral, assessment and approval.

Mandatory considerations – approval process

Part 10 of the EPBC Act provides for you to undertake a strategic assessment of actions to be taken in accordance with a policy, plan or program. Sub-division A of Division 1 of Part 10 describes the general requirements for undertaking a strategic assessment leading up to

endorsement of the policy, plan or program that is the subject of the strategic assessment. As noted above, the Program has been endorsed and includes urban development within the three growth corridors currently under consideration.

What the approval must specify

Subdivision B of Division 1 of Part 10 provides for your approval of the taking of an action or classes of actions in accordance with an endorsed policy, plan or program. Section 146B(2) requires an approval to:

- a) *be in writing; and*
- b) *specify the action or classes of actions that may be taken in accordance with the endorsed policy, plan or program; and*
- c) *specify each provision of Part 3 for which the approval has effect; and*
- d) *specify the period for which the approval has effect; and*
- e) *set out the conditions attached to the approval.*

The above requirements are included in the decision notice at Attachment A.

Consultation with Commonwealth Ministers

Section 146C states that, prior to deciding whether to approve the taking of an action or a class of actions in accordance with an endorsed policy, plan or program, you must:

- a) *inform any other Minister whom the Environment Minister believes has administrative responsibilities relating to the action or class of actions of the decision the Environment Minister proposes to make; and*
- b) *invite each Minister informed to give the Environment Minister, within 10 business days, comments on the proposed decision.*

Letters, dated 2 August 2013, were sent to the following Ministers inviting comment on the proposed decision:

- Minister for Infrastructure and Transport (Hon Anthony Albanese MP).
- Minister for Families, Community Services and Indigenous Affairs (Hon Jenny Macklin MP).

As a courtesy, similar letters to the relevant Victorian Ministers were also sent.

Consideration of comments by Commonwealth Ministers

Section 146(2) states that a Minister who is invited to comment may make comments that relate to economic and social matters, and principles of ecologically sustainable development. This does not limit the comments that a Minister may give.

Comments were received from the Housing and Inter-Government Branch of the Department of Families, Housing, Community Services and Indigenous Affairs on behalf of their Minister (copy at Appendix 1). The comments were generally supportive of the Program in respect to Commonwealth housing policy. No comments were received from the infrastructure and Transport portfolio within the mandated 10 business day period specified in the EPBC Act. The department notes that the Program has limited direct application to infrastructure and transport being aimed at urban consolidation.

Legal effect of giving an approval of actions to be taken in accordance with an endorsed Program

Section 146D describes the legal effect of taking actions in accordance with an approval granted under section 146B. Such actions, for the purposes of the EPBC Act, are considered to be

controlled actions and are taken to have been approved under Part 9 for the controlling provisions stated in the Part 10 approval. This means that the approved actions are not subject to the referral and assessment provisions of Parts 7 and 8 of the EPBC Act and are able to be taken by the person(s) specified in the approval or by any person who takes the action in accordance with the requirements of the endorsed Program subject to any conditions imposed by the Minister.

Mandatory considerations – general considerations for approvals and conditions (MNES)

Subdivision C of Division 1 of Part 10 sets out considerations for approving the taking of actions in accordance with an endorsed policy, plan or program. Section 146E states:

The Minister must comply with this Subdivision in deciding:

- a) *whether or not to approve, under section 146B, the taking of an action or a class of actions in accordance with an endorsed policy, plan or program; and*
- b) *In the case of a decision to approve the taking of such an action or classes of actions, what conditions (if any) to attach to the approval.*

Information on the general and more specific considerations required to be taken into account is below. Suggested conditions are addressed following this discussion.

Relevant matters of national environmental significance

Section 146F (1) (a) requires that you consider, so far as they are not inconsistent with any other requirements of this Subdivision:

matters relevant to any matter protected by a provision of Part 3 that the Minister considers is relevant to the approval.

A full discussion of relevant protected matters and impacts from actions taken in accordance with the Program, including urban development within the growth corridors, is in the department's recommendations report at [Attachment K](#) prepared to support the Program endorsement made in February 2010. Development will impact on listed threatened species and ecological communities (sections 18 and 18A), and potentially on listed migratory species (sections 20 and 20A) and the ecological character of a listed Ramsar wetland (sections 16 and 17B).

More specifically, actions associated with development in the three new growth corridors will impact on the critically endangered *Natural Temperate Grasslands of the Victorian Volcanic Plain*, *Grassy Eucalypt Woodlands of the Victorian Volcanic Plain* and *Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plain* ecological communities, as well as species associated with these ecosystems such as the critically endangered Golden Sun Moth and Spiny Rice Flower, endangered Matted Flax-lily and vulnerable Striped Legless Lizard. Impacts are also expected on the listed vulnerable Growling Grass Frog.

Impacts may also occur on the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar site, Edithvale-Seafood Ramsar site, Western Port Ramsar site and associated listed migratory waterbirds (discussed in this attachment).

Assessment and management of protected matters

The Victorian Government has adopted an approach whereby impacts of urban development on listed threatened species and communities are avoided, mitigated and offset. Outcome and management commitments are made and implemented in an adaptive management framework. This applies in the four growth corridors comprising the 2010 Urban Growth Boundary (Figures 1 and 2 at [Attachment D](#)), three of which are the subject of this draft approval.

The four new growth corridors cover over 40,000 hectares of land of which up to 24,615 hectares is flagged for potential development. According to the Strategic Impact Assessment Report (SIAR), development in the new growth corridors will result in the loss over the next 20-30 years of up to 3,278 hectares of Natural Temperate Grasslands and 449 hectares of Grassy Eucalypt Woodland. The SIAR provides a calculation of native vegetation losses and gains in accordance with the 'habitat hectare' system prescribed by Victoria's *Native Vegetation Management Framework*. This framework requires a net gain to be achieved for conservation of native vegetation. The primary source of offsets will be the 15,000 hectare Western Grassland Reserves and 1,200 hectare Grassy Woodland Reserve.

Natural Temperate Grasslands of the Victorian Volcanic Plain (Natural Temperate Grasslands)

Development of the growth corridors under the endorsed Program will have the following outcomes (there is no Natural Temperate Grasslands in the South-eastern corridor):

- Clearing of up to 3,278 hectares of Natural Temperate Grasslands.
- Creation of the new Western Grassland Reserves totalling 15,000 hectares, of which 10,000 hectares is Natural Temperate Grasslands.
- Addition retention of Natural Temperate Grasslands in 36 conservation areas (covering up to 2,558.30 hectares in the overall total 2,817.3 hectares of reserves) within the growth corridors identified in the final Biodiversity Conservation Strategy.

The maximum 3,278 hectares that may be cleared in the new growth corridors is equivalent to 1,354 'habitat hectares' under the Victorian *Native Vegetation Management Framework* requirements endorsed through the Program. The lower relative score of 'habitat hectares' (e.g. less than half of the grassland areas to be actually cleared) reflects the relatively poor condition class of the grasslands affected.

The habitat score is based on survey criteria established by the then Victorian Department of Sustainability and Environment (now the Department of Environment and Primary Industries (DEPI)). This is similar to the 'quality score' concept and calculation for native vegetation used in the Commonwealth *EPBC Act Environmental Offset Policy* (SEWPAC October 2012). These metrics rank native vegetation quality on a scale of 0.0 – 1.0 with 1 being the highest. The habitat score is multiplied by the number of hectares to derive the total 'habitat hectares' to be cleared.

High quality grasslands (few weeds and high biodiversity) typically have habitat scores of 0.6 – 0.9. Low quality grasslands (high weed cover and low biodiversity) typically rate 0.0 to 0.3 and may be marginal in terms of whether they form the listed ecological community. Medium quality grasslands rank between these condition classes and typically have a degree of weed invasion and degradation from past agricultural practices. Biodiversity is low and the grasslands have a limited capacity for recovery or improvement (e.g. degradation will continue under existing land uses).

The required offset to achieve a net gain is the 'habitat hectare' value to be cleared, multiplied by an offset-multiplier based on the vegetative class and its scarcity. Applying the prescribed formulae under the *Native Vegetation Management Framework*, the Natural Temperate Grassland offset required for urban development in the four new growth corridors is 2,541 'habitat hectares'.

The Western Grassland Reserves contain 10,000 hectares of Natural Temperate Grasslands equivalent to 4,154 'habitat hectares'. The 2,541 'habitat hectares' offset requirement from development in the growth corridors will be met through acquisitions, conservation and improvement of the available Natural Temperate Grasslands in the Western Grassland Reserves.

The mechanism for offset and acquisition is described in the BCS.

Grasslands to be cleared are mainly lower quality comprising 19% low quality, 79% medium quality and 2% high quality habitat. Grasslands to be conserved are higher quality with the Western Grassland Reserves containing 26% high quality, 73% medium quality and 1% low quality habitat.

The Western Grassland Reserves contain the highest quality and largest remnants of Natural Temperate Grasslands known to remain across the Victorian Volcanic Plains bioregion where the community occurs. Establishment of the reserves will ensure the protection of the majority of highest quality remnants in proximity to Melbourne and increase representation of the ecological community in the conservation estate from the current 2% to 20%.

The department concludes that impacts of urban development on Natural Temperate Grasslands in the new growth corridors, while significant, will be adequately offset through the establishment of the Western Grassland Reserves. The department believes that the reserves will ensure the future protection and management of grasslands currently threatened by Melbourne's urban expansion, at an ecosystem scale, such that survival of the community at the landscape level will be assured. The department considers that this is a key outcome of the Program and represents a significant conservation gain for the ecological community.

Grassy Eucalypt Woodland of the Victorian Volcanic Plain (Grassy Eucalypt Woodland)

Development of the growth corridors under the endorsed Program will have the following key outcomes:

- Avoidance of 314 hectares of Grassy Eucalypt Woodland through changes to the growth boundary.
- Clearing of up to 167 hectares of 'highly likely' Grassy Eucalypt Woodland (39% of the community within the growth corridors).
- Retention and conservation of an estimated 61% (259 hectares) of 'highly likely' Grassy Eucalypt Woodland in the new growth corridors (within the 36 conservation areas identified in the BCS) to provide:
 - A network of small and medium sized conservation reserves and permanently protected habitat in the Northern growth corridor associated with Merri Creek and Darebin Creek floodplains.
 - A network of small connected conservation reserves in the North-western corridor to protect Grassy Eucalypt Woodland and associated habitats.
- A new conservation reserve (Grassy Woodland Reserve) outside the urban growth boundary south-west of Whittlesea of at least 1,200 hectares in size ([Figure 5](#)).
- Environmental Significance Overlays added to Local Government Areas (for the minimum 1200ha Grassy Eucalypt Woodland Reserve) providing interim legislative protection.

The endorsed Program stated that 80% of Grassy Eucalypt Woodland within the growth corridors would be retained. According to the BCS, this has not been possible based on urban planning to date. The BCS states that only 61% will be conserved leaving a 19% (82 hectares) shortfall from the Program target of 341 hectares. According to the BCS, this loss will be compensated by an increase of 100-200 hectares in the size of the 1200 hectare Grassy Woodland Reserve.

The BCS states that a number of potential occurrences were excluded because of their small size, and variable quality, which reduced their conservation value. The BCS also states that additional conservation outcomes for this ecological community will be sought through the improved management of conservation areas containing Grassy Eucalypt Woodland in the Northern growth corridor.

The department notes that there is uncertainty over the final extent of listed Grassy Eucalypt Woodland to be protected in the growth corridors because some of the 'grassy woodland' does not meet the threshold EPBC Act definition of the community. Nevertheless, a significant shortfall is expected. The department accepts this reduction in view of the poor conservation value and management prospects for many of the excluded remnants. For example, while over 1,000 hectares of the proposed conservation areas in the Strategy contain 'grassy woodlands' of various quality, only about 25% (259 hectares) is likely to meet the listing criteria under the EPBC Act because of its poor tree cover and past degradation. Nevertheless, these reserve areas provide landscape biodiversity and connectivity values and, over time, may regenerate and improve coverage of the listed community.

The boundary of the proposed 1,200 hectares (plus) Grassy Woodland Reserve is yet to be finalised. The Program states that detailed surveys will identify the best areas followed by a consultation program, including with landholders, to finalise the boundaries and commence the statutory protection process. Scheduling and timing for this process are detailed in the BCS. The reserve will be acquired according to a cost recovery model based on developer contributions.

The 167 hectares to be cleared must be offset in accordance with the BCS. Offsets will be sourced in the proposed 1,200 hectare Grassy Woodland Reserve. This reserve would represent the most extensive and best quality woodlands in the greater Melbourne area. Protection of the community at the bioregional and landscape scale within the proposed reserve will also secure long term protection for listed species typically associated with this ecological community such as the Matted Flax-lily.

The department concludes that implementation of the BCS, through the approval for 'classes of actions, will contribute to the overall conservation outcomes of the endorsed Program being achieved. These outcomes include the creation of the Grassy Woodland Reserve and the retention and management of a large proportion of this ecological community in secure conservation reserves in the growth corridors.

The department also notes that there are good prospects for recovery and management of woodlands contained in the conservation areas within the North-western and Northern growth corridors such that the extent of the listed ecological community may increase over time.

Grey Box (Eucalyptus macrocarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia (Grey Box Woodland)

This ecological community was listed as endangered under the EPBC Act on 1 April 2010 after completion of the substantive strategic assessment. According to the *Grey Box (E. microcarpa) Grassy Woodlands and Derived Native Grasslands of South-Eastern Australia: A guide to the identification, assessment and management of a nationally threatened ecological community* (SEWPAC, 2012), the ecological community mainly occurs in the northern and central regions of Victoria although outliers occur near Sunbury.

The BCS states that Grey Box Woodland is absent from the South-eastern growth corridor and the Northern growth corridor. One potential stand is known in the North-western growth corridor (within conservation area 18) and will not be impacted.

In the Western growth corridor, one region is known to have once supported Grey Box trees and may support derived grasslands that form part of the community. DEPI advise there is no relevant historical or other information to determine whether the grasslands in question may have supported Grey Box.

The department concludes that implementation of urban development under the endorsed Program is not likely to impact on significant occurrences of this ecological community.

Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains (SHW)

This ecological community (Seasonal Herbaceous Wetlands) was listed on 27 March 2012. Approval decisions subsequent to this date must take into account the acceptability of impacts on the newly listed ecological community. The department's detailed assessment is at Attachment G and is summarised below.

Seasonal Herbaceous Wetlands comprise temporary freshwater wetlands that are inundated on a seasonal basis, typically filling after winter-spring rains, and then slowly drying out. The vegetation is generally treeless and dominated by a herbaceous ground layer, often with forbs present. The community is limited to the temperate zone of mainland south-eastern Australia.

DEPI undertook further investigations following the listing of the ecological community and in finalising the BCS under the endorsed Program. The resultant report titled *The impact of Melbourne's growth on 'Seasonal Herbaceous wetlands (freshwater) of the temperate lowland plains'* (DEPI May 2013) is at Attachment K.

As a general comment, the community was typically included as a subset of Natural Temperate Grasslands during the strategic assessment process. This means that the endorsed Program accounts for much of the Seasonal Herbaceous Wetlands present, in terms of permissible clearing and offset arrangements, in the same way as Natural Temperate Grasslands. Significant examples of Seasonal Herbaceous Wetlands occur within the Western Grassland Reserves and will be acquired for protection through the same offset mechanisms used for Natural Temperate Grasslands.

However, not all areas were mapped or otherwise identified during the strategic assessment. The analysis by DEPI reviewed all existing data to more specifically identify Seasonal Herbaceous Wetlands occurrences potentially affected by development. The department has used the analysis to help determine if impacts on Seasonal Herbaceous Wetlands are acceptable and if further protection is warranted for specific occurrences.

The DEPI report identified 533 hectares of likely Seasonal Herbaceous Wetlands in the growth corridors and Western Grassland Reserves. Of this total, up to 194 hectares (36%) may be affected by development and 339 hectares (64%) will be protected. The loss is in the range of 0.3 – 1% of the estimated extent of the community in Victoria (10,875 – 12,623 hectares).

The department assessed the specific patches of Seasonal Herbaceous Wetlands to be cleared, as identified in the DEPI report, against the *Commonwealth Threatened Species Scientific Committee Listing Advice for Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains* (TSSC 2012) and approved *Conservation Advice*. The approved conservation

advice identified patches of high conservation significance as being of large size, high native species richness, supporting listed species, in proximity to key natural features, or occurring in areas where the ecological community has been extensively cleared.

These criteria were used by the department to consider whether particular examples of Seasonal Herbaceous Wetlands may warrant protection. The following wetlands, flagged for potential development in the BCS, were identified as having high conservation values:

- Hearnies Swamp (55 hectares) – This extensive occurrence was once thought to occupy about 300 hectares along the northern boundary of the Northern growth corridor. About half (146 hectares) occurs within the Northern growth corridor. Two thirds within the corridor has been cropped. About 55 hectares retains Seasonal Herbaceous Wetlands, some of which is in very good condition. The BCS zones Hearnies Swamp for Urban Growth, Rural Conservation, Urban Flood and Farming.
- Muddy Gates Lane Swamp complex (10 hectares) – This is one of the few remnants to the south east of Melbourne. It occurs near the western boundary of the South-eastern growth corridor. Past surveys show the presence of flora indicative of high quality Seasonal Herbaceous Wetlands. The site also supports a population of a listed endangered *Prasophyllum* (likely to be *P. Frenchii*).

The department believes that further consideration of measures to protect these two sites is needed. Development of these sites should be excluded pending this investigation. The department considers these sites should be retained for conservation unless it can be demonstrated that Seasonal Herbaceous Wetlands values are not present or effective conservation would have prohibitive cost.

In summary, implementation of the endorsed Program will result in loss of up to 194 hectares of listed Seasonal Herbaceous Wetlands and protection of 339 hectares. Most of the 339 hectares occurs within the Western Grassland Reserves which are large enough to ensure protection of supporting local catchments.

If the two additional occurrences identified above are protected, the loss of Seasonal Herbaceous Wetlands due to the endorsed Program would be reduced from 194 hectares to 129 hectares (decrease of 33%) and the total protected increased from 339 hectares to 404 hectares (16%).

The department considers outcomes for Seasonal Herbaceous Wetlands to be acceptable provided the Hearnies Swamp and Muddy Gates Lane Complex occurrences are excluded from development. The decision at Attachment A specifically excludes development of Hearnies Swamp (the South-eastern growth corridor is not currently being considered for approval). This means that developments that are likely to have a significant impact on the ecological community will need to be individually referred, assessed and approved under the EPBC Act. This will allow a more detailed consideration of potential impacts and acceptability.

Golden Sun Moth (*Synemon plana*)

Development of the growth corridors will have the following outcomes:

- Loss of up to 3,278 hectares of Natural Temperate Grasslands providing potential habitat.
- Conservation of 8,100 hectares of potential habitat within the 15,000 hectare Western Grassland Reserve.

- Protection of 410 hectares of confirmed 'high persistence' habitat within the 36 conservation areas in the growth corridors.
- Protection of an additional 680 hectares of confirmed habitat outside of the Western Grassland Reserves and Urban Growth Boundary.

The Golden Sun Moth is associated with Natural Temperate Grasslands although it may be found in mixed native/exotic pastures that do not meet the listing definition. Such habitat does not have intrinsic conservation values and is excluded from this discussion. While the species is listed as critically endangered, intensive surveys over the last five years indicate it is more widespread and persistent than understood at the time of the listing. The species is cryptic and it is only recently that reliable survey methods have been developed to systematically locate populations.

The endorsed Program commits the Victorian Government to permanently protect and manage 80% of 'high persistence' habitat for the Golden Sun Moth within the Victorian Volcanic Plains bioregion. 'High persistence' habitat generally coincides with good quality listed Natural Temperate Grasslands, or Grassy Eucalypt Woodlands, with confirmed populations of the moth and where the populations are likely to persist based on modelled data. The Biodiversity BCS and *Sub-regional Species Strategy for the Golden Sun Moth* (DEPI May 2013) prescribe how the 80% outcome will be achieved. Further information is at [Attachment G](#).

DEPI and the Victorian Growth Corridors Authority have conducted systematic surveys for the Golden Sun Moth in the new growth corridors and broader Victorian Volcanic Plains bioregion. Based on this data, site specific requirements have been identified and modelled to reflect expected persistence of the species in the landscape (habitat meeting criteria for self-sustaining populations of Golden Sun Moth in the long-term under passive management regimes). This modelled data has been used to calculate the 80% protection target (9,190 hectares).

Of the 9,190 hectares to be protected, 8,100 hectares is within the Western Grassland Reserves and 410 hectares occurs within the growth corridor conservation areas identified in the Biodiversity Conservation Strategy. This leaves 680 hectares to be achieved outside the strategic assessment area. The BCS commits the Victorian Government to conservation of this additional 680 hectares outside the Urban Growth Boundary over the life of the Program.

As noted previously, the Program has committed to establishing a 1,200 hectare conservation reserve to protect and manage Grassy Eucalypt Woodland (Grassy Woodland Reserve). This reserve may also contribute to achieving the conservation target for Golden Sun Moth.

The BCS states that all clearing within the Western, North-western and Northern growth corridors (excluding any areas identified as Natural Temperate Grasslands, Grassy Eucalypt Woodland or Growling Grass Frog habitat) will invoke a compensatory habitat fee for the Golden Sun Moth. The fee is calculated as a flat cost per hectare as described in the document *Habitat compensation under the Biodiversity Conservation Strategy - Melbourne Strategic Assessment* (DEPI August 2013) at [Attachment K](#). Additional payment is not needed for clearing of native vegetation because the offset fee already includes a component for the Golden Sun Moth.

Fees collected from clearing of native and non native habitat (as determined by the Victorian 'time stamping' data) will be offset as native vegetation to the Western Grassland Reserves, the Grassy Woodland Reserve, the 36 reserves with Golden Sun Moth habitat in the growth corridors or to meet the 680 hectares required outside the Urban Growth Boundary. DEPI will continue to report

on progress in achieving the 80% commitment over the life of the Program with regular updates to be published on their website.

The department notes and accepts the commitment and mechanism in the BCS to protect 80% of the highest quality habitat for the Golden Sun Moth (9,190 hectares) at the bioregional level. The department considers this outcome to be highly desirable and that impacts from implementation of the Program on this species are acceptable.

Spiny Rice-flower (Pimelea spinescens)

Development of the growth corridors will have the following outcomes:

- Clearing of up to 3,278 hectares of Natural Temperate Grasslands which provides potential habitat for the Spiny Rice-flower.
- Creation of the Western Grassland Reserves (15,000 hectares), of which 10,000 hectares is Natural Temperate Grasslands providing potential habitat for the Spiny Rice-flower.
- Addition retention of potential Natural Temperate Grassland and Grassy Eucalypt Woodland habitat in 36 conservation areas (covering up to 2,817 hectares) within the growth corridors identified in the BCS. This includes protection of four of the seven known populations of more than 200 plants (two of these are currently protected and the remaining population falls outside the Program area).
- Additional retention of 394 hectares of high quality and confirmed habitat for the Spiny Rice-flower outside the Urban Growth Boundary.

The Spiny Rice-flower is typically associated with Natural Temperate Grasslands and loss of this habitat type may impact on the species. While the species is listed as critically endangered, intensive surveys over the last five years indicate that this cryptic species is more widespread and persistent than envisaged at the time of listing. Removal of heavy grazing pressure will allow the species to regenerate in circumstances where good quality grasslands remain (such as in the proposed Western Grassland Reserves).

The endorsed Program commits the Victorian Government to permanently protect and manage 80% of the highest priority habitats for the Spiny Rice Flower within the Victorian Volcanic Plains bioregion. The highest priority habitat generally coincides with good quality listed Natural Temperate Grasslands, or Grassy Eucalypt Woodlands, with confirmed populations of the moth and where the populations are likely to persist based on modelled data.

The 80% target has been calculated based on surveys and predictive modelling undertaken by DEPI. This modelled data has been used as the basis for calculating the amount of habitat needed to meet the 80% protection target. Exclusive of the Westerns Grassland Reserves and growth corridor conservation areas, the amount of habitat required outside the Urban Growth Boundary to meet this target is 394 hectares.

The BCS states that the identification, protection and management of these sites will be funded by fees collected from developers to mitigate impacts on native vegetation or threatened species habitat in the area covered by the BCS. Land identified by DEPI through these conservation programs will be protected by voluntary on-title management agreements or voluntary purchase of land by the Crown. The BCS also commits DEPI to preparing and implementing a salvage and translocation protocol for this species that must be applied if individual plants are detected in areas to be cleared.

As noted previously, the endorsed Program has committed to establishing a 1,200 hectare conservation reserve outside the Urban Growth Boundary to protect and manage Grassy Eucalypt Woodland (Grassy Woodland Reserve). This reserve may also contribute to achieving the conservation targets for Spiny Rice-flower.

The BCS states that all land within patches of native vegetation in the Western and North-western growth corridors will invoke a flat compensatory habitat fee for Spiny Rice-flower if cleared. This will cover the cost of acquiring, establishing and managing conservation areas for Spiny Rice-flower in the Western Grassland Reserves, *in situ* conservation areas and 394 hectares outside the Urban Growth Boundary (*Habitat compensation under the Biodiversity Conservation Strategy - Melbourne Strategic Assessment* (DEPI August 2013) at [Attachment K](#)).

The department notes and accepts the commitment and mechanism in the BCS to protect 80% of the highest quality habitat for the Spiny Rice-flower at the bioregional level. The department considers this outcome to be highly desirable and that impacts from implementation of the Program on this species are acceptable.

Striped Legless Lizard (*Delma impar*)

Development of the growth corridors will have the following outcomes:

- Clearing of up to 3,278 hectares of Natural Temperate Grasslands which may provide potential habitat for the Striped Legless Lizard.
- Creation of the new Western Grassland Reserves totalling 15,000 hectares, of which 10,000 hectares is Natural Temperate Grasslands that may provide potential habitat for the Striped Legless Lizard.
- Protection of current known populations, and addition retention of known or potential habitat, in 21 of the 36 conservation areas (Conservation Areas 1- 13, 22-24, 27, 28, 30, 32 and 33ha (2,303 hectares) in the Western and Northern growth corridors).
- A program of research and monitoring will be undertaken to provide a basis for adaptive management of the Striped Legless Lizard in the Western Grassland Reserves.

DEPI has prepared a salvage and translocation protocol for this species that must be applied if potential habitat is being cleared (*Striped Legless Lizard Salvage and Translocation Strategic and Operational Plan*, DSE 2011). The protocol defines the type of salvage that must be implemented. DEPI will be responsible for auditing and enforcing compliance.

The Western Grassland Reserves are yet to be fully surveyed for this species. However, substantial populations are expected to exist based on modelling, habitat availability and its presence in adjacent and similar habitats nearby.

Implementation of the Program will see large areas (at least 15,000 hectares) of permanently protected grassland habitat established and managed in a way that enables the species to be sustained over the long term through a series of connected populations and adaptive management regimes. The Striped Legless Lizard is particularly vulnerable to edge effects and one-off catastrophic occurrences that may affect smaller urban reserves, and is not likely to persist in such circumstances. Offsets for this species include a monetary premium specifically to assist with the targeted management and monitoring of the species in the reserve areas.

The department considers that impacts of development under the Program are acceptable in view of the *in situ* protection of important populations within the growth corridors, and protection

of habitat and populations at the landscape scale in the Western Grassland Reserves.

Matted Flax-lily (*Dianella amoena*)

Development of the growth corridors will have the following outcomes:

- Avoidance of 314 hectares of potential habitat (Grassy Eucalypt Woodland) through changes to the growth boundary.
- Clearing of up to 167 hectares of 'highly likely' Grassy Eucalypt Woodland (providing potential habitat).
- Retention and conservation of an estimated 61% (259 hectares) of 'highly likely' Grassy Eucalypt Woodland (which provides potential habitat) in the new growth corridors (within the 36 conservation areas identified in the BCS).
- A new conservation reserve (Grassy Woodland Reserve) with potential habitat outside the Urban Growth Boundary south-west of Whittlesea of at least 1,200 hectares.
- Additional retention of 529 hectares of high quality and confirmed habitat for the Matted Flax Lily outside the Urban Growth Boundary (this commitment may also be met from the Grassy Woodland Reserve).

Matted Flax-lily is more typically associated with Grassy Eucalypt Woodland and loss of this habitat type may impact on the species. However, the species also occurs in suitable habitat associated with Natural Temperate Grasslands (typically well watered and sunny areas often associated with road edges and fence lines). Losses and gains for Natural Temperate Grasslands are discussed in previous sections.

The endorsed Program commits the Victorian Government to permanently protect and manage 80% of the highest priority habitats for the Matted Flax-lily in the northern bioregion. The 80% target has been calculated from surveys and predictive modelling by DEPI. Exclusive of the Westerns Grassland Reserves and growth corridor conservation areas, the amount of habitat required outside the Urban Growth Boundary to meet this target is 529 hectares. The department notes that this commitment may also be met from the proposed Grassy Woodland Reserve.

The BCS states that all land within patches of native vegetation in the Northern growth corridor will invoke a flat compensatory habitat fee for Matted Flax-lily if cleared. This will cover the cost of acquiring, establishing and managing conservation areas for the species including the 529 hectares outside the Urban Growth Boundary.

The BCS also requires implementation of a fully costed translocation and propagation plan to ensure protection of genetic stock where clearing is allowed. The species is amenable to translocation which has occurred at a number of sites in the Melbourne region. Plants are to be translocated to areas of suitable habitat within secure conservation areas.

The department notes and accepts the commitment and mechanism in the BCS to protect 80% of the highest quality habitat for the Matted Flax-lily at the bioregional level. The department considers that impacts from implementation of the Program on this species are acceptable.

Growling Grass Frog (*Litoria raniformis*)

Development of the growth corridors will have the following outcomes:

- Loss of up to 9,374 hectares of potential foraging habitat (estimate based on maximum possible usage by the frog following a series of wet years).

- Retention and management of 2,918.04 hectares of known important habitat for the Growling Grass Frog with connectivity between populations.
- Management of suitable habitat within the 15,000 hectare Western Grassland Reserves.
- establishment of populations in new wetlands to be created (as part of Melbourne Water flood mitigation works) within a 300 hectare area at Koo-Wee-Rup.

The BCS identifies land in the growth corridors that may be suitable for the Growling Grass Frog and designates this land into two categories:

- habitat that will be protected, enhanced and managed for the conservation of the frog (Category 1 habitat); and
- habitat that can be cleared for development, but for which a compensatory habitat fee is required (Category 2 habitat).

The approved *Sub-regional Species Strategy for the Growling Grass Frog* (DEPI May 2013) provides detail on the acquisition, design and management of Category 1 areas for Growling Grass Frog, including guidance on preparation of mandated Conservation Management Plans. The strategy also sets out the survey, compensatory habitat provisions and/or salvage and translocation requirements that will apply to Category 2 habitat. Further detail is at [Attachment G](#).

Category 1 habitat is based on metapopulation nodes that include regular records of the frog and the adjacent habitat for 200 metres either side of the streamline. Two hundred metres is recommended as an adequate habitat and buffer zone for breeding populations in the *Significant impact guidelines for the vulnerable growling grass frog Litoria raniformis* (SEWPAC 2009).

Metapopulation nodes were identified on Merri, Kororoit, Emu, Jacksons and Cardinia Creeks and the Werribee River (Figures 3 – 6 at [Attachment D](#)). For intervening areas of Category 1 habitat between metapopulation nodes on these major waterways, a minimum corridor width of 100 metres each side of the stream was used.

The BCS commits to construction of frog ponds, and other works, to enhance habitat values and passage for the Growling Grass Frog in Category 1 habitat areas. The sub-regional strategy includes detailed mapping of stream reaches based on local topography and hydrology to ensure enhancement works can be viably located. DEPI will prepare a master-plan for the network of Category 1 habitat areas across the growth corridors. The minimum requirements include:

- Up to 400 dedicated frog wetlands and ponds created or enhanced within the Urban Growth Areas in Category 1 habitat, spaced every 300 – 700 metres within metapopulation nodes, and based on the *Guidelines for Management of Endangered Growling Grass Frog in Urbanised Landscapes* (Heard and Scroggie, 2010).
- Provision of a minimum 100 metres of managed terrestrial habitat around each frog wetland (subject to landform constraints), including 10 metres immediately adjacent to the wetland of high quality, densely planted indigenous vegetation.
- Replanting and enhancement of waterway corridors to 30 metres from the water's edge.
- Meeting an overall objective for the combination of dedicated frog wetlands and ponds and managed buffers (100 metres), and stormwater wetlands, to occupy at least 50% of Category 1 habitat areas.

- Guidelines for management of predatory fish, and other indirect impacts, to be implemented in Conservation Management Plans that must be prepared for each precinct.
- A monitoring program to be undertaken for a 10 year intensive survey period post-construction.

According to the BCS, Category 2 areas are not core habitat or associated buffers for the frog, but represent potential opportunities for dispersal and colonisation during the most favourable conditions. A minimum of 9,374ha of this habitat is expected to be developed through the endorsed Program. Removal of Category 2 habitat will incur a compensatory habitat fee which will be used to protect, enhance, manage and monitor Category 1 habitat (*Habitat compensation under the Biodiversity Conservation Strategy - Melbourne Strategic Assessment* (DEPI August 2013) at Attachment K).

In addition, the Program will establish a new wetland complex in a 300 hectare area situated on the site of the former Koo Wee Rup swampland to the south-east of the Casey growth area. This will be managed to provide habitat for the Growling Grass Frog as well as enhancing water quality runoff into the Western Port Ramsar site. The Growth Corridors Authority and Melbourne Water have committed to undertake investigations for the establishment and management of these wetlands. Melbourne Water will be responsible for creating the wetlands and implementing a management plan.

According to the sub-regional species strategy, a number of concessions have been made where Precinct Structure Plans are well advanced (Rockbank and Lockerie) and where town planning encroaches on Merri and Kororoit Creeks. The 200 metre buffer has been substantially reduced in these two locations. According to DEPI, these 'pinches' will still enable Growling Grass Frog movement. Habitat enhancements are proposed on either side of the pinches to act as reservoirs for the frog and to facilitate movement.

The department considers that the BCS will protect important populations and habitat for the Growling Grass Frog. The program of enhancement works for Category 1 habitat will further help ensure maintenance and persistence of populations. Provided that urban development within the growth corridors is implemented in accordance with the Program, the department considers that good conservation outcomes for the Growling Grass Frog will be achieved.

The department notes that significantly less than 200 metres is proposed at 'pinch' points along metapopulation nodes at Merri and Kororoit Creeks to allow for town centre development at Rockbank and Lockerie. The Growling Grass Frog master-plan and relevant precinct Conservation Management Plans, to be prepared by DEPI, will prioritise these works and include monitoring to help determine the success, or otherwise, of frog movement in these areas. Contingency measures will be included in the master-plan for adoption if monitoring indicates poor or no frog movement.

Southern Brown Bandicoot

As previously noted, the sub-regional species strategy for the Southern Brown Bandicoot is yet to be finalised by the Victorian Government for submission. The draft strategy, released for public comment in late 2011, included two habitat corridors across proposed urban development areas to provide linkage for an important population located at the adjacent Botanic Ridge Botanic Gardens. The department understands that the likely effectiveness and requirements for the two corridors are under review.

The corridors have been provisionally retained in the Botanic Ridge Precinct which is one of the existing 16 precincts in the former 2005 Urban Growth Corridor. The Victorian Government has prepared a Precinct Structure Plan for this area which will ensure protection of the corridors pending finalisation of the sub-regional strategy and a decision by the Commonwealth whether or not the corridors will be required.

The *Botanic Ridge Precinct Structure Plan* (Growth Areas Authority December 2012) was approved by the Victorian Minister for Planning in February 2013 and adopted through Amendment C133 to the Casey Planning Scheme on 12 February 2013 (gazetted 7 March 2013). The Plan sets aside from development the habitat corridors for the species described in the draft Southern Brown Bandicoot sub-regional species strategy. No urban development may occur on land shown on Plan 2 and 5 in the Precinct Structure Plan described as 'Land subject to EPBC Act (Cwlth) determination' unless otherwise agreed by the Minister administering the EPBC Act.

There are two identified corridors. The marked land for the southern corridor is 192 metres wide comprising a potential 70 metre wide 'SBB Corridor Conservation Area' with 61 metres of 'buffer' land on each side as shown on cross section D4 and plans 2, 5 and 7 in the Precinct Structure Plan. The marked land for the eastern corridor is 282 metres wide comprising a potential 160 metre wide 'SBB Corridor Conservation Area' with 61 metres of 'buffer' land on each side.

All development in the South-east growth corridor and adjacent precincts must pay a fixed fee per developable hectare to contribute to conservation outcomes for the Southern Brown Bandicoot.

Other EPBC Act listed threatened species

The Strategic Assessment Report states that urban development within the growth corridors is unlikely to have a significant impact on any other listed species or ecological community. According to the report, other listed species that may occur in the broader Program area include:

- Adamson's Blown Grass *Lachnagrostis adamsonii* (endangered)
- Australian Grayling *Prototroctes maraena* (vulnerable)
- Australian Painted Snipe *Rostratula australis* (vulnerable)
- Button Wrinklewort *Rutidosis leptorhynchoides* (endangered)
- Clover glycine *Glycine latrobeana* (vulnerable)
- Dwarf Galaxias *Galaxiella pusilla* (vulnerable)
- Fragrant Leek-orchid *Prasophyllum suaveolens* (vulnerable)
- Grassland Earless Dragon *Tympanocryptis pinguicollis* (endangered)
- Large-fruit Groundsel *Senecio macrocarpus* (vulnerable)
- Large-headed Fireweed *Senecio macrocarpus* (vulnerable)
- Maroon Leek-Orchid *Prasophyllum frenchii* (endangered)
- Plains Wanderer *Pedionomus torquatus* (vulnerable)
- River Swamp Wallaby Grass *Amphibromus fluitans* (vulnerable)
- Small Golden Moth *Diuris basaltica* (endangered)
- Swamp Everlasting *Xerochrysum palustre* (vulnerable)
- Swift Parrot *Lathamus discolor* (endangered)
- Sunshine diuris *Diuris fragrantissima* (endangered), and
- Yarra Pygmy Perch *Nannoperca obscura* (vulnerable)

Targeted surveys to date have not located these species within urban areas proposed for development. The department's assessment report ([Attachment K](#)) considers impacts on all listed species and concludes that impacts are not likely to be significant or are acceptable. According to the BCS, the 36 conservation areas include all known important populations of listed flora species.

Conclusion on listed species and ecological communities

Construction associated with urban development within the four growth corridors will result in loss of up to 3,278 hectares of listed Natural Temperate Grasslands and 167 hectares of 'highly likely' Grassy Eucalypt Woodland. Impacts on these ecological communities will also lead to losses for listed species associated with these communities including the Golden Sun Moth, Spiny Rice-flower, Striped Legless Lizard and Matted Flax-lily.

The loss of these ecological communities, and associated habitat for listed species, will be offset as described in the BCS. This will result in a substantive net gain in the conservation and protection of the relevant matters of national environmental significance through implementation of the endorsed Program commitments for the 15,000 hectare Western Grassland Reserves (containing 10,000 hectares of Natural Temperate Grasslands) and the 1,200 hectare Grassy Eucalypt Woodland Reserve.

The BCS commits to an additional 36 conservation areas within the growth corridors to protect important regional occurrences of threatened species and ecological communities. These reserve areas total 5,735.34 hectares, including 2,558.30 hectares targeting Natural Temperate Grasslands, 259 hectares targeting Grassy Eucalypt Woodland, and 2,918.04 hectares of habitat for the Growling Grass Frog.

The BCS also commits to conservation of 80% of high persistence habitat for the Golden Sun Moth (680 hectares), Spiny Rice-flower (394 hectares) and Matted Flax-lily (529 hectares) across the broader Victorian Volcanic Plains bioregion and outside the Program area. This will ensure that the best quality populations and habitat will be secured at the landscape level.

The department considers that impacts on listed threatened species and communities will be acceptable provided the project is implemented in accordance with the endorsed Program and approved BCS. The department concludes that implementation of the Program provides an opportunity to secure significant landscape-scale protection of affected matters of national environmental significance.

Wetlands of International Importance

There are three Ramsar sites within the Melbourne region. These are the Port Phillip Bay (western shoreline) and Bellarine Peninsula site, Edithvale-Seafood Wetlands, and Western Port sites. Ecological characteristics of these wetlands potentially affected by developments associated with the Program include water quality/hydrology and values for migratory birds. Further information is in the department's recommendations report at [Attachment K](#).

According to the Strategic Assessment Report, implementation of the Program will achieve the following outcomes:

- A network of small and large conservation reserves including diverse wetland areas managed for migratory species and other wetland values, particularly in areas distant from urban development

- Improved management and design of retained and constructed wetlands to maximise habitat opportunities for migratory species
- New wetland areas established adjacent to the South east corridor to contribute to water quality mitigation and biodiversity conservation
- Improved or maintained water quality entering the Western Port and Port Phillip Bay Ramsar sites from precincts covered by the Program

Urban development within the four growth corridors will not have direct impacts on the Ramsar sites. While the closest development areas (Western growth corridor) are within 10km of the Port Phillip Bay Ramsar site, most precincts are substantially further. There is the potential for urban development to indirectly impact wetlands through urban stormwater runoff.

Downstream hydrological impacts as a result of implementing the Program will be addressed through the precinct structure planning process with an integrated water management plan forming a prerequisite for each precinct structure plan. Integrated water management plans will:

- include water sensitive urban design;
- restrict downstream flows from subdivision sites to pre-development levels, unless increased flows are approved by the relevant drainage authority;
- implement stormwater harvesting and management options that meet *Best Practice Environmental Management Guidelines (CSIRO 1999)*; and
- set design standards for flood capacity and conveyance.

Precinct Structure Planning guidelines will ensure that:

- urban run-off systems are designed and managed in accordance with requirements of the relevant water authority;
- existing natural waterways are incorporated into urban runoff systems;
- constructed lakes, ponds and other water bodies will be included, where necessary, that protect and enhance natural systems; and
- urban runoff will not be discharged into native vegetation, unless it can be demonstrated to the satisfaction of DEPI that it cannot be avoided and will be managed and be beneficial to the discharge area.

The Program will establish a new wetland complex within a 300 hectare area at Koo-Wee-Rup near the South-eastern growth corridor. This will be designed to improve the water quality flowing into Western Port. The Growth Areas Authority and Melbourne Water have committed to undertake investigations for the establishment and management of these wetlands (yet to be submitted to the department). Melbourne Water will be responsible for creating the wetlands and implementing a management plan.

The department notes that the catchments for the potentially affected sections of the Ramsar sites include urban, semi-urban and rural lands already subject to disturbance. Urban development in the growth corridors will occur some distance from the Ramsar sites and will be managed to control sedimentation and runoff risks. In these circumstances, the department concludes that significant impacts on the ecological character of the Ramsar sites that can be attributed to the Program are not expected or likely.

Listed Migratory Species

Specialist flora and fauna reports identified the potential occurrence of 31 migratory bird species in the Program area. The potential may also exist for indirect impacts through runoff and sedimentation affecting downstream Ramsar sites. As concluded above, significant impacts on the ecological character of these sites, including values for listed migratory waterbirds, are not expected or likely.

The endorsed Program and BCS commit to the following for protection of migratory birds:

- Flora and fauna surveys for the preparation of precinct structure plans will survey wetlands and maximise the assessment of migratory species present at the site, consistent with Commonwealth guidelines
- Sites that are used or are likely to be used by nationally significant migratory species will be protected with a 200 metre buffer as part of the precinct structure plan, and will be managed under a conservation management plan
- Retained and constructed wetlands will be designed and managed to maximise opportunities for migratory species, including the exclusion of dogs and other disturbances in identified areas, and imposition of a minimum buffer of 100 metres
- If surveys detect use of the wetland by the Australian Bittern, the buffer around the wetland will be increased to 300 metres
- A fully costed Conservation Management Plan must be prepared and implemented. The CMP must be to the satisfaction of DEPI and set out the detailed management arrangements for any wetlands and their buffers.

Sixty hectares of wetland are already proposed to be protected from urban development within the overall Program area. Surveys will be conducted on a 'site by site' basis and, if nationally significant species use or are likely to use the site, the site will be retained and managed under a Conservation Management Plan. The Western Grassland Reserves also protects substantial wetter feeding areas for migratory species.

As noted previously, a Melbourne Water retarding basin (up to 300 hectares) is proposed near the South-eastern growth corridor. Although this is not classified as a conservation area, it has the potential to deliver significant outcomes for biodiversity including enhancement and creation of habitat for migratory waterbirds.

The department concludes that a net conservation gain for listed migratory birds is likely to be achieved through implementation of the Program.

Heritage

There are no World Heritage areas, National Heritage places or Commonwealth Heritage places directly affected by the Program. A number of places on the Register of the National Estate are present. Further information is in the department's recommendations report at [Attachment K](#).

Conservation outcomes required under the Program will ensure that all known sites on the Register of the National Estate and sites of Aboriginal cultural heritage are protected and managed. This will be achieved through the following commitments:

- All sites on the Register of the National Estate will be referenced in planning schemes with appropriate controls in place.

- Cultural heritage management plans will be prepared and implemented through the precinct structure planning process.
- Monitoring and enforcement of land management obligations will occur to ensure compliance with statutory planning controls and cultural heritage management plans.

Legal considerations – general considerations (economic and social matters)

Section 146F(1)(b) of the EPBC Act requires you to consider economic and social matters, so far as they are not inconsistent with any other requirements of Subdivision C of Division 1 of Part 10, in deciding whether to approve actions under an endorsed Program and in attaching conditions to any approval. The following discussion draws on the Strategic Assessment Report and the department's recommendations report ([Attachment K](#)).

Economic and social matters

According to the Strategic Assessment Report, the Program is the Victorian government's response to the anticipated growth of Melbourne's population by another 1.8 million people in the next 30 years. This will bring the total population past five million. To accommodate this growth, and provide affordable housing, the Victorian government is planning that 600,000 new dwellings will be constructed in metropolitan Melbourne over the next 20 years, with 316,000 dwellings in the established areas and 284,000 dwellings in Melbourne's growth corridors.

The Strategic Assessment Report anticipated a similar increase in the number of people in employment in Melbourne with a growth from 1.86 million to three million by 2036. Most of these jobs will be located in central and inner Melbourne, adding to the congestion of the city's inner and middle areas. The Program aims to employ a "polycentric" city structure that includes several large employment centres.

More recent documentation from the Victorian Government provides an update of forecast housing and employment in the growth corridors. According to this information, implementation of the endorsed Program will result in over 350,000 new households supporting one million people, 15 major town centres, 85 local town centres and 350,000 new jobs over a period of 30 years, with an estimated net present value (2011) of over \$50 billion (*Habitat compensation under the Biodiversity Conservation Strategy – Melbourne Strategic Assessment*, DEPI, August 2013).

The Program seeks to design and integrate urban development around high capacity, efficient transport infrastructure, and increase the levels of housing and employment within these major transport corridors. These employment corridors will:

- Provide for substantial increase in employment, housing, education and other opportunities along each corridor which are linked through improved connectivity
- Link the outer areas to a greater choice of jobs, services and goods in the corridor
- Provide transport networks that allow circumferential in addition to radial movements.

The Program also seeks to address the imbalance of Melbourne's growth that has focussed on eastward and south-eastward expansion at the expense of development to the west and north. Development of the new growth corridors to the north and west of Melbourne will provide a greater balance to Melbourne's expansion with easier and more equitable access to affordable housing, employment and services for the growing population.

In summary, the Program seeks to:

- Provide affordable housing
- Provide efficient transport infrastructure which does not contribute to inner city congestion
- Integrate urban development with transport infrastructure to ensure easier and more equitable access to employment, education and services
- Restructure Melbourne's focus on its city centre to a "polycentric" city.

Delivery of conservation outcomes, described in the BCS prepared under the endorsed Program, will cost an estimated \$1 billion to be delivered through developer offsets. According to the Victorian Government, the Program represents a significant cost savings to landholders wishing to develop their land in the order of \$500 million over 30 years. These savings arise from reduction in holding costs, avoidance of opportunity cost associated with land take in the growth corridors, and reduction in information and administrative costs.

Mandatory considerations – general considerations (ecologically sustainable development)

Section 146F(2) requires you to take into account the principles of ecologically sustainable development (ESD) in deciding whether to approve actions under a Program and in setting conditions. ESD principles are defined at section 3A of the EPBC Act.

(a) Decision making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations.

The Strategic Assessment Report describes how the Victorian government has integrated both short and long-term economic, environmental, social and equity considerations into the strategic planning process for the long term development of Melbourne.

These considerations include the ongoing provision of land and housing to meet projected demand. The demand for affordable housing is a key driver behind the expansion of the urban growth boundary addressed by the Program. The Program seeks to achieve a balance between affordable development and meaningful protection of biodiversity at the landscape level.

Consideration of the environment is demonstrated in the Program by the exclusion of identified areas of high conservation value from development and creation of new reserves to ensure protection of matters of national environmental significance at the ecosystem scale. The Program, to be delivered over 30 or more years, takes a long-term perspective on protection of environmental assets whilst ensuring sufficient land can be released for orderly economic development. As noted previously, the Victorian Government considers development within the framework of the Program to address sustainable social, economic and environmental considerations.

(b) That if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

There is a high level of certainty about the magnitude and extent of direct impacts on matters of national environmental significance because the strategic assessment has identified cumulative impacts over the 30 plus year life of the Program. Development areas are clearly identified and the loss of potential habitat is known. In general, lower quality ecological communities will be cleared while higher quality remnants will be conserved. The BCS will be implemented to ensure that vegetation is retained or offset to realise maximum conservation gains.

Certainty about the long term and cumulative impacts of clearing will allow investment of nearly \$1 billion to target large areas for protection and to act as beneficial offsets. This efficiency of scale means that offsetting approaches address protection at the landscape scale to the benefit of matters of national environmental significance. Key areas with the greatest long-term potential have been identified and the Program will contribute to their protection and management.

The Program includes mandatory mitigation and offset requirements. The Program also contains monitoring, auditing and reporting requirements designed to lower the risk of irreversible and serious environmental harm. The Western Grassland Reserves have been designed to protect greater areas of listed grasslands than required under the Victorian *Native Vegetation Management Framework*, ensuring a conservative approach if estimates of clearing proved too low. Experience to date shows that the reverse is likely to be true.

The Program identifies and will protect key environmental assets. Offsets from clearing will be used to establish consolidated reserves for protection of listed ecological communities and species (15,000 hectare Western Grassland Reserves and 1,200 hectare Grassy Woodland Reserve). Additional *in situ* reserves will act to provide a reservoir of biodiversity in the unlikely event of catastrophic loss in the landscape-scale reserves. This will ensure lasting and meaningful protection of relevant threatened species and ecological communities at the landscape and ecosystem scale.

The Strategic Assessment Report concludes that this approach will achieve significant and measurable gains for matters of national environmental significance compared with the existing approach of ad-hoc offsetting requirements generated by individually referred development actions (*Projections of Future Grassland Extent – Condition Change in the West of Melbourne*, RMIT University, contained at Appendix 7 to the Strategic Assessment Report).

Results of reporting will be utilised in the adaptive management framework to be agreed by the Commonwealth and Victorian Governments. The framework will allow new information and listings to be accommodated within the scope of the Program. These monitoring frameworks will significantly reduce the risk of environmental degradation or damage and increase the likelihood of achieving good biodiversity outcomes.

(c) The principle of inter-generation equity- that the present generation should ensure the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.

To ensure the maintenance and enhancement of the environment, the Victorian Government aims to manage native vegetation to achieve a net gain in conservation. The temporal scale of the Program, and the application of adaptive management commitments, provides the opportunity to increase the security provided to biodiversity across the Victorian landscape.

The Program will result in the reservation of a series of integrated conservation reserves across the greater Melbourne region including:

- Western Grassland Reserves (15,000 hectares) and 1,200 hectare Grassy Woodland Reserve
- 36 grassland and woodland conservation areas within the growth corridors (2,817 hectares)
- Protection and management of important habitat for the Growling Grass Frog (2,918 hectares)
- protection of 80% of high quality habitat for the Golden Sun Moth, Spiny Rice-flower and Matted Flax-lily across the Victorian Volcanic Plain bioregion.

The Program provides for the management of large areas of land set aside for conservation purposes which will include targeted management measures to maximise biodiversity outcomes both now and into the future. Environmental significance overlays and targeted conservation zoning will be placed on land to protect ecological values.

Large, well managed reserves, provide landscape-scale improvement and benefits for individual species through allowing free movement and preventing isolation from further disturbance. Smaller patches are considered to be more at risk to invasion and degradation by exotic species, urban edge effects and management limitations.

The Program establishes statutory and policy mechanisms and committed funding under which conservation activities will be carried out. Monitoring, reporting and adaptive management will provide an opportunity for improved environmental outcomes to be achieved as ecological systems are better understood over time.

Offsets from the proposed action will contribute to the above conservation outcomes under the Program for the benefit of future generations.

(d) The conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making.

The Program implements large scale avoidance, mitigation and offsetting mechanisms together with a planning framework of legislation and integrated biodiversity strategies as the basis for the conservation of biodiversity and ecological integrity in planning for Melbourne's urban expansion. Development under the Program is focussed on existing urban areas and predominantly modified landscapes. This will reduce the extent of impacts on the environment than would otherwise occur if 1.8 million people needed to be housed within new growth corridors alone or through *ad hoc* zoning by local governments.

Australian Government involvement in the Program through the strategic assessment process has allowed it to have a role in the planning for the expanded growth boundary, and ensuring that the aims and requirements of the EPBC Act are considered early in the process. This has given the opportunity to influence landscape outcomes, consolidate conservation measures such as offsets and reduce duplication by engagement at the planning stage.

The location of the growth expansion and the development of the Program have sought to avoid large intact areas of native grasslands, woodlands and other areas with high biodiversity values in the initial planning phases for Melbourne's expansion. The application of the BCS will assist the conservation of biological diversity and maintenance of ecological integrity. This has included ensuring the needs of listed ecological communities and species are considered at a scale that spans precincts and development footprints, and reflects the ecological function of the landscape.

Mitigation measures will be carried out as the planning framework for the growth corridors is implemented. At a precinct level, the sub-regional species strategies identify how species will be managed in the landscape. Subsequent development and application of native vegetation precinct plans and conservation management plans are mandatory processes in the planning process established by the Program. These structured processes will facilitate improved conservation outcomes, and retain flexibility to adapt and evolve with the advance of relevant scientific knowledge and incorporating feedback from monitoring and auditing processes.

(e) Improved valuation, pricing and incentive mechanisms should be promoted.

The Program uses a mix of calculated offsets and set prescription fees to achieve the conservation outcomes in the BCS (further discussion at [Attachment G](#)). The BCS commits to a cost recovery model to establish the offset fees that will be collected from developers and used to mitigate the impacts of urban development on native vegetation (*Habitat compensation under the Biodiversity Conservation Strategy – Melbourne Strategic Assessment*, DEPI August 2013). The document explains the principles underpinning the model and the method for setting the fees. It also sets out the governance, accountability and transparency measures to administer and review the fees.

The Victorian Government has prepared datasets and maps showing the type, extent and condition of all native vegetation in the growth corridors ('time stamping' maps). Offsets for clearing of native vegetation will be calculated based on these maps. Offsets are required for the removal of any identified native vegetation. Compensatory habitat fees apply for listed species and are in addition to the offset fees for native vegetation. The fees will be used by DEPI to implement the conservation actions specified in the BCS.

The offset and compensatory habitat approach under the Program has been designed to deliver certainty for both the conservation outcomes and upfront cost of development over the 30 plus year life of the Program. This is different to a typical project-by-project offset approaches which may penalise future development. For example, the offsets required under a project-by-project approach may become increasingly scarce, difficult to secure and prohibitively expensive, over a 30 year time frame, effectively penalising future generations through increased land pricing and reduced housing affordability. The Melbourne strategic assessment avoids this through fixing the environmental cost of development upfront and ensuring that the same offset approach and formulae applies for all development over the Program life.

Delivery of conservation outcomes described in the BCS prepared under the endorsed Program will cost an estimated \$1 billion to be delivered through development under the user pays framework. According to the Victorian Government, the Program represents a significant cost savings to landholders wishing to develop their land in the order of \$500 million over 30 years. These savings arise from reduction in holding costs, avoidance of opportunity cost associated with land take in the growth corridors and reduction in information and administrative costs.

Conclusion on ESD

Melbourne's growing population has increased the demand for land supply, more affordable housing, employment areas and access to transport. Establishing a multi-node settlement pattern and adopting sustainable community design principles are part of the Victorian government's approach to sustainable development. The Program considers protection of matters of national environmental significance within this context.

The Program will deliver 'on the ground' conservation outcomes supported by planning frameworks, strategies, policies, plans and mechanisms to ensure the long term protection of matters of national environmental significance for future generations. In particular, the Program provides for creation of large grassland and woodland reserves to protect critically endangered ecological communities, and a series of smaller reserves protecting threatened species, riparian corridors and broader biodiversity.

The Program addresses the lack of full scientific certainty through establishment of large reserves maximising resilience and using conservative estimates. A network of smaller reserves

in the growth corridors will protect genetic diversity and local biodiversity. The Program integrates existing state processes and Australian government requirements under the EPBC Act to deliver a landscape scale gain in protection and conservation of threatened ecological communities and species.

Climate change

Although not a mandatory consideration in deciding whether to approve an action, the Strategic Assessment Report provides information on the impacts of climate change for the Program. This is discussed in the department's recommendations report at [Attachment K](#).

The Strategic Assessment Report states that the future climate of the Port Phillip and Westernport region is expected to be hotter and drier than it is today. The average annual rainfall is expected to decrease by around four per cent.

Under this scenario, it is likely that current threats impacting on matters of national environmental significance will be exacerbated, although the extent is difficult to predict. The most susceptible species will be those with restricted or specialised habitat requirements, poor dispersal abilities or small populations.

The Western Grassland Reserves occupy a rain shadow cast by the You Yangs/Brisbane Ranges that limits tree growth. Historically the grasslands receive 500-550 mm annual rainfall. The grasslands share strong floristic, structural and faunal assemblage affinities with grasslands north of the Great Dividing Range in Victoria that occupy areas receiving between 450-550 mm annual rainfall. If the rainfall is reduced by the expected order of magnitude, then the Strategic Assessment Report postulates that this would be within the climate envelope of the western grasslands vegetation community based on the northern grasslands.

Similarly, eucalypt woodlands share close affinities with grassy woodlands north of the Great Dividing Range including the Victorian Riverina. The same logic applies for resilience of the woodlands reserve in the face of warmer and drier conditions.

The department considers that the large scale of reserves, opportunity to provide adaptive management measures and logic of similar communities in drier conditions succeeding, means that the Program adequately caters for additional risks to matters of national environmental significance posed by climate change.

Mandatory considerations - Approvals relating to protected matters

Sections 146G to 146M describe additional requirements for decision-making relating to certain protected matters. Sections 146G (World Heritage properties), 146H (National Heritage places) and 146M (nuclear actions) are not relevant to the Program and the proposed action and are not considered further.

Approvals relating to declared Ramsar wetlands

Section 146J provides:

If the approval relates to a declared Ramsar wetland, the Minister must not act inconsistently with Australia's obligations under the Ramsar Convention.

The department notes that the catchments for the potentially affected sections of the Ramsar sites include urban, semi-urban and rural lands already subject to disturbance. The proposed

action will generally occur some distance from the Ramsar sites and, in all instances, will be managed to control sedimentation and runoff risks. In these circumstances, the department considers that impacts on the ecological character of the Ramsar sites from the proposed action are not expected or likely.

The department concludes that approval of actions associated with urban development of the growth corridors under the Program will not be inconsistent with Australia's obligations under the Ramsar Convention.

Approvals relating to listed threatened species and ecological communities

Section 146K (2) provides:

The Minister must not act inconsistently with:

(a) Australia's obligations under:

- (i) the Biodiversity Convention; or*
- (ii) the Apia Convention; or*
- (iii) CITES; or*

(b) a recovery plan for the species or community or a threat abatement plan.

Section 146K (3) states:

The Minister must have regard to any approved conservation advice for the species or community

Urban development within the three growth corridors is not inconsistent with Australia's obligations under the Biodiversity Convention, the Apia Convention or CITES because the Program aims to avoid high biodiversity sites, mitigate impacts on listed threatened species and ecological communities, and offset losses of native vegetation and species to achieve a net gain in conservation and protection of biodiversity.

The department is of the view, following consultation with the Department of Foreign Affairs and Trade and the Office of International Law, that the Apia Convention was suspended with effect from 14 September 2006 and therefore the obligation for you to not act inconsistently with the Apia Convention is irrelevant. However, in any event, the department has formed the view the proposed action is not inconsistent with Australia's obligations under the Apia Convention.

Listed ecological communities and species significantly impacted by development under the Program are discussed below in terms of consistency with relevant recovery plans made or adopted under section 209A of the EPBC Act and approved conservation advices (defined in section 266B of the EPBC Act). Copies of referenced plans and advices are at Attachment H.

Natural Temperate Grassland of the Victorian Volcanic Plain

There is no current recovery or draft recovery plan for Natural Temperate Grasslands. The conservation advice (approved 29 May 2008) identifies threats as including clearing and agricultural practices. Priority recovery actions include protection of known sites of high conservation significance.

The Listing Advice for the ecological community recommends that 'there be a bioregional plan for the Victorian Volcanic Plain as a strategic initiative'. The advice also states that the conservation value of a patch of the ecological community is enhanced if it shows any of the following features:

- A high native plant species richness

- Large patch size
- Minimal weed invasion
- Presence of threatened plant and/or animal species
- Presence of natural exposed rock platforms and outcrops
- Presence of mosses, lichens or a soil crust on the soil surface.

Information to assist in referral and environmental assessment of actions is on the department's website. The Listing Advice defines this national ecological community and includes key diagnostic characteristics and condition thresholds for additional consideration. The advice also provides information relevant to maintenance and protection of the ecological community.

The endorsed Program will protect and manage 10,000 hectares of Natural Temperate Grasslands within the Western Grassland Reserve, as well as the other smaller reserves retained within the urban growth boundary. This is consistent with the Listing Advice recommending a bio-regional approach to protection. The reserves will provide for the protection of the highest quality patches of the ecological community consistent with the advices.

Urban development within the growth corridors will result in the loss of 3,278 hectares of lower quality Natural Temperate Grasslands. The grasslands to be cleared are unlikely to exhibit the enhanced conservation values described in the Listing Advice.

Grassy Eucalypt Woodland of the Victorian Volcanic Plain

There is no current recovery plan, or draft plan, for Grassy Eucalypt Woodland. Conservation advice was approved on 18 June 2009. The advice specifies a number of threats to the community including:

- Habitat loss, disturbance and modification
- Invasive weeds
- Trampling, browsing or grazing
- Inappropriate fire regimes.

Information to assist proponents in referral, environmental assessment and compliance issues is available on the department's website. The Listing Advice defines this national ecological community and includes key diagnostic characteristics and condition thresholds for additional consideration. The advice also provides information relevant to maintenance and protection of the ecological community.

The Program avoided 314 hectares of Grassy Eucalypt Woodland through changes to the growth boundary. Development will result in loss of up to 167 hectares of lower quality Grassy Eucalypt Woodland. Conservation outcomes include the creation of a new 1,200 Grassy Woodland Reserve and retention of about 259 hectares within a network of smaller reserves.

The overall outcome is consistent with the approved conservation advice in avoiding and minimising impacts on the ecological community, as far as practicable, and in ensuring protection of the highest quality remnants with the best conservation values.

Grey Box (*Eucalyptus macrocarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia (Grey Box Woodland)

There is no current recovery plan, or draft plan, for this ecological community. Conservation advice was approved on 19 March 2010. The advice specifies threats as including incremental ongoing clearing, inappropriate grazing regimes and fragmentation. Priority recovery actions include protection of high quality remnants at the landscape scale including within Travelling Stock Routes and managing invasive species.

The BCS states that Grey Box Grassy Woodland is absent from the South-eastern growth corridor and the Northern growth corridor. One potential stand is known in the North-western growth corridor (within conservation area 18) and will not be impacted.

In the Western growth corridor, one region is known to have once supported Grey Box trees and may support derived grasslands that form part of the community. DEPI advise there is no historical or other information to determine whether the grasslands in question may have supported Grey Box. The most likely situations where derived native grasslands remain are on Travelling Stock Routes, reserves along roadsides, or localised patches of grassland that are part of a larger remnant with trees. These circumstances do not occur in the Western growth corridor and significant remnants are unlikely to remain.

Implementation of urban development under the endorsed Program is not likely to impact on significant occurrences of this ecological community and is consistent with the approved conservation advice.

Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains

There is no current recovery plan, or draft plan, for this ecological community. Conservation advice was approved on 14 March 2012. The advice states that the main threats to the ecological community are clearing of native wetland vegetation, altered hydrology of wetlands (e.g. draining or flooding wetlands), altered water quality of wetlands (e.g. increased salinity, higher nutrient loads, pollution), increased fragmentation and landscape disconnection, weed invasion; and inappropriate grazing regimes.

The approved conservation advice identifies the following characteristics of the ecological community that are most likely to have conservation values:

- Large size and/or large area to boundary ratio – less exposed and more resilient to edge effects such as weed invasion and other human impacts
- Higher native species richness as shown by the variety of native flora and fauna species
- Areas where weed/exotic species invasion and feral animal activities are minimal or can be easily managed
- Presence of listed threatened species (Federal and State)
- Connectivity or proximity to other natural features (e.g. native vegetation remnants, other water bodies) or restoration works, including wetlands in important positions between (or linking) other wetlands in the landscape.
- Wetlands that occur in those areas in which the ecological community has been most heavily cleared and degraded or that are on the natural edge of its range.

Development under the endorsed Program will result in loss of up to 194 hectares of listed Seasonal Herbaceous Wetlands and protection of 339 hectares. Most of the 194 hectares occurs within the urban environment where maintenance of catchments cannot be guaranteed.

Implementation of the Program will ensure protection of the largest and most intact examples of the ecological community meeting the above criteria. The Western Grassland Reserves will ensure protection of vegetative buffers, surrounding landscape and hydrological regimes.

The department has identified a further example in the Northern growth corridor that should be retained because of its large size and areas of high diversity (Hearn's Swamp). Protection of this occurrence will reduce the loss due to the Program to 139 hectares and increase retained occurrences to 394 hectares. The department considers that implementation of the Program is not inconsistent with the approved conservation advice.

Golden Sun Moth

There is not currently a recovery plan made or adopted under section 269A of the EPBC Act or other approved conservation advice. According to the department's web site, a draft recovery plan is currently in preparation, but is yet to be published. The department has prepared and published significance threshold guidelines to assist developers and other stakeholders determine when referral under the EPBC Act is likely to be required. These only relate to significance thresholds for referral of individual projects under the EPBC Act.

Implementation of the Program will ensure conservation of 80% of highest quality habitat for the Golden Sun Moth across the Victorian Volcanic Plain bioregion. This will ensure the continued persistence and distribution of the species across the bioregion.

Spiny Rice-flower

The *National Recovery Plan for the Spiny Rice-flower* (DSE, 12 December 2006) has been adopted under the EPBC Act. The stated goal of the plan is to minimise the probability of extinction of the species in the wild and to increase the probability of important populations becoming self-sustaining in the long term. More specific objectives are stated as:

- Acquisition of accurate information for conservation status assessments
- Identification of habitat that is critical, common or potential
- Ensuring that all populations and their habitat are protected and managed appropriately
- Management of threats to populations
- Identification of key biological functions
- Determination of the growth rates and viability of populations
- Building community support for conservation.

Urban development under the Program is consistent with the goals of the recovery plan in that implementation will contribute to the protection of known self-sustaining populations in the Western Grassland Reserves, as well as additional grassland areas within the growth corridors currently supporting more than 200 plants. The surveys undertaken by DEPI and the Growth Corridors Authority have provided accurate information for conservation status assessments and identification of critical habitat. The endorsed Program will also manage threats to populations and identify key biological functions through management of the Western Grassland Reserves.

The recovery plan also states that all populations and their habitat should be protected. While the recovery plan does not define a population, the recovery team has advised that such a population might comprise 20 or more individual plants. This situation exists for individual project assessments where clearing is often allowed, subject to offsets. However, fragmented populations may not persist within small urban reserves and have limited conservation values.

Urban development within the growth corridors is consistent with the intent and key goals of the recovery plan because important populations have been identified and will be conserved. Implementation of the Program will ensure conservation of 80% of highest quality habitat for the Spiny Rice-flower across the Victorian Volcanic Plain bioregion. This will ensure the continued persistence and distribution of the species across the bioregion.

Striped Legless Lizard

The *National Recovery Plan for the Striped Legless Lizard (Delmar impar) 1999 - 2003* (NSW NPWS June 1999) has been adopted under the EPBC Act (16 July 2000). The conservation goal is to ensure the long-term survival of the species and to maintain its potential for evolutionary development in the wild across its natural range. The key objective is to ensure viable populations or cluster populations are represented and maintained in reserves or appropriately managed sites across the species' distribution.

More specific objectives include to:

- Determine the distribution and abundance of the species in Victoria, NSW, ACT and SA
- Establish a series of reserves and other managed areas such that viable populations are maintained across the known distribution of the species
- Identify the nature and extent of threatening processes affecting Striped Legless Lizard
- Undertake a program of research and monitoring to provide a basis for adaptive management of populations.

The Program addresses goals of the recovery plan in that it will ensure the protection of self-sustaining populations in the grassland reserves at a scale allowing for evolutionary development in the wild. The endorsed Program will also manage threats to populations and identify key biological functions through management of the grassland reserves. A 'best practice' salvage and relocation plan will be implemented and requires a premium offset specifically to advance scientific knowledge and management of the species. Urban development undertaken according to the Program is not inconsistent with the recovery plan.

Matted Flax-lily

The *National Recovery Plan for the Matted Flax-lily* (DSE, 26 November 2010) has been adopted under the EPBC Act. The stated objective of the plan is to minimise the probability of extinction of the Matted Flax-lily in the wild and to increase the probability of populations becoming self-sustaining in the long term. Other stated objectives include:

- Determining distribution, abundance and population structure
- Determining habitat requirements and managing threats to populations
- Identifying key biological functions, determining growth rates and viability of populations
- Establishing a population in cultivation.

Outcomes for the Matted Flax-lily are consistent with the objective of minimising risks of extinction and securing self-sustaining populations through the establishment of large reserves.

The Program will contribute to knowledge about distribution, populations, habitat requirements, management of threats and cultivation of populations. Implementation of the Program will ensure conservation of 80% of highest quality habitat for the Matted Flax-lily at the bioregion level. Urban development under the Program is not inconsistent with the recovery plan.

Growling Grass Frog

The *National Recovery Plan for the Southern Bell Frog* (Various authors, 2012) has been adopted under the EPBC Act. The plan identifies actions required to ensure the long-term viability of the species in nature. More specific objectives are stated as:

- Securing all current populations of the Growling Grass Frog, particularly those occurring in known breeding habitats, and improving their viability through increases in size and/or area of occurrence
- Improving understanding of distribution, biology and ecology of the species, and identifying causes of the decline of the species across its geographic range
- Addressing known or predicted threatening processes, and implementing management practices to ensure that land use activities do not threaten survival of the species.

The Program addresses goals of the recovery plan, and is not inconsistent with the plan, in that it will ensure the protection of functioning sustainable populations of Growling Grass Frog (including the most important currently known populations) within the growth corridors, and ensure connectivity between adjacent populations.

Threat abatement plans

Threat abatement plans establish a national framework to guide and coordinate Australia's response to key threatening processes listed under section 183 of the EPBC Act. None are directly relevant to the Program, though some may apply indirectly to species considered under the Program (for example: *Infection of amphibians with chytrid fungus resulting in chytridiomycosis* (2006); *Competition and land degradation by rabbits* (2008); *Predation by European red fox* (2008); *Predation by feral cats* (2008); and *Dieback caused by the root-rot fungus *Phytophthora cinnamoms** (2006)). Copies of these plans are at [Attachment H](#). Conservation objectives and outcomes from the Program are consistent with the objectives and intent of these threat abatement plans under the EPBC Act.

Approvals relating to listed migratory species

Section 146L provides:

If the approval relates to a listed migratory species, the Minister must not act inconsistently with whichever of the following conventions or agreements because of which the species is listed:

- (a) *the Bonn Convention;*
- (b) *CAMBA;*
- (c) *JAMBA;*
- (d) *an international agreement approved under subsection 209(4).*

Specialist flora and fauna reports identified the potential occurrence of 31 migratory bird species in the Program area. Important populations are not known to occur, or to regularly utilise, areas proposed for development within the growth corridors. The BCS commits to the following:

- Flora and fauna surveys for the preparation of precinct structure plans will survey any wetlands present and identify potential values for migratory species
- If present, migratory bird habitat will be managed for protection of habitat values
- Sites that are used or are likely to be used by nationally significant migratory species will be protected with a 200m buffer as part of the precinct structure plan, and will be managed under a conservation management plan
- Retained and constructed wetlands will be designed and managed to maximise opportunities for migratory species, including the exclusion of dogs and other disturbances in identified areas and a minimum buffer of 100 metres
- If surveys detect use of the wetland by the Australian Bittern, the buffer around the wetland will be increased to 300m
- A fully costed conservation management plan (CMP) must be prepared prior to development commencing. The CMP must be to the satisfaction of DEPI and set out the detailed management arrangements for any wetlands and their buffers.

The department considers that a decision to approve development within the growth corridors is not inconsistent with the Bonn Convention, CAMBA, JAMBA or an international agreement approved under subsection 209(4).

Mandatory considerations – conditions of approval

Sections 146B(2)(e) and 146E(b) enable you to attach conditions to an approval for actions taken in accordance with an endorsed Program. Considerations to be taken into account in deciding what conditions (if any) to attach to an approval have been discussed above.

The department considers that the commitments and undertakings in the endorsed Program are appropriate in ensuring adequate protection of matters of national environmental significance. However, additional requirements are considered appropriate for the following matters:

- Reinforcement of the requirement for protection of the 36 conservation areas identified in the *Biodiversity Conservation Strategy* under the endorsed Program, and for Australian Government approval if urban infrastructure is proposed in the conservation areas or any of the boundaries are proposed to be changed.
- Reinforcement of the habitat compensation requirements for listed ecological communities and species described in the BCS and detailed in the cost recovery arrangements.
- Exclusion from development of the extensive occurrence of *Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains* at Hearn's Swamp (55ha) in the Northern growth corridor.

Proposed exclusions and conditions of approval are in the final decision notice at [Attachment A](#). Further information on the classes of actions and conditions is at [Appendix 2](#), together with a marked up version showing substantive differences between the draft and final approvals.

Changes in approval conditions from the draft approval

The recommended final approval conditions are substantially the same as the draft approval conditions apart from addition of a further exclusion from the classes of actions. This is for development of 142.8 hectares identified in the Victorian Government's *Diggers Rest Precinct*

Structure Plan (2012) as property numbers 3, 4, 6, 7 and 9. Diggers Rest is in the North-western growth corridor.

Development of the properties was referred under Part 7 of the EPBC Act on 21 September 2012 and determined to be a controlled action on 22 October 2010. The proposal is currently being considered for approval under Part 9 of the EPBC Act. Given the separate referral and advanced stage of the assessment, the department considers that the Part 9 process should continue to take precedence. This will avoid potential complications from dual approvals and ensure that negotiations with the proponent on the Part 9 approval can continue in good faith. This approach has been discussed and agreed with the proponent.

Additional mandatory considerations – section 134, Part 9 (Approval of actions)

Advice from the Australian Government Solicitor suggests that section 134 needs to be addressed when attaching conditions to approvals granted under Part 10 of the EPBC Act. In particular, section 146D(3) provides:

Subject to subsection (4), section 134 and Divisions 2, 3 and 4 of Part 9 apply in relation to an approval of the taking of an action that is taken to have been given under Part 9 because of paragraph (1)(b).

Section 134 (1A) provides:

An approval of the taking of an action by a person (the first person) is subject to the condition that, if the first person authorises, permits or requests another person to undertake any part of the action, the first person must take all reasonable steps to ensure:

- (a) that the other person is informed of any condition attached to the approval that restricts or regulates the way in which that part of the action may be taken; and*
- (b) that the other person complies with any such condition.*

This is not a relevant consideration for the purposes of deciding whether to attach approval conditions.

Section 134(1) provides:

The Minister may attach a condition to the approval of the action if he or she is satisfied that the condition is necessary or convenient for:

- (a) protecting a matter protected by a provision of Part 3 for which the approval has effect (whether or not the protection is protection from the action); or*
- (b) repairing or mitigating damage to a matter protected by a provision of Part 3 for which the approval has effect (whether or not the damage has been, will be or is likely to be caused by the action).*

The conditions attached to the proposed approval decision are necessary to ensure satisfactory protection and mitigation of impacts on matters protected by provisions of Part 3 of the EPBC Act, particularly listed threatened species, ecological communities and listed migratory species.

Section 134(2) provides:

The Minister may attach a condition to the approval of the action if he or she is satisfied that the condition is necessary or convenient for:

- (a) protecting from the action any matter protected by a provision of Part 3 for which the approval has effect; or*

(b) repairing or mitigating damage that may or will be, or has been, caused by the action to any matter protected by a provision of Part 3 for which the approval has effect.

The conditions attached to the proposed approval decision are considered necessary to ensure satisfactory protection and mitigation of impacts on matters protected by Part 3, particularly listed threatened species and ecological communities and listed migratory species.

Section 134(3) outlines the kinds of conditions that can be attached to an approval decision. The subsection does not limit the kinds of conditions that may be attached. The conditions attached to this proposed approval decision are consistent with the examples provided in section 134(3).

Section 134(3A) states that:

the following kinds of condition cannot be attached to the approval of an action unless the holder of the approval has consented to the attachment of the condition:

- (a) a condition referred to in paragraph (3)(aa), if the activities specified in the condition are not reasonably related to the action;*
- (b) a condition referred to in paragraph (3)(ab).*

Paragraph (3)(aa) refers to conditions required to protect protected matters. The conditions are reasonably related to the action for which approval is proposed. Section (3)(ab) refers to a condition requiring a specified financial contribution for protected matters. Although the endorsed Program and approval conditions require payment of monetary offsets, this is an indirect consequence of the Program and not a matter specifically conditioned such that the provision would apply. The department also notes that the Victorian government has consented to carry out the proposal in accordance with the conditions attached to this proposed approval decision.

Section 134(3B) states that, once consent is given by an 'approval holder' in relation to section 134(3A), this consent cannot be withdrawn. This is not directly relevant to this proposed approval decision and conditions.

Section 134(3C) states that:

A condition attached to an approval under paragraph (3)(c) may require a person taking the action to comply with conditions specified in an instrument of a kind referred to in that paragraph:

- (a) as is in force at a particular time; or*
- (b) as is in force or existing from time to time;*

even if the instrument does not yet exist at the time the approval takes effect.

Sub-section (3C) is not directly relevant to the proposed approval decision and conditions.

Section 134(4) provides:

In deciding whether to attach a condition to an approval, the Minister must consider:

- (a) any relevant conditions that have been imposed, or the Minister considers are likely to be imposed, under a law of a State or self-governing Territory or another law of the Commonwealth on the taking of the action; and*
- (aa) information provided by the person proposing to take the action or by the designated proponent of the action; and*
- (b) the desirability of ensuring as far as practicable that the condition is a cost-effective means for the Commonwealth and a person taking the action to achieve the object of the condition.*

The endorsed Program describes all relevant legislation and policies applying to actions undertaken under the Program. These were fundamental considerations in the decision to endorse the Program and have therefore been considered for the current approval. The proposed approval conditions are consistent with the Victorian Government's planning approach (and noting that the Program has been prepared by the Victorian Government).

The draft Program and draft Strategic Assessment Report were released for public comment by the Victorian Government. Information provided by the Victorian Government has been taken into account in this proposed approval decision and conditions, including comments made on the proposed approval.

The department considers that the approval conditions are a cost effective means to achieve the objective of the endorsed Program. The conditions build on the legislation and commitments made by the Victorian Government in the endorsed Program and are complementary to state approval requirements. The conditions are a cost-effective means to achieve the object of the endorsed Program and protection of matters of national environmental significance.

Section 134(4A) states that if:

- (a) a condition (the principal condition) attached to an approval under paragraph (3)(c) requires a person taking the action to comply with conditions (the other conditions) specified in an instrument of a kind referred to in that paragraph; and*
- (b) the other conditions are in excess of the power conferred by subsection (1);*

the principal condition is taken to require the person to comply with the other conditions only to the extent that they are not in excess of that power.

This section is not directly relevant to the conditions attached to this proposed approval decision.

APPENDIX 1

COMMENTS RECEIVED FROM, OR ON BEHALF OF, COMMONWEALTH MINISTERS

Comments received from FAHSCIA on behalf of their Minister (received by email dated 15 August 2013)

Hi s. 47F(1)

I am writing in response to the request for comment on the proposed decision to approve urban development in the new growth corridors to be undertaken in accordance with Melbourne's *Delivering Melbourne's Newest Sustainable Communities Program*. You exchanged emails with s. 47F(1) about this request earlier in the week. Minister Butler wrote to Minister Macklin on 5 December 2013 on this matter.

As you are aware, until such time as the outcome of the election is known, the Australian Government is in a caretaker role. The matter you have raised requires consideration by the relevant Minister or Parliamentary Secretary, but it is not appropriate for this to happen until a new Government is formed. You may wish to raise the matter again when this occurs.

However, I can indicate that the proposed decision to approve the urban development in the new growth corridors undertaken in accordance with the *Delivering Melbourne's Newest Sustainable Communities Program* is consistent with current policy settings

We note that the proposed decision to approve actions or classes of actions, undertaken in accordance with an endorsed policy, plan or program will avoid the need for ongoing approvals of individual projects, reduce red tape and provide certainty around the requirements needed to satisfy the EPBC over the life of the project. The reduction in red tape and the improved timeliness of building and planning approvals are consistent with efforts to improve housing affordability outcomes.

In addition, the more streamlined approval processes has the potential to benefit participants of the National Rental Affordability Scheme and supports the goals of the Housing Supply and Affordability Reforms and the Housing Affordability Fund.

It is also worth noting that decisions on zoning, planning and land release are the responsibility of the State and Territory Governments.

regards

John Riley
Branch Manager
Housing & Inter-Government Branch
s. 47F(1)

APPENDIX 2

FURTHER INFORMATION ON CLASS OF ACTIONS AND CONDITIONS

What is the class of actions?Growth corridors

The approved class of actions is all actions associated with urban development in Melbourne's expanded 2010 Urban Growth Boundary for the following three growth corridors:

- Western growth corridor (Melton and Wyndham)
- North-western growth corridor (Sunbury)
- Northern growth corridor (Hume, Whittlesea and Mitchell).

The growth corridors are as generally described in the endorsed Program, but defined more precisely in the *Biodiversity Conservation Strategy for Melbourne's Growth Corridors* (DEPI June 2013) approved by the Minister. To the extent of any inconsistency, the endorsed Program (which describes the larger *investigation area*) would take precedence.

28 precincts in previous growth boundary

The BCS captures 16 of 28 precincts within the previous 2005 Urban Growth Boundary (described in the BCS at page 4). The endorsed Program lists the 28 precincts (page 17) which were approved for development by the former Minister on 8 July 2010. The approval requires developments to proceed in accordance with prescriptions that had been approved by the Minister for protection of matters of national environmental significance.

The BCS describes a cut-off for deciding which precincts are captured by the BCS. The cut-off is precincts for which a planning scheme amendment to introduce a Precinct Structure Plan had not occurred prior to 1 March 2012. The precincts are captured by the BCS because their offset revenue stream is necessary to deliver the outcomes in the BCS, particularly for the Growling Grass Frog, Golden Sun Moth and Southern Brown Bandicoot. There are also several parts of precincts that fall under the BCS and that are described at page 16 of the BCS.

The Minister has already approved the 28 precincts subject to conditions requiring compliance with the MNES prescriptions. The EPBC Act does not provide for dual approvals, neither is there an ability to revoke, vary or otherwise change the original approval in the circumstances of the endorsed Program. The capacity for the Minister to 'approve' the new BCS arrangements for the 16 precincts is therefore limited.

Nonetheless, the BCS has applied the requirements of the prescriptions strategically at the growth corridor level to identify conservation areas and removes the need to protect additional land resulting from these requirements at the precinct structure planning stage or other development approval stage. This means that developments in the 16 precincts that are taken in accordance with the BCS will satisfy the requirements of the prescriptions and the original EPBC Act approval.

The compensatory habitat funding stream from the 16 precincts is necessary to fund the BCS conservation outcomes. While proponents undertaking development within the 16 precincts could argue that the BCS does not apply (given the original approval), the department's assessment is that relatively few proponents would try to take this approach. The department cannot enforce compliance with the BCS, in such instances, but can at least make it clear that compliance with the BCS will satisfy the original approval. The Victorian planning scheme amendments will also direct this approach.

The remaining precincts continue to be approved under the terms of the original 8 July 2010 approval and prescriptions, and are not affected by the new approval. These circumstances are explained in an annexure attached to the new approval.

Seasonal Herbaceous Wetlands (SWH)

This ecological community was listed after the endorsement of the Program, but before this approval. The department's assessment identified an occurrence of the ecological community (Hearnes Swamp in the Northern growth corridor) that should be retained. The class of actions should exclude developments affecting SHW at Hearnes Swamp. The approval includes a map defining the area to which the exclusion applies (taken from *The impact of Melbourne's growth on Seasonal herbaceous wetlands (freshwater) of the temperate lowland plains* (DEPI May 2013).

Specified properties at Diggers Rest

The final approval excludes development of properties 3, 4, 6, 7 and 9 identified in the Victorian Government's *Diggers Rest Precinct Structure Plan* (Growth Areas Authority, 2012) which are the subject of a separate referral and approval under Part 9 of the EPBC Act.

Approval conditions (Annexure 1 to the final approval)

Actions must be undertaken in accordance with approved strategies

Requirements for protection of MNES are fully described in the BCS and underlying sub-regional strategies. Actions undertaken in accordance with the approved BCS are therefore consistent with the endorsed Program and will adequately avoid, mitigate and offset impacts on MNES.

The approval conditions make it clear that permissible clearing affecting listed communities and species must be in accordance with the BCS and sub-regional strategies. This leaves open the possibility of compliance action under the EPBC Act if the conditions are breached.

Boundary changes and actions cannot occur in conservation areas without agreement

The approval conditions mandate that any placement of infrastructure associated with urban development in the 36 conservation areas, that will result in a net loss of habitat for matters of national environmental significance, will need to be approved by the Minister.

The approval conditions state that no actions that could result in, or facilitate, a *net loss of area* of specific conservation areas can occur unless agreed by the Minister. The *Biodiversity Conservation Strategy* (Section 5) provides for minor changes to the boundaries of the specified conservation areas. This is permitted under the condition if there is no net loss in the area.

The approval conditions also state that no actions that could result in, or facilitate, a *change in the boundary* of specified conservation areas (the remainder of the conservation areas) can occur unless agreed by the Minister. The intent is to ensure that the boundaries of the specified conservation areas do not change over the life of the Program.

Offset requirements for actions potentially affecting listed ecological communities and species

The approval conditions require compliance with the habitat compensation requirements for MNES generally described in the BCS and detailed in the document *Habitat compensation under the Biodiversity Conservation Strategy* (DEPI August 2013).

Other considerations

A potential difficulty is inconsistent requirements in the BCS and sub-regional strategies – which takes precedence? The BCS states that, to the extent of any inconsistency, the BCS is precedent. The department cannot adopt this hierarchy because the BCS includes measures for the Southern Brown Bandicoot (SBB) that are still unresolved. In addition, the approval conditions cannot specify compliance with the SBB sub-regional plan given that this has not yet been approved.

This issue does not need to be resolved as part of this approval given that the class of actions to be approved excludes the South-eastern growth corridor where the SBB is found. Any actions, in the interim, will need to be individually referred.

There is still a risk of inconsistency in the other corridors, however, the department is reluctant to defer to the BCS in all instances. The approval should be interpreted as requiring compliance with both the BCS and GSM/GGF sub-regional strategies meaning that any inconsistencies will need to be brought to the department's attention for resolution (described at Annexure 3).

Explanatory information (Annexure 3 to the draft approval)

This annexure is not part of the binding approval, but is meant to provide clarity and interpretation.

Classes of actions approved

This provides further context and explanation for the approved classes of actions for the 'final' approval decision. This repeats some of the introductory material on the first page for the draft decision (removed in the final approval).

Previous approvals

This introduces the BCS and sub-regional strategies approved subsequent to the previous approval for the 28 precincts on 8 July 2010. It describes the relationship between the approvals and the BCS. The explanation states the department's position that actions taken in the 16 precincts named in the BCS, and in accordance with the BCS, will meet the requirements of the original approval. The previous approval made 8 July 2010 continues to apply for the remainder of the 28 precincts.

Excluded actions

The approval excludes actions with an adverse impact on the listed ecological community at Hearn's Swamp in the Northern growth corridor. A map showing the indicative occurrence (from the relevant DEPI report) is included at Annexure 2. Any developments likely to have a significant impact on the ecological community will need to go through the normal referral, assessment and approval process. This will allow detailed assessment on the acceptability of individual proposals.

The approval also excludes development of properties 3, 4, 6, 7 and 9 identified in the Victorian Government's *Diggers Rest Precinct Structure Plan* (Growth Areas Authority, 2012) which are the subject of a separate referral and approval under Part 9 of the EPBC Act.

Approval conditions

Individual developments are approved subject to specified offset arrangements described in the Biodiversity Conservation Strategy and *Habitat compensation under the Biodiversity Conservation Strategy – Melbourne Strategic Assessment* (DEPI August 2013). This is essential to deliver the income stream necessary to achieve the Program outcomes for protected matters.

Victorian legislation does not necessarily provide for protection of 'non-native' vegetation that may provide habitat for species such as the Growling Grass Frog and Golden Sun Moth. While the BCS implements offset requirements through planning instruments, the department considers that this should be reinforced by approval conditions under the EPBC Act in view of the criticality of protecting the funding stream, and noting potential challenges through Victorian planning processes to the offset mechanisms. The department notes there is a potential weakness here for actions in the 16 precincts captured by the BCS, but not by the new approval under the EPBC Act.

The approval conditions make it clear that development cannot occur within the 36 conservation areas, unless approved by the Minister, to deliver certainty of outcome for matters of national environmental significance. There may be circumstances over the 30 plus year life of the Program where boundaries need adjustment and the conditions provide for this.

Program evaluation and consistency reports

This notes that DEPI agrees to provide reports on the consistency of each Precinct Structure Plan with the BCS and sub-regional strategies, for an interim period, until the overall Monitoring and Reporting Framework required under the Program is finalised and approved by the Minister.

BIODIVERSITY CONSERVATION STRATEGY AND SUB REGIONAL SPECIES STRATEGIES

This attachment provides further information on the *Biodiversity Conservation Strategy* (BCS) approved by the Minister on 2 August 2013. Further information on relevant matters of national environmental significance impacted from implementation of classes of actions associated with the growth corridors is also provided, including for *Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains* which was listed post-endorsement.

The endorsed Program committed the Victorian Government to prepare and implement a BCS to direct conservation requirements in the four new growth corridors. The Program also required sub-regional strategies to be prepared for the Golden Sun Moth, Growling Grass Frog and Southern Brown Bandicoot. This was in view of the need to identify specific habitat requirements and movement corridors for these species building on the principles established in the prescriptions approved by the then Minister in 2010 for the individual species. The following strategies were approved by the Minister on 2 August 2013:

- *Biodiversity Conservation Strategy for Melbourne's Growth Corridors* (DEPI June 2013)
- *Sub-regional Species Strategy for the Growling Grass Frog* (DEPI May 2013)
- *Sub-regional Species Strategy for the Golden Sun Moth* (DEPI May 2013).

Further information on the sub-regional species strategies for the Golden Sun Moth and Growling Grass Frog is at [Appendix 1](#) to this attachment. At the time of writing, the strategy for the Southern Brown Bandicoot is yet to be completed and is not considered any further in this briefing package. This species only occurs in the South-eastern growth corridor which is not currently being considered for approval.

This attachment is structured as follows:

- Description and discussion of BCS, including
 - Spatial coverage of the BCS
 - Ecological surveys, data and methodology
 - Public consultation
 - Avoidance outcomes – conservation areas within and outside the growth corridors
 - Mitigation – surveys, salvage and translocation requirements
 - Offsets and compensatory habitat fees
 - Monitoring and review
 - Conclusion
- Discussion of differences between the draft and final BCS
- Treatment of ecological communities listed during or after the strategic assessment
 - Grassy Eucalypt Woodland
 - Grey Box Woodland
 - Seasonal Herbaceous Wetlands

Biodiversity Conservation Strategy (BCS)

The BCS specifies how the conservation outcomes for matters of national environmental significance described in the endorsed Program and approved prescriptions will be achieved within the growth corridors. The BCS builds on additional flora and fauna investigations to identify and refine conservation areas. The requirements in the prescriptions relating to

offsets, salvage, translocation and conservation management plans have also been incorporated into the BCS.

The conservation measures will be funded using a cost recovery model. Fees will be collected from developers, as development progresses, and used to fund the conservation measures in the BCS. The Victorian Department of Environment and Primary Industries (DEPI), formerly the Department of Sustainability and Environment (DSE), has published a document describing the cost recovery model and detailing the fee structure and prices (*Habitat compensation under the Biodiversity Conservation Strategy – Melbourne Strategic Assessment*, DEPI August 2013).

Spatial coverage of the BCS

The area covered by the BCS is shown in Figures 1 and 2 (Attachment D). It applies to the four new growth corridors within the expanded 2010 Urban Growth Boundary given effect by Victorian Planning Scheme Amendment VC68, and described as follows:

- Western growth corridor (Melton and Wyndham)
- North-western growth corridor (Sunbury)
- Northern growth corridor (Hume, Whittlesea and Mitchell), and
- South-eastern growth corridor (Casey and Cardinia)

The BCS also applies to the Outer Metropolitan Ring Transport Corridor/E6 Road Reservation and 16 of the 28 precincts included in the endorsed Program, and within the 2005 Urban Growth Boundary, for which a planning scheme amendment to introduce a precinct structure plan was approved after 1 March 2012. The precincts included are:

- Beaconsfield
- Berwick Waterways
- Botanic Ridge
- Casey Central Town Centre
- C21 Business Park
- Hampton Park
- Greenvale Activity Centre (A4)
- Greenvale North (R1)
- Mickleham Employment Area North (E2)
- Mickleham Employment Area South (E3)
- Officer Employment Area
- Pakenham Employment Area (Stage 1)
- Pakenham Employment Area (Stage 2)
- Werribee Technology Park
- Wyndham Vale.

As well as the above 15 precincts, the Truganina Employment Area (approved before 1 March 2012) is included (totalling 16 precincts) together with additional areas that have been previously surveyed to DEPI standards and that are described at page 16 of the BCS.

Ecological data, surveys and methodology

The methodology used to identify protected areas is described at Section 4 of the BCS. Further information on additional areas described in the draft BCS for conservation, but excluded in the final BCS, is in *A New Approach to Biodiversity in Melbourne's Growth*

Corridors - Public Consultation Report of Findings (DEPI May 2013). The department's assessment of these changes is addressed throughout this attachment.

The BCS was prepared using data available to DEPI on the biodiversity values of the growth corridors collected for the endorsed Program (*Delivering Melbourne's Newest Sustainable Communities Strategic Impact Assessment Report*, DSE 2009) as well as additional data collected since the completion of that report. The key additional data includes:

- Surveys and assessments by the Victorian Growth Areas Authority (GAA) in specific precincts across the growth corridors for native vegetation type, extent and condition and targeted surveys for key Commonwealth and State listed threatened species completed in the period 2008 to 2011
- Surveys and assessments of specific properties undertaken as part of DEPI's 'time-stamping' project for native vegetation type, extent and condition
- Targeted surveys across the growth corridors for Growling Grass Frog and Golden Sun Moth undertaken by the GAA and DEPI
- Surveys undertaken on behalf of DEPI in potential conservation areas identified in the draft BCS targeting Commonwealth listed threatened species
- Surveys of specific properties undertaken by landowners for native vegetation and threatened species as part of the public consultation process for the draft BCS and in preparing 'time stamping' datasets
- Investigations by DEPI of a number of properties in relation to Commonwealth listed Grassy Eucalypt Woodland, and specific threatened species, in response to issues raised by landowners in public submissions on the draft BCS, and
- Surveys and assessments by the Victorian Department of Transport for the Regional Rail Link project (approved under Part 10 of the EPBC Act on 11 June 2010).

The available information has been used by DEPI to prepare 'time stamping' information on native vegetation type, extent and condition for all lands in the growth corridors. While most of the growth corridors were surveyed, the maps rely on estimated information in areas where no surveys had been undertaken (taking into account remote sensed data and on-ground observations augmented by rapid vegetation assessments by DEPI from 2009 to 2011).

The maps were circulated to landowners in the growth corridors. Where landowners identified inaccuracies, DEPI engaged ecological consultants to undertake surveys to confirm or alter the maps. The areas surveyed specifically for the 'time-stamping' project are shown in Figures 7 to 10 of the BCS. The process was dependent on landowners finalising data submissions to DEPI which concluded in May 2012.

The BCS states that the 'time-stamping' maps are the definitive native vegetation dataset and will be used to calculate the offset requirements for urban development. Offsets will be calculated using the 'time stamping' extent and condition of the native vegetation, rather than its extent and condition at the time the vegetation is removed. The final 'time-stamping' maps are shown in Figures 11 to 18 of the BCS.

Prescriptions under the endorsed Program

The department notes that prescriptions will no longer apply for the precincts captured by the BCS. The prescriptions applied for the approval of the previous 28 precincts and can be seen as an interim measure until investigations to define the final conservation system within the growth corridors were completed.

The endorsed Program committed to implementation of prescriptions for individual matters of national environmental significance impacted by development. The prescriptions describe survey requirements, *in situ* protection thresholds, and mitigation and offset requirements for listed ecological communities and species. Prescriptions have been approved by the Environment Minister and were applied for development of the Regional Rail Link Stage 2 project and for the 28 precincts approved by the Minister on 11 June 2010 and 8 July 2010 respectively.

The BCS has applied the prescription requirements to identify all land in the growth corridors that would require protection under the prescription approach. This was done to remove uncertainty about potential application of the prescriptions over the 20 plus year life of the Program, and to quantify conservation outcomes and costs to inform the final offset framework. Further detail is in the BCS and sub-regional species strategies.

In general, the prescriptions were applied to the 'time stamping' datasets to identify *in situ* conservation areas triggered by the protection thresholds stated in the prescriptions. These areas were further refined through criteria to identify those of highest value and to determine practical management boundaries for individual reserve areas. The *in situ* reserve structure was further refined through public submissions on the draft BCS and targeted surveys.

Areas identified from this process have been designated for conservation in the BCS, except for one area discussed in the draft BCS that included potential (unsurveyed) habitat for Spiny Rice-flower. In accordance with the prescriptions, the BCS considers that protection of this area is incompatible with state significant planning objectives. In addition, due to the criteria established in the sub-regional species strategy for Golden Sun Moth, not all areas triggered by the prescription for Golden Sun Moth are protected. This is balanced by two areas in the northern growth corridor that are considered to better achieve conservation outcomes.

Where access to undertake surveys could not be obtained, these areas were designated as conservation areas and excluded from urban development. Matters of national environmental significance known to occur within the growth corridors with no prescriptions prepared are also addressed. According to the BCS, all known and likely occurrences are protected within the conservation areas avoiding the need for new prescriptions.

The department accepts the approach used to apply the prescription rules to define the conservation requirements, upfront, and to refine this through the BCS process to determine the final *in situ* conservation requirements. This approach delivers certainty as to the conservation outcomes required and in designing the offset framework to deliver these outcomes. It also delivers certainty for upfront precinct planning and development.

Discussion

The department notes that the survey coverage of the growth corridors varies (estimated as about 90% coverage for the Western growth corridor and 40-50% for the other three corridors based on Figures 7 – 10 in the BCS), but considers the coverage to be adequate for the purposes of the strategic assessment and a decision whether to approve 'classes of actions'. Sufficient information is available to identify priority habitat requirements for individual ecological communities and listed species, and to ensure targeted landscape-scale protection. The acceptability of the proposed conservation outcomes is discussed throughout this attachment.

The department notes that the 'time stamping' offset approach offers advantages because it negates any incentive or potential advantage for landholders to degrade, whether deliberately or through neglect, areas of native vegetation flagged for future development in the hopes of reducing future offset liabilities. From the perspective of the land holder, there is also certainty as to the offset requirement whether calculated now or at some future point.

A possible negative is that some developers may nonetheless choose to dispute the 'time stamping' dataset, and undertake their own surveys, in an effort to prove that listed communities or species are not present and to reduce potential offset liabilities. This could place at risk the funding stream necessary to achieve the conservation outcomes stated in the BCS which have been costed using the 'time stamping' dataset. This dataset effectively sets the baseline fee necessary to achieve the BCS outcomes. Reductions in the land subject to prescribed fees, for any reason, could increase the cost for other developers.

The Melbourne Program uses a mix of calculated offsets and set compensatory fees to achieve the conservation outcomes in the BCS (discussed later in this attachment). Offsets for native vegetation are well established through the Victorian *Native Vegetation Management Framework* and are considered by the department to be secure under the Program. Likewise, offsets for other listed species are adequately addressed through the Program. The main potential exception is the Golden Sun Moth.

Offsets for clearing of Golden Sun Moth habitat have been contentious in the past because the species inhabits both native and non-native vegetation (the latter does not require offset under the *Native Vegetation Management Framework*). In addition, the species is cryptic and surveys can be expensive and inconclusive. The final BCS states that a flat compensatory habitat fee will be charged for all clearing in the three growth corridors. This avoids the need for further surveys and replaces the previous prescription approach. The department supports the flat fee per hectare approach as providing the greatest certainty for all parties, including in delivering the conservation outcomes in the BCS.

Public consultation

The draft BCS and sub-regional species strategies were released for public comment on 9 November 2011 along with supporting reports including the 'time-stamping' native vegetation dataset then available for the growth corridors. A total of 253 submissions raised issues relating to the BCS or sub-regional species strategies.

Details of the issues raised in the submissions and the State Government's response are in the report *A New Approach to Biodiversity in Melbourne's Growth Corridors - Public Consultation Report of Findings* (DEPI May 2013). This report includes details on changes made to specific conservation areas as a result of the public consultation process. The basis for, and acceptability of, outcomes for matters of national environmental significance are discussed in subsequent sections of this attachment.

Avoidance outcomes - protected areas within the growth corridors

The BCS identifies 36 conservation areas with a total area of 5,735.34 hectares within the growth corridors (Figures 3 - 6). The BCS commits to protection and management of each conservation area in perpetuity. Implementation of the BCS will see a total of 2,817.30 hectares of protected conservation areas within the growth corridors for native grasslands and woodlands, and 2,918.04 hectares of habitat for the Growling Grass Frog.

This is in addition to the 15,000 hectare Western Grassland Reserves and minimum 1,200 hectare Grassy Woodland Reserve located outside of the boundaries of the growth corridors. There are also additional protection targets that must be achieved for the Golden Sun Moth, Spiny Rice-flower and Matted Flax-lily to meet the endorsed Program commitments (discussed later in this attachment).

The BCS describes each conservation area in terms of its size in hectares and boundary, key rationale for protecting the area, biodiversity values of national and state significance, contribution of the area to achieving the conservation outcomes in the endorsed Program,

and further actions to be undertaken to protect and manage the area. The boundaries are shown at Figures 23 – 51 of the BCS.

The BCS provides for minor adjustment to the boundaries of the five Growling Grass Frog conservation areas and also six other conservation areas (generally larger sites in the Northern growth corridor). Boundaries for the remaining conservation areas cannot be changed. The BCS provides guidance on the rules for boundary changes which must be to the satisfaction of DEPI. In the case of the Growling Grass Frog conservation areas, there must be no net change in the area of the reserve across the precinct.

The BCS states that urban related infrastructure (roads, bridges and utilities) will only be permitted within conservation areas with the agreement of DEPI and only after all other reasonable options have been exhausted. Any such impacts will incur an offset or compensatory habitat fee as stated in the *Habitat compensation under the Biodiversity Conservation Strategy – Melbourne Strategic Assessment* (DEPI August 2013).

The conservation areas are aimed at protection of high quality listed grassland and eucalypt woodland communities that have important conservation values, including supporting other listed species, and in establishing landscape-scale linkage corridors. A summary of the size, location and matters protected for each of the 36 conservation areas is at [Appendix 2](#).

According to DEPI, lands within the conservation areas will be zoned 'special use' through a planning scheme amendment once the BCS, and associated actions, have been approved by the Commonwealth. The special use zoning will ensure interim retention and protection of conservation values until more permanent protection requirements are triggered as development proceeds. DEPI has further advised that the purpose of this particular 'special use' zone will be:

- To secure the long term protection of conservation areas identified in Figures 3, 4, 5 and 6 of the BCS for Melbourne's Growth Corridors.
- To manage the impacts of urban development on the strategic biodiversity outcomes identified in the Biodiversity Conservation Strategy for Melbourne's Growth Corridors.

A conservation management plan must be prepared for each conservation area. The plans will outline how matters of national environmental significance and state significance will be managed. The management plans will identify conservation objectives and general management measures including arrangements to secure the land in perpetuity.

Conservation management plans will be prepared by DEPI in consultation with the landholder and relevant authorities, as appropriate, depending upon the intended tenure. The Victorian Planning Provisions and relevant planning schemes will be amended to require landowners to secure land within conservation areas. This requirement will be triggered when a landowner seeks a planning permit for subdivision or works permitted on a lot which includes a conservation area.

Land can be secured by entering into an on-title management agreement with DEPI under section 69 of the Victorian *Conservation Forests and Lands Act 1987* or, where the landowner prefers, by transferring land to the Crown where an appropriate public land manager is available. In some cases land may be acquired by another public authority where this arrangement can meet the conservation protection and management requirements of the BCS.

Land transferred to the Crown will typically be reserved under the Victorian *Crown Land (Reserves) Act 1978* and will be managed in perpetuity for conservation. This land will be managed by an appropriate public land manager in accordance with the relevant overarching conservation management plan that applies to the area.

On-title management agreements will require landowners to protect and manage their land subject to the agreements in perpetuity. This land will be managed by the landowner in accordance with the requirements of the conservation management plans prepared by DEPI that will form a schedule to the agreements.

According to the BCS, the interface between conservation areas and urban development will be carefully managed. Buffers for conservation areas will be established at the precinct structure planning stage and will be achieved through appropriate design of interface areas. The buffer requirements do not apply to the Growling Grass Frog conservation areas as buffer treatments are already included within the boundaries of the conservation areas.

The BCS states that precincts should be designed to separate conservation areas from development by either sealed roads, paths, recreational parks, public open space, ecological restoration areas or grazing land. The BCS further states that the buffer zone should be designed to maintain a distance of at least 20 metres from the conservation area to the nearest built up areas. The buffer zone may include necessary fire breaks and fire management measures, including modified vegetation, but, as a general principle, all buffers (including all interface management activities) should be located outside conservation areas.

Discussion

The department supports the commitment for protection of the 36 conservation areas identified in the BCS and recommends that any approval for 'classes of actions' include conditions to this effect using the boundaries identified in the BCS. These reserve boundaries should not be subject to change, unless there are compelling grounds, and subject to approval by the Commonwealth Minister.

The department notes that, given the 30 plus year life of the Program, it could be some time before all 36 conservation areas enjoy formal conservation status. There is a risk of degradation or loss of biodiversity values if interim controls are not in place. DEPI has advised that, once the Australian Government approves the BCS and relevant classes of actions, planning scheme amendments will be introduced to immediately zone all conservation areas as 'special use' and exclude them from development. This should ensure adequate interim protection.

The department also notes that 'classes of actions' subject to approval and conditioning under Part 10 of the EPBC Act relate to urban development and infrastructure only. Other actions with potential impacts on protected matters, such as changed or intensified farming practices, will not be captured by the approval and the normal provisions of the EPBC Act will continue to apply.

This means that new (non-urban) activities with significant impacts on matters of national environmental significance within the conservation areas cannot proceed unless a separate approval is granted under Part 9 of the EPBC Act. Section 136(2)(e) of the EPBC Act states that information contained in a strategic assessment must be taken into account in deciding whether or not to approve such an action. The department envisages that activities likely to have a significant impact on protected matters in the designated conservation areas may not be approved in these circumstances.

Community groups, such as Friends of Merri Creek, in commenting on the draft BCS noted that the siting of major proposed roads, and other infrastructure, should avoid conservation areas and impacts on high biodiversity values. The BCS permits essential infrastructure to be located within conservation areas as described in the Growth Corridor Plans. The Growth Corridor Plans identified the strategic transport network and locations for arterial roads, several of which will cross the Growling Grass Frog corridors. The department understands that the precinct structure planning process will ensure that designated conservation areas are not fragmented in the design and placement of permanent infrastructure.

Additional protected areas outside the growth corridors

In addition to the Western Grassland Reserves and Grassy Woodland Reserve, the BCS establishes conservation programs to protect areas outside the Urban Growth Boundary for the Golden Sun Moth, Spiny Rice-flower and Matted Flax-lily.

The endorsed Program commits to protection of 80% of confirmed high persistence habitat for these three species across the Victorian Volcanic Plain Bioregion. DEPI will prepare a protocol for identifying and securing land for these species outside the Urban Growth Boundary. The protocol will include a process for identifying land in other bioregions containing confirmed high persistence habitat for these species if no land becomes available in the Victorian Volcanic Plain within reasonable timeframes.

The 80% target has been calculated based on surveys and predictive modelling undertaken by DEPI. The amount required outside the Urban Growth Boundary to meet this target, over and above the Western Grassland Reserves and 36 *in situ* additional conservation areas in the Urban Growth Boundary, is:

- Golden Sun Moth – 680 hectares
- Spiny Rice Flower – 394 hectares, and
- Matted Flax Lily – 529 hectares

The BCS states that the identification, protection and management of these sites will be funded by fees collected from developers for offsets under the Program. Land identified by DEPI will be protected by voluntary on-title management agreements or voluntary purchase by the Crown.

As noted previously, the endorsed Program has committed to establishing a 1,200 hectare conservation reserve outside the Urban Growth Boundary to protect and manage Grassy Eucalypt Woodland (Grassy Woodland Reserve). This reserve may also contribute to achieving the conservation targets for Golden Sun Moth and Matted Flax-lily.

Surveys, salvage and translocation

Land that is suitable for urban development may be cleared subject to salvage and/or translocation requirements in the BCS for the following species:

- Growling Grass Frog
- Striped Legless Lizard
- Matted Flax-lily
- Spiny Rice-flower, and
- Other threatened and common flora species where required for restoration programs (e.g. within the Western Grassland Reserves).

DEPI will prepare salvage and/or translocation protocols for these species as described in the BCS at Table 5. The protocols will include monitoring requirements for any proposed translocation activity and will set out the obligations of landowners and DEPI. Salvage and/or translocation within the growth corridors must be undertaken in accordance with the protocols. DSE will be responsible for auditing and enforcing compliance. The department notes that a salvage protocol has been completed for the Striped Legless Lizard (*Striped Legless Lizard Salvage and Translocation Strategic and Operational Plan*, DSE 2011).

The department notes that the endorsed Program aims to establish a comprehensive reserve system for listed species and ecological communities, including connectivity at the landscape level. Mitigation measures, such as salvage and translocation protocols, do not contribute to these conservation outcomes at the landscape scale, but may have some local benefit if

animals and plants can be successfully located in nearby reserves. The department supports the intended implementation of 'best practice' protocols, based on DEPI experience, to contribute to animal welfare and local conservation outcomes.

Habitat compensation for clearing of listed ecological communities and species

The BCS requires habitat compensation for the removal of listed ecological communities and habitat of the following matters of national environmental significance:

- *Natural Temperate Grasslands of the Victorian Volcanic Plain*
- *Grassy Eucalypt Woodland of the Victorian Volcanic Plain*
- Spiny Rice-flower
- Matted Flax-lily
- Golden Sun Moth
- Growling Grass Frog, and
- Southern Brown Bandicoot.

Other listed ecological communities that may occur in the endorsed Program area (*Grey Box (Eucalyptus macrocarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia* and *Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains*) are discussed later in this attachment. These communities were listed during or subsequent to the strategic assessment.

DEPI has published a document describing the cost recovery model and detailing the fee structure and prices to be collected from developers and used to mitigate the impacts of urban development on native vegetation and habitat for listed species (*Habitat compensation under the Biodiversity Conservation Strategy – Melbourne Strategic Assessment*, DEPI August 2013) (*Habitat Compensation Document*). The document explains the principles underpinning the model and the method for setting the fees. It also sets out the governance, accountability and transparency measures to administer and review the fees.

According to the *Habitat Compensation Document*, the offset requirements will not come into effect until the Commonwealth has approved the BCS, sub-regional strategies and 'classes of actions' in the relevant growth corridors. The model will apply for the estimated 30 to 40 year life of the Program.

Compensation for clearing of native vegetation for all development will be calculated based on the 'time-stamping' dataset and maps, and using the principles of the Victorian *Native Vegetation Management Framework* (DSE 2002). The 'time stamping' maps show the type, extent and condition of all native vegetation in the growth corridors. Offsets are required for the removal of any identified native vegetation. In calculating offsets, all native vegetation patches are deemed to be 'Very High' conservation significance under the *Native Vegetation Management Framework*, attracting the maximum offset, consistent with the corridor-wide approach to threatened species.

Compensatory habitat fees also apply for listed species and are in addition to the offset fees for native vegetation. The fees will be used by DEPI to implement the conservation actions in the BCS and sub-regional species strategies including surveys, monitoring, management actions and construction works. A summary of the offset and compensatory fee requirements is at [Table 1](#) below, followed by a summary for individual listed species.

According to the *Habitat Compensation Document*, the actual compensation payable will be determined by DEPI based on calculated habitat compensation obligations for each parcel of developable land. DEPI will prepare a Habitat Compensation Statement for each parcel based on a habitat compensation mapping layer derived from the 'time stamping' datasets.

The habitat compensation obligation for each parcel of land must be met before clearing can commence.

Table 1: Summary of habitat compensation requirements

Matter of national environmental significance	Approach ('time stamping' dataset to be used unless otherwise specified)	Applicable growth corridors	Fee per hectare*
Natural Temperate Grasslands	Offset based on Victorian <i>Native Vegetation Management Framework</i>	<ul style="list-style-type: none"> Western North-western Northern 	\$95,075
Grassy Eucalypt Woodlands	Offset based on Victorian <i>Native Vegetation Management Framework</i>	<ul style="list-style-type: none"> North-western Northern 	\$95,075
Growling Grass Frog	Compensatory habitat fee for clearing all 'Category 2' habitat as mapped in the <i>GGF Sub-regional Species Strategy</i> (DEPI May 2013)	<ul style="list-style-type: none"> Western North-western Northern South-eastern 	\$7,529
Golden Sun Moth	Compensatory habitat fee imposed on all clearing of non-native land	<ul style="list-style-type: none"> Western North-western Northern 	\$7,914
Spiny Rice-flower	Compensatory habitat fee imposed on all development of native habitat	<ul style="list-style-type: none"> Western North-western 	\$7,937
Matted Flax-lily	Compensatory habitat fee imposed on all development of native habitat	<ul style="list-style-type: none"> Northern 	\$11,196

*Fee as described in *Habitat Compensation Document* (fees for Golden Sun Moth exclude native vegetation in Growling Grass Frog habitat)

The BCS states that the relevant Victorian planning schemes will be amended to mandate use of the 'time-stamping' datasets and maps in calculating offsets. This will be done once the Australian Government has approved the BCS and associated 'classes of actions'.

Enforcement of fees will be through the planning scheme amendments. Development will require planning permits mandating the required offset payment obligations to DEPI. A planning permit is a legal document that gives permission for a use or development on a particular parcel of land under a planning scheme. The permit includes written conditions that must be satisfied in carrying out an approved use or development. Permits cannot be approved by councils unless there is documented evidence that the fees have been paid.

Growling Grass Frog

Further discussion on this species is at [Appendix 1](#) of this attachment. In general, all land mapped as Category 2 habitat in the approved *Sub-regional Species Strategy for the Growling Grass Frog* (DEPI May 2013) will invoke a flat compensatory habitat fee per hectare if cleared or impacted. This fee will cover the cost of establishing and managing the Growling Grass Frog Conservation Areas as set out in the sub-regional strategy and BCS.

Golden Sun Moth

Further discussion on this species is at [Appendix 1](#). All clearing within the Western, North-western and Northern growth corridors, excluding any areas identified as native vegetation (Natural Temperate Grasslands or Grassy Eucalypt Woodland) or Growling Grass Frog habitat, will invoke a flat compensatory habitat fee for this species. The fee is calculated as a cost per hectare. The fee for clearing of native vegetation (\$95,075) already includes a component for the Golden Sun Moth which is assumed to be present.

Fees collected from clearing of native habitat (as determined by the 'time stamping' data) will be offset as native vegetation to the Western Grassland Reserves of the Grassy Woodland Reserve. Offsets from clearing of non-native vegetation will generally support protection of the 680 hectares required outside the Urban Growth Boundary and the 36 conservation areas in the growth corridors.

Spiny Rice-flower

All land within patches of native vegetation in the Western and North-western growth corridors will invoke a flat compensatory habitat fee for Spiny Rice-flower. This will cover the cost of establishing and managing conservation areas for Spiny Rice-flower inside the Urban Growth Boundary and additional conservation areas outside the Urban Growth Boundary within the Victorian Volcanic Plain, including surveys by DEPI to identify target areas. The amount of habitat outside the Urban Growth Boundary is 394 hectares.

Matted Flax-lily

All land within patches of native vegetation in the Northern growth corridor will invoke a flat compensatory habitat fee for Matted Flax-lily if cleared. This will cover the cost of establishing and managing conservation areas for Matted Flax-lily inside the Urban Growth Boundary (as identified in the BCS) and additional conservation areas outside the Urban Growth Boundary within the Victorian Volcanic Plain, including surveys by DSE to identify target areas. The amount of habitat outside the Urban Growth Boundary is 529 hectares.

Conclusion

The cost recovery model is a key element in delivering the funding stream necessary to achieve the BCS conservation outcomes which have been costed at \$1 billion (*Habitat Compensation Document*). The requirements will be mandated under Victorian planning legislation, but the department notes it is critical to protect this funding stream in ensuring outcomes for matters of national environment significance. The department recommends that conditions be added to any approval for 'classes of actions' to enforce these compensation requirements under the EPBC Act. This will help ensure certainty in the event of challenges under the Victorian planning system or if there are unexpected risks to the funding stream.

Monitoring and review

The endorsed Program commits the Victorian Government to monitoring and reporting on the implementation of the Program to ensure compliance. An important component is the preparation of a Monitoring and Reporting Framework. The BCS states that this framework will be prepared by DEPI within 6 months of approval of the BCS by the Commonwealth. The framework must be approved by the Commonwealth.

According to the BCS, the Monitoring and Reporting Framework will identify how the commitments in the Program and the BCS relate to each other, how they will be measured, and the form of reporting. This will be achieved through an objectives hierarchy with measurable outcomes. The Framework will also specify a set of consistent monitoring and reporting requirements that must be incorporated into each of the conservation management plans required for each conservation area.

The Monitoring and Reporting Framework will also include an adaptive management plan, similar to that proposed for the Western Grassland Reserves. Adaptive management is a structured, iterative process of decision making in the face of uncertainty. Adaptive management involves a program of management and monitoring that is adjusted over time as understanding of a system's response to management improves.

The BCS sets the direction and requirements for conservation within the growth corridors for the 20 plus year life of the Program. The BCS will be reviewed every five years if monitoring and reporting indicates that the BCS is not achieving the conservation outcomes in the endorsed Program or that the development program has changed. According to the BCS, such a review would be done in consultation with the Commonwealth.

Conclusion on BCS

Implementation of the BCS will see a total of 2,817.30 hectares of protected conservation areas within the growth corridors for native grasslands and woodlands, and 2,918.04 hectares of habitat for the Growling Grass Frog. A summary of commitments, responsible agencies, timing and performance measures is at Table 7 of the BCS and include:

- Protection and management of the 36 conservation areas in perpetuity under secure tenure and in accordance with conservation management plans
- Identification and protection of a minimum 1,200 hectare conservation area for listed Grassy Eucalypt Woodland located adjacent to the Northern growth corridor
- Preparation and implementation of mandatory salvage and translocation protocols for the Striped Legless Lizard, Growling Grass Frog and other matters of national environmental significance
- Ongoing surveys and monitoring of Growling Grass Frog and Southern Brown Bandicoot populations and habitat in accordance with the sub-regional species strategies, and
- Survey, identification and protection of habitat and populations of Spiny Rice-flower (394 hectares), Golden Sun Moth (680 hectares) and Matted Flax-lily (529 hectares) outside of the growth corridors and in addition to the 15,000 hectare Western Grassland Reserves and 36 conservation areas within the growth corridors.

Implementation of the endorsed Program and BCS will result in clearing of up to 6,488 hectares of native vegetation, including 4,665 hectares of Natural Temperate Grasslands (Table 5 at *Delivering Melbourne's Newest Sustainable Communities Strategic Impact Assessment Report*, DSE 2009). According to the Growling Grass Frog sub-regional species strategy, up to 9,374 hectares of lower quality potential habitat for this species could be developed.

Against this, at least 21,931 hectares of conservation reserves will be established by the Program and BCS providing habitat and protection for listed ecological communities and listed threatened species (including the 15,000 hectare Western Grassland Reserves and 1,200 hectare Grassy Woodland Reserve). This excludes the additional requirements for the Spiny Rice-flower, Golden Sun Moth and Matted Flax-lily outside of the growth corridors (these requirements total 1,263 hectares, but are not mutually exclusive and could also comprise suitable habitat in the Grassy Woodland Reserve).

The department notes and supports the commitment for protection of the 36 conservation areas identified in the BCS. The department recommends that any approval for 'classes of actions' include conditions to this effect using the boundaries identified in the BCS. These reserve boundaries should not be subject to change unless there are compelling grounds and subject to approval by the Commonwealth Minister.

The department considers that the BCS outcomes for matters of national environmental significance are consistent with the endorsed Program. In particular, the BCS provides a systematic reserve system for listed species and ecological communities within the growth corridors that will ensure conservation and persistence of protected matters as Melbourne continues to develop. This is in addition to commitments for the 15,000 hectare Western Grassland Reserves and minimum 1,200 hectare Grassy Woodland Reserve.

The department notes that the cost recovery framework is a key element in delivering the funding stream necessary to achieve the BCS conservation outcomes and recommends that conditions be placed on any approval for 'classes of actions' to enforce these offset requirements under the EPBC Act. This will provide additional certainty in the event of unexpected challenges under the Victorian planning system.

Differences between draft and final BCS

This section provides a brief analysis of the major changes between the draft BCS and the final BCS submitted to the Commonwealth for approval.

As noted previously, the draft BCS and underlying sub-regional species strategies were released for public comment for six weeks from 9 November to 20 December 2011. Information sessions were held for key stakeholder groups including local councils, development industry peak bodies and environment groups.

A New Approach to Biodiversity in Melbourne's Growth Corridors - Public Consultation Report of Findings (DEPI 2013) provides an analysis of public submissions received on the draft BCS and accompanying species strategies. According to this report, particular attention was given to new data or information provided on specific sites or areas, particularly those identified for conservation purposes in the draft BCS.

The draft BCS also committed DEPI to further investigate potential conservation areas by conducting surveys to determine the extent and nature of indicative biodiversity values. These investigations were done by consultants engaged by DEPI concurrently with the consultation and review of submissions process (Biosis Research 2012a and Ecology and Heritage Partners 2012). In some cases, landowners engaged their own consultant to do these investigations and, where these studies satisfied DEPI survey standards, these were accepted (Biosis Research 2012c and SKM 2012).

DEPI also re-investigated some conservation areas where new data or information was supplied during the consultation period (DSE 2012a, 2012b, 2012c; Ecology and Heritage Partners 2012). In some cases, this resulted in changes to conservation area boundaries, but did not result in any conservation areas being removed. According to DEPI, these changes were made to exclude lands of lower biodiversity value, such as areas with little or no native vegetation or with high weed cover, which would not contribute to the conservation of matters of national environmental significance.

Key outcomes for relevant matters of national environmental significance are below.

Golden Sun Moth

DEPI undertook further mapping and analysis to identify grasslands and habitats triggered by the 100 hectare threshold in the Golden Sun Moth prescription. These identified areas were then further assessed to identify high conservation areas with values for matters of national environmental significance or local biodiversity. Areas with potentially very high edge effects, or that were otherwise unconsolidated, were not included as conservation areas for practical management purposes.

On the basis of this prioritisation exercise, some areas previously set aside for protection of Golden Sun Moth in Planning Scheme Amendment VC68 and zoned as Rural Conservation Zone (as identified in the endorsed Program) were no longer considered to be priority habitat and were proposed to be excluded (confirmed in the final BCS). These areas provide only low quality habitat for Golden Sun Moth and are:

- The northern section (50 hectares) of the Rural Conservation Zone adjacent to Riding Boundary Road, Mount Cottrell, and the proposed Outer Metropolitan Ring Transport Corridor/E6 Road Reservation (site identified as 'Area D2' at Figure 1 in the draft BCS and to the immediate north of the retained Conservation Area 8 in the final BCS).
- The northern section (60 hectares) of the Rural Conservation Zone within the 'Ballan Triangle' adjacent to Ballan Road, Wyndham Vale (sites identified as 'Areas G1 and G2')

at Figure 1 of the Draft BCS – ‘Area G1’ has been largely retained and is called Conservation Area 13 in the final BCS).

- The entirety (270 hectares) of the Rural Conservation Zone adjacent to Black Forest Road, Mambourin (this site was identified as ‘Area H’ at Figure 1 of the draft BCS).

The final BCS identifies 11 conservation areas requiring protection as a consequence of the prescription being applied. These are conservation areas 1, 2, 3, 4 and 11 in the Western growth corridor and 16 and 21 in the Northern growth corridor. In addition, areas 7, 8, 9 and 13 have been included due to their likely values for Golden Sun Moth (yet to be surveyed). These areas total 1293.55 hectares.

Growling Grass Frog

Important populations of the vulnerable Growling Grass Frog within Melbourne are well documented and are identified in the technical background report for the draft sub-regional species strategy (*Sub-regional Growling Grass Frog Conservation Strategy within the Revised Urban Growth Boundary and Associated 28 Precincts: Technical background and recommendations* (Ecology and Heritage Partners 2011a)). The draft strategy recommended variable width buffers for streams known or likely to support frog populations, to be based on more detailed analysis.

Public submissions were generally supportive of the proposed Growling Grass Frog habitat corridors and did not propose substantive additional areas. However, the Victorian Government considered that further refinement of the corridor buffers was possible to release additional lands for urban development whilst ensuring adequate protection.

Biosis Research was commissioned by DEPI to undertake a finer scale analysis of the indicative habitat corridors for the frog (Category 1 habitat) as shown in the draft sub-regional species strategy. The draft strategy showed habitat corridors of between 50 - 200 metres on either side of waterways (100 - 400 metres total width), depending on the importance of the stream for Growling Grass Frog. The Biosis report (*Review of habitat corridors for Growling Grass Frog *Litoria raniformis* within Melbourne’s Urban Growth Areas*, Biosis Research June 2012) informed the final corridors and buffers in the BCS.

According to the Biosis report, the revised Category 1 corridor areas were based on:

- Existing knowledge of the species’ ecological requirements.
- An expert workshop held on 13 December 2011 to develop an agreed set of principles for identifying where Category 1 habitat could be reduced.
- The distribution of known important populations in the growth corridors.
- A detailed analysis of aerial photography, topographic and other data, coupled with input from an expert hydrologist, to identify areas where proposed Category 1 corridor widths could be reduced (and in some cases expanded), whilst ensuring the conservation objectives for the species in the sub-regional strategy were maintained.

The Biosis report states that the revised corridors focus on the retention of maximum corridor widths where important populations are known (metapopulation nodes) with reduced corridor widths between such nodes. Metapopulation nodes are also proposed along strategically important streams where information on the distribution of the species is lacking. These have been identified by highlighting areas where the occurrence of existing high quality habitat and likely key drainage infrastructure coincides. This is to ensure that such nodes are situated where there will be a reliable water source in the future.

The department notes the general reduction in habitat corridor widths and removal of a number of Category 1 habitat areas from the draft BCS because of their limited values or poor prospects for successful enhancement works. The department believes that the final corridors will ensure adequate protection for the vulnerable species. Further information on the final sub-regional strategy is at [Appendix 1](#). The Growling Grass Frog corridors are identified as conservation areas 14 (372 hectares), 15 (539.67 hectares), 21 (666.83 hectares), 34 (1009.74 hectares) and 36 (329.80 hectares) in the BCS.

Spiny Rice-flower and Matted flax-lily

The prescription for the Spiny rice-flower requires protection of all population greater than 200 plants and for populations between 5 – 200 plants where the native vegetation cover has less than 25% cover of high threat perennial grassy weeds. The Matted flax-lily prescription requires protection of areas where the species occurs with less than 25% weed cover.

The 'time stamping' datasets were used to determine habitat of high persistence for the species and these were identified for possible conservation in the draft BCS. Surveys were then undertaken to confirm, or otherwise, the presence of these species. Where surveys failed to detect the species the areas were removed in the final BCS. Where access for surveys could not be obtained, the areas were designated as conservation areas taking a precautionary approach.

For Spiny rice-flower, 5 conservation areas (1, 2, 4, 5, and 12) are required to satisfy the prescription (totalling 141.43 hectares). For Matted flax-lily, one conservation areas (23 at 103.67 hectares) requires protection to satisfy the prescription.

Southern Brown Bandicoot

As previously noted, the sub-regional species strategy for the Southern Brown Bandicoot is yet to be finalised by the Victorian Government. The draft strategy, released for public comment in late 2011, included two habitat corridors across proposed urban development areas to provide linkage for an important population located at the Botanic Ridge Botanic Gardens. The department understands that the likely effectiveness and requirements for the two corridors are under review.

The corridors are in the Botanic Ridge Precinct which is one of the existing 16 precincts in the former 2005 Urban Growth Corridor currently proposed for approval. The Victorian Government has prepared a Precinct Structure Plan for this area which ensures protection of the corridors pending the Minister's consideration of the final sub-regional strategy and whether or not the corridors will be required.

The *Botanic Ridge Precinct Structure Plan* (Growth Areas Authority December 2012) was approved by the Victorian Minister for Planning in February 2013 and adopted through Amendment C133 to the Casey Planning Scheme on 12 February 2013 (gazetted 7 March 2013). The Plan has the effect of setting aside from development the habitat corridors for the species described in the draft Southern Brown Bandicoot Sub-regional Species Strategy.

The *Botanic Ridge Development Contributions Plan* (Growth Areas Authority, December 2012) also contains contingencies for Southern Brown Bandicoot conservation pending a decision on the final strategy. Requirements in the event of the corridors being required have been fully costed.

No urban development may commence on land shown on Plan 2 and 5 in the Precinct Structure Plan described as 'Land subject to EPBC Act (Cwlth) determination' unless otherwise agreed by the Minister administering the EPBC Act.

There are two identified corridors. The marked land for the southern corridor is 192 metres wide comprising a potential 70 metre wide 'SBB Corridor Conservation Area' with 61 metres of buffer land on each side as shown on cross section D4 and plans 2, 5 and 7 in the Precinct Structure Plan. The marked land for the eastern corridor is 282 metres wide comprising a potential 160 metres wide 'SBB Corridor Conservation Area' with 61 metres of buffer land on each side.

All development in the South-east growth corridor and adjacent precincts must pay a fixed fee per developable hectare to contribute to conservation outcomes for the Southern Brown Bandicoot.

Outcomes

Changes made to the conservation areas and Growling Grass Frog corridors, and reference to the particular investigations or submissions that informed these changes, are provided in section 4 of the public submissions report (*A New Approach to Biodiversity in Melbourne's Growth Corridors - Public Consultation Report of Findings*, DEPI 2013). The changes are summarised in tables for each growth corridor at [Appendix 2](#) of this attachment. [Table 2](#), below, summarises the overall changes in protected areas (excluding Growling Grass Frog corridors) from the draft to final BCS. [Table 3](#) shows the difference for the Growling Grass Frog corridors.

Table 2: Summary of differences in conservation areas (excluding GGF corridors) between the draft and final BCS

Growth Corridor	Final BCS (hectares)	Draft BCS (hectares)	Difference (hectares)
Western growth corridor	771.39	956.57	-185.18
North-western growth corridor	330.17	369.67	-39.5
Northern growth corridor	1713.54	1946	-232.46
South-eastern growth corridor	2.19	2.19	Nil
Totals	2817.30	3274.43	-457.14

Table 3: Summary of differences in GGF corridors between the draft and final BCS

Growth Corridor	Final BCS (hectares)	Draft BCS (hectares)	Difference (hectares)
Western growth corridor	911.67	2076.71	-1165.04
North-western growth corridor	666.83	918.18	-251.35
Northern growth corridor	1009.74	1318.31	-308.57
South-eastern growth corridor	329.8	717.61	-387.81
Totals	2918.04	5030.81	-2112.77

The department notes that the final overall size of the proposed reserves has been reduced substantially, particularly for the Growling Grass Frog corridors. The total reduction for conservation areas (excluding Growling Grass Frog corridors) is in the order of 14% (loss of 457.14 hectares from the total 3,287.4 hectares in the draft BCS). The reduction of Growling Grass Frog corridors is in the order of 40% (loss of 2112.77 hectares from the total 5,031.81 hectares in the draft BCS).

The department understands that the reductions in the size of the reserves is mainly to exclude areas with poor biodiversity and conservation values, based on further surveys and information collected since the draft BCS. There has also been some rationalisation of reserve boundaries to facilitate management. The department accepts that the changes do not substantially reduce protection of matters of national environmental significance in that known populations and important persistent habitat have been retained.

The department notes that at least two of the reserves in the final BCS (Conservation Areas 7 and 9) are yet to be surveyed because the land owners have denied permission for access to date. While the time stamping data indicates high biodiversity values it is possible that, when finally surveyed, the properties may contain poor or no conservation values.

The department considers that further rationalisation and reduction of reserve areas should be avoided so as not to erode the projected conservation outcomes or overall integrity of the reserve structure. There should be no further reductions to the reserve boundaries shown in the BCS unless there are commensurate increases so that further loss is avoided. In the event that Conservation Areas 7 and 9 are not found to contain conservation values, and are identified for development, additional reserve areas should be found and reserved within the growth corridors to protect the equivalent biodiversity values and spatial area identified in the 'time stamping' data.

Public comment on final BCS

The department accepted submissions on the BCS up to 19 June 2013 given the 18 month period between public comment on the draft BCS in late 2011 and publication of the final BCS on 13 May 2013. This is not a requirement of the endorsed Program, or EPBC Act, but allowed for feedback on the BCS from key stakeholders to help inform the Minister's decision on whether to approve the strategy. Submissions received are at [Attachment H](#) and the department's analyse of the key issues raised is at Appendix 4 to [Attachment E](#) (this attachment).

Community groups and individual developers were generally supportive of the strategic assessment process, but had varying views about the size and number of conservation areas proposed. Parties were also concerned about perceived flaws in the BCS and fairness of processes. The department observes that the BCS provides a fundamentally different approach to the Victorian precinct structure planning process and that adjustments and difficulties in implementation are to be expected.

The department notes particular concerns about reductions in the Growling Grass Frog corridors (by some 40% compared to the corridors in the draft BCS). The department has assessed impacts from implementation of the BCS on GGF populations and concluded that outcomes were acceptable. However, corridors for the GGF have been very significantly reduced from the draft BCS. The department believes that buffers in the final BCS are the very minimum required and must be maintained to ensure impacts are acceptable.

Incorporation of a number of additional reserves, as suggested by environment and community groups, may create difficulties in implementing the BCS because of uncertainty over final reserve requirements and associated offset costs. The department's assessment concludes that the proposed reserve system is adequate and that implementation of the BCS will deliver certainty for both conservation and development outcomes. Allowing future discretion in the size and number of conservation areas, whether for conservation or development reasons, will erode this certainty and may deliver perverse outcomes. At the very minimum, it will leave current land use conflicts unresolved and potentially give rise to future conflicts to the detriment of conservation outcomes.

In the above circumstances, and having concluded that outcomes for MNES are acceptable, the department believes it highly desirable to 'lock in' the outcomes of the BCS and to avoid risks of major changes to the 36 designated conservation areas. The department believes that the BCS conservation outcomes are the minimum required for protection of MNES and the intended approval decision seeks to lock in these outcomes. There is a danger in deferring final decisions on conservation areas and boundaries to the precinct structure planning process because of the risk that the minimum conservation outcomes will be diminished over time.

The alternative approach suggested in a number of submissions, to allow decisions on the final size of the conservation areas to be deferred to the precinct planning stage, risks undermining the strategic assessment conservation outcomes. This could increase uncertainty to the extent that the strategic assessment outcomes are jeopardised. Collapse of the strategic assessment, and reversion back to project-by-project assessments, is likely to be disadvantageous for the majority of developers.

Concern was raised by a number of developers about use of the 'time stamping' datasets. The department's assessment supports the use of the 'time stamping' datasets and flat fees for listed species as providing the most certainty in delivering the BCS outcomes for MNES over the 30 plus year timeframe of the Program. The approach also delivers certainty for the State Government in population, services and precinct planning, and for developers in calculating costs. Developers no longer need to undertake surveys, which provides a cost benefit, and disputes about the quality of vegetation now (based on the 'time stamping' datasets) and 10 years into the future when development actually occurs, are avoided.

The department notes that the flat fee approach, as required for the Golden Sun Moth, is fundamentally different to the Victorian *Native Vegetation Management Framework* in that an offset is payable whether or not MNES or other values are present. The principle is that the cost is shared equally amongst all developers or as many developers as reasonable. Arguably, this is to the overall benefit of development although some individual developers may be aggrieved. The department believes this is a suitable approach for a species such as the Golden Sun Moth which is cryptic, expensive to survey and may occur in a variety of habitat types.

Conclusion

The department is keen to ensure that the outcomes of the strategic assessment process are 'locked in' at the approval stage to avoid incremental losses and changes to conservation outcomes during the precinct planning process. This dictates a prescriptive approach to land set aside for conservation purposes. On the other hand, there is also a need for some flexibility and adaptive management recognising the 30 plus year life of the endorsed Program and the difficulty in predicting all future scenarios.

The department believes that the BCS approach is an acceptable outcome in terms of the balance between a prescriptive or flexible approach. A key driver, in this case, is to deliver certainty from both a development planning and conservation perspective. An additional consideration is the need to precisely identify the conservation outcomes so that the offset arrangements and compensatory habitat fees necessary to achieve these outcomes can be calculated upfront, and all planners and developers are aware of the costs.

The department notes that the offset and compensatory habitat approach has been designed to deliver certainty for both the conservation outcomes and upfront cost of development over the 30 plus year life of the endorsed Program. This is different to a typical project-by-project offset approach which may penalise future development. For example, the offsets required under a project-by-project approach may become increasingly scarce, difficult to secure and

prohibitively expensive, over a 30 year time frame, effectively penalising future generations through increased land pricing and reduced housing affordability. The Melbourne strategic assessment approach avoids this through fixing the environmental cost of development upfront and ensuring that the same offset approach and formulae applies for all development over the life of the Program.

Treatment of ecological communities listed during or after the strategic assessment

Three ecological communities were listed during or following the strategic assessment process. The treatment of these is discussed below.

Grassy Eucalypt Woodland of the Victorian Volcanic Plains (Grassy Eucalypt Woodland)

Grassy Eucalypt Woodland was listed as a critically endangered ecological community under the EPBC Act on 25 June 2009 during the strategic assessment process. The Northern growth corridor boundary was changed to avoid a significant occurrence (314 hectares) and the endorsed Program commits to protection of 1,200 hectares of Grassy Eucalypt Woodland at this location (see [Figure 5](#)). In addition, the endorsed Program committed to protection of 80% of Grassy Eucalypt Woodland in the two growth corridors where it is found (North-western and Northern) that met the Commonwealth definition of the listed community.

The BCS takes an adaptive management approach to the 80% protection target and states that about 61% of all areas of 'highly likely' Grassy Eucalypt Woodland can feasibly be protected in conservation reserves within the two growth corridors. A number of potential occurrences have been excluded because of their small size, and variable quality, reducing their conservation values and manageability. According to the BCS, additional conservation outcomes for this ecological community will be sought through the improved management of conservation areas containing Grassy Eucalypt Woodland in the Northern growth corridor and the expansion of the Grassy Woodland Reserve.

The BCS states that, at the time of preparation, a total of 426 hectares of 'highly likely' listed Grassy Eucalypt Woodland occurs in the North-western and Northern growth corridors of which 259 hectares (61%) will be protected. The BCS states that the shortfall in the 80% target will be compensated through the addition of an extra 100 – 200 hectares to the 1,200 hectare Grassy Woodland Reserve. The exact amount will be determined once the extent of the actual listed woodland to be protected within the conservation areas is confirmed.

The department notes that there is uncertainty over the final extent of listed Grassy Eucalypt Woodland to be protected in the growth corridors because much 'grassy woodland' does not meet the threshold EPBC Act definition of the community. Nevertheless, a significant shortfall (19% or 82 hectares) is expected between the actual area conserved (259 hectares) and the 80% (341 hectares) target.

This is because many areas of woodland are small and have poor conservation value and management prospects. For example, while over 1,000 hectares of conservation areas contain 'grassy woodlands', only about 259 hectares actually contains the listed ecological community ([Tables 2 and 3 at Appendix 2](#)). Most of the 1000 hectares within reserves does not meet the thresholds for listing of Grassy Eucalypt Woodland because of its poor tree cover and past degradation. Nevertheless, these reserve areas provide landscape biodiversity and connectivity values and, over time, may regenerate and improve coverage of the listed community.

The BCS indicates 167 hectares of 'highly likely' listed Grassy Eucalypt Woodland is expected to be cleared as a consequence of the endorsed Program. This will be offset through retention and conservation of the 1,200 hectare Grassy Woodland Reserve. The shortfall from the 80% target will be met by increasing the size of this reserve by 100 - 200ha.

The department accepts that the best quality examples of the listed ecological community will be protected and considers that the 1,200 hectare (plus) Grassy Woodland Reserve will ensure an acceptable outcome for this ecological community. The department also notes that there are good prospects for recovery and management of woodlands contained in the intended conservation areas within the North-western and Northern growth corridors such that the extent of the listed ecological community may increase overtime.

Grey Box (Eucalyptus macrocarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia (Grey Box Woodland)

This ecological community was listed as endangered under the EPBC Act on 1 April 2010, after completion of the substantive strategic assessment. The community is dominated by Grey Box trees, with a grassy understorey, and occurs on a range of soils. According to the *Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-Eastern Australia: A guide to the identification, assessment and management of a nationally threatened ecological community* (SEWPAC 2012), the ecological community mainly occurs in the northern and central regions of Victoria although outliers occur near Sunbury.

The BCS states that Grey Box Grassy Woodland is absent from the South-eastern growth corridor and the Northern growth corridor. One potential stand is known in the North-western growth corridor (within conservation area 18) and will not be impacted.

In the Western growth corridor, one region is known to have once supported Grey Box trees and may support derived grasslands that form part of the community. DEPI advise there is no relevant historical or other information to determine whether the grasslands in question may have supported Grey Box. According to the SEWPAC guide, the most likely situations where derived native grasslands remain are on Travelling Stock Routes, reserves along roadsides, or localised patches of grassland that are part of a larger remnant with trees, for example under power easements or along fire breaks. These circumstances do not occur in the Western growth corridor and significant remnants or derived grasslands of this ecological community are unlikely to remain.

The department concludes that implementation of urban development under the endorsed Program is not likely to impact on significant occurrences of this ecological community.

Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains (SHW)

This ecological community (Seasonal Herbaceous Wetland) was listed as critically endangered on 27 March 2012. Approval decisions subsequent to this date must take into account the acceptability of impacts on the newly listed ecological community. The department's assessment is provided below.

Seasonal Herbaceous Wetland comprises temporary freshwater wetlands that are inundated on a seasonal basis, typically filling after winter-spring rains, and then slowly drying out. The vegetation is generally treeless and dominated by a herbaceous ground layer, often with forbs present. The herbaceous species present are characteristic of wetter locations and are typically absent or uncommon in any adjoining dryland grasslands and woodlands. The ecological community is limited to the temperate zone of mainland south-eastern Australia and occurs in south-east SA, Victoria and southern NSW.

The Strategic Assessment Report (*Delivering Melbourne's Newest Sustainable Communities Strategic Impact Assessment Report*, DSE October 2009) noted that the ecological community had been nominated under the EPBC Act and provided an estimate of potential impacts. The report stated that the listed community approximated the Victorian Ecological Vegetation Class 125 (Plains Grassy Wetland) and estimated up to 75 hectares (30 'habitat hectares' with an

offset requirement of 58 'habitat hectares') would be cleared in the growth corridors and 142 hectares (70 'habitat hectares') protected in the Western Grassland Reserves.

DEPI has collated information on Seasonal Herbaceous Wetland as part of the process in finalising and submitting the final Biodiversity Conservation Strategy under the endorsed Program. The report titled *The impact of Melbourne's growth on 'Seasonal Herbaceous wetlands (freshwater) of the temperate lowland plains'* (DEPI May 2013) is at [Attachment I](#). The department also received additional information in October 2012 from Mr Damien Cook (Rakali Ecological Consulting) in regard to an occurrence of Seasonal Herbaceous Wetland at 'Muddy Gates Lane' in the South-eastern growth corridor. This information was incorporated into the DEPI report.

The community was typically included as a subset of Natural Temperate Grasslands during the strategic assessment process. This means that the endorsed Program accounts for much of the Seasonal Herbaceous Wetland present, in terms of permissible clearing and offset arrangements, in the same way as Natural Temperate Grasslands. Significant examples of Seasonal Herbaceous Wetland occur within the Western Grassland Reserves and will be acquired for protection through the same offset mechanisms.

However, not all areas were mapped or otherwise identified as Seasonal Herbaceous Wetland in the growth corridors during the assessment. The analysis by DEPI reviewed all existing data to more specifically identify occurrences potentially affected by development and those areas that will be protected. The department has used the analysis to help determine if impacts on Seasonal Herbaceous Wetland from development of the growth corridors is acceptable and if further protection is warranted for specific occurrences.

Method

The DEPI analysis used survey data undertaken as part of the strategic assessment process ('time-stamping' data), together with Victoria-wide wetland habitat mapping and mapping of ecological vegetation classes, to identify potential occurrences of Seasonal Herbaceous Wetland. Air imagery was used within the strategic assessment area to identify and confirm likely occurrences and their current condition. Some historic mapping and references were also used to help determine whether some current wet grassland areas were previously forested (and therefore not the listed ecological community).

All areas of likely Seasonal Herbaceous Wetland, based on the best current available information, were identified. The DEPI analysis calculated the area of the ecological community to be lost as a consequence of the Program and areas to be conserved.

Areas of suspected Seasonal Herbaceous Wetland greater than 3 hectares (49 in total) were assessed in more detail through consideration of the air imagery, anecdotal information and site visits to ascertain whether SHW was actually present and the likely extent. Three hectares was selected as a cut-off because smaller wetlands are less likely to have retained their values due to degradation and changes to local hydrology (see, for example, *Seasonal Herbaceous Wetland Conservation Advice*, TSSC 2012).

Many past examples of Seasonal Herbaceous Wetland have been subject to cropping and grazing and, while appearing from the air as characteristic of the community, have lost their biodiversity and no longer constitute the listed ecological community. The factors used by DEPI to help inform their analysis about the likely occurrence and quality of Seasonal Herbaceous Wetland were:

- Presence of plough lines indicating cropping on at least one occasion on air photos from 2006 – 2010
- Presence of dams and drainage works that are likely to have changed drainage lines

- Spray lines indicating boom or aerial spraying of herbicides
- Extent of remnant native vegetation within 100 metres indicative of buffering.

The DEPI analysis identified examples of Seasonal Herbaceous Wetland as being 'protected' or 'not protected'. Protected examples were located within the Western Grassland Reserves or in other reserve areas identified in the BCS (for example, the 36 conservation areas). 'Not protected' examples occur within areas zoned for Urban Development, Urban Flood, Rural Conservation, Farming or Special Use.

For the purposes of this assessment, occurrences within urban zoning are considered to be lost due to clearing. The department's assessment considered the likely values of these occurrences, whether any identified unique values will be lost, and whether the losses will be adequately offset.

Examples in the other zonings (urban flood, rural conservation, farming and special use) are not considered to be under immediate threat, but could be subject to future degradation or loss under permissible zoning uses. These examples were also assessed in terms of their quality and conservation values to determine if further protection may be warranted.

The DEPI analysis also identified large occurrences of Seasonal Herbaceous Wetland outside the Melbourne strategic assessment area and provided an initial assessment and ranking of likely conservation values. These occurrences may be available as future potential offsets if required for the endorsed Program.

Outcomes in growth corridors

The DEPI report identified 533 hectares of likely Seasonal Herbaceous Wetland in the growth corridors and Western Grassland Reserves. Of this total, up to 194 hectares (36%) may be affected by development and 339 hectares (64%) will be protected. The loss is in the range of 0.3 – 1% of the current estimated extent of the ecological community in Victoria (10,875 – 12,623 hectares).

The DEPI analysis identified 19 potential Seasonal Herbaceous Wetland occurrences (>3 hectares) in the Western growth corridor, 8 in the Northern corridor, 1 in the South-eastern corridor and none in the North-western corridor. Some 18 potential examples were identified in the Western Grassland Reserves.

Western growth corridor

Some 83 hectares of possible Seasonal Herbaceous Wetland (comprising 19 sites >3 hectares) were identified in this growth corridor for investigation. Several large potential occurrences (for example 22 hectares at 'Ballan Rd wetland' and 15 hectares at 'Troups Rd Swamp') were found to not constitute the listed ecological community due to drainage, cropping or other works. A total of 4 sites (out of the original 19) were excluded on this basis.

Of the 15 remaining sites, 4 sites totalling about 32 hectares will be protected under the BCS. A further 3 sites (9 hectares) may be protected under zoning controls. This leaves 8 sites (total 44 hectares) subject to loss through development. A summary of these sites is below:

- Rockbank Railway Swamp (9 hectares) – Likely to qualify as the community, but may have once been too woody to meet the listing criteria. Conservation value is moderate
- Paynes Road Swamp (4.7 hectares) – Extends outside the growth corridor (2.3 hectares) and likely to have moderate values
- Wyndham Vale Swamp (6.2 hectares) - Extends outside the growth corridor (10 hectares) and likely to have moderate values
- Deanside East (4 hectares) – Values likely to be poor based on visual inspection

- Kororoit Creek No. 1 (7 hectares) – Subject to previous cropping and value uncertain
- Rockbank No. 1 (4.4 hectares) - Subject to previous cropping and value uncertain
- Chartwell No. 3 (5 hectares) – May have good conservation values (DEPI unable to observe, but appears to be uncropped), and
- Tarneit (4 hectares) - May have good values (DEPI unable to observe, but appears uncropped).

Northern growth corridor

Some 259 hectares of possible Seasonal Herbaceous Wetland (comprising 8 sites >3 hectares) were identified in this growth corridor for investigation. Several large potential occurrences (for example, 146 hectares at Hearnes Swamp and 69 hectares at Inverlochy Swamp) were found to only partly, or not at all, constitute the listed ecological community due to drainage, cropping or other works. Three sites (including Inverlochy Swamp) were excluded on the grounds that the community no longer remains. One of these sites will be protected under the BCS because it has an unusual occurrence of rare wetland vegetation.

A summary of the remaining 5 sites subject to potential loss through development is below:

- Hearnes Swamp (55 hectares) – This is a well known site once thought to occupy about 300 hectares. About half (146 hectares) occurs in the Northern growth corridor with the other half outside the corridor. Site observations found that about two thirds in the growth corridor had been cropped and was devoid of native vegetation. About 55 hectares was found to retain Seasonal Herbaceous Wetland, some of which is in very good condition.
- Kalkallo Creek (10.5 hectares) – Subject to cropping, but parts of the northern section may constitute Seasonal Herbaceous Wetland. Likely to be marginal quality.
- Donnybrook Rd No. 1, 2 and 3 (4, 3 and 3 hectares) – These 3 sites are likely to contain Seasonal Herbaceous Wetland of varying quality.

South-eastern growth corridor

One site containing Seasonal Herbaceous Wetland was identified in this corridor and has been named 'Muddy Gates Lane Swamp complex' (Damien Cook, October 2012). It contains about 10 hectares of the community over several patches. Past survey information suggests the presence of flora indicative of high quality Seasonal Herbaceous Wetland. The site also supports a population of a listed endangered orchid *Prasophyllum* (likely to be *P. Frenchii*).

The South-eastern growth corridor supports other substantive wet grassy areas, but historical data indicates that these once comprised heath plains or 'tea tree scrub' that are not consistent with Seasonal Herbaceous Wetland. Open wetland plains, characteristic of the ecological community, once occurred to the south-east of the growth corridor, but most no longer contain native vegetation except in small isolated fragments <0.5 hectares (below the patch size for the listed ecological community).

Outcomes in Western Grassland Reserves

The Western Grassland Reserves contains 18 expected occurrences of the ecological community that are greater than 3 hectares, totalling about 180 hectares (range 3 to 27 hectares). Most occurrences appear to retain Seasonal Herbaceous Wetland based on aerial photography that show grassy wetlands characteristic of the ecological community, and with no evidence of ploughing (or limited ploughing only).

Discussion

The DEPI analysis used threshold condition class descriptors to determine the likely presence of the community (*Commonwealth Threatened Species Scientific Committee (TSSC) Listing Advice for Seasonal Herbaceous Wetlands (Freshwater) of the Temperate*

Lowland Plains, SEWPAC 2012). According to the listing advice, the pre-European occurrence of Seasonal Herbaceous Wetland in Victoria was 90,852 hectares with 18,224 hectares currently remaining (decline of 80%). This varies from the estimate in the DEPI report of 10,875 – 12,623 hectares currently remaining.

The *Conservation Advice for Seasonal Herbaceous Wetland* (SEWPAC 2012) under the EPBC Act states that the main threats to the ecological community are clearing of native wetland vegetation; altered hydrology of wetlands (eg draining or flooding wetlands); altered water quality of wetlands (eg increased salinity, higher nutrient loads, pollution); increased fragmentation; weed invasion; and inappropriate grazing regimes.

The Conservation Advice identifies the following characteristics of good quality examples of the ecological community that are most likely to have conservation values:

- Large size and/or large area to boundary ratio – larger area/boundary ratios are less exposed and more resilient to edge effects such as weed invasion and human impacts
- Higher native species richness
- Areas where weed/exotic species invasion and feral animal activities are minimal or can be managed
- Presence of listed threatened species (Federal and State)
- Connectivity or proximity to other natural features (e.g. native vegetation remnants, other water bodies), and
- Wetlands that occur in those areas in which the ecological community has been most heavily cleared and degraded or that are on the natural edge of its range.

The above criteria were used by the department to consider whether particular examples of the community may warrant protection. The following wetlands, subject to development under the endorsed Program, were identified as having high potential values:

- Hearn's Swamp (55 hectares) – This swamp is of a large size and retains patches of Seasonal Herbaceous Wetland in good condition. The BCS zones Hearn's Swamp for a mixture of Urban Growth, Rural Conservation, Urban Flood and Farming.
- Muddy Gates Lane Swamp complex (10 hectares) – This is one of the few larger remnants to the south east of Melbourne. Past surveys show the presence of flora indicative of high quality Seasonal Herbaceous Wetland.
- Chartwell No. 3 (5 hectares) – May have good conservation values (DEPI unable to observe, but appears to be uncropped). Occurs within the Western growth corridor.

Conservation of Seasonal Herbaceous Wetland is difficult in urban and semi-rural landscapes because of the need to maintain hydrological regimes. This means that small occurrences (for example, <3 hectares) may not be a practical conservation prospect. Similarly, restoration and rehabilitation is difficult. In the first instance, the process causing initial degradation must be reversed. This could be as simple as removing grazing pressures or preventing cropping and other agricultural practices. However, if local drainage has been changed, it is unlikely that the original hydrological influences can be reinstated.

Wetlands can be re-established through restoration of a wetting/drying regime, but it is unlikely that the full suite of species necessary to form Seasonal Herbaceous Wetland can be recovered. Most restored wetlands do not form the ecological community, but comprise semi-permanent wetlands that may have aesthetic appeal, a functioning water quality filtering ability, and provide habitat for wetland species including the listed Growling Grass Frog.

Examples of Seasonal Herbaceous Wetland that have very restricted drainage that can be controlled or protected, or that are fed by drainage outside the new growth corridors, may be good prospects for retention. Hearnese Swamp and the Muddy Gates Lane Swamp complex appear likely to meet these criteria.

Conclusion on Seasonal Herbaceous Wetlands

Implementation of the endorsed Program will result in loss of up to 194 hectares of listed Seasonal Herbaceous Wetland and protection of 339 hectares. Most of the 339 hectares occurs within the Western Grassland Reserves which are large enough to ensure protection of supporting local catchments. The Western Grassland Reserves will be funded and managed through developer contributions under the endorsed Program. Offsets for the community will generally fall under Natural Temperate Grasslands for these purposes.

Where Seasonal Herbaceous Wetland has not been mapped as native grasslands, direct offsets are not required under the Program although the overall outcome (eg protection of occurrences in the Western Grassland Reserves and growth corridor conservation areas) will still be achieved.

Successful retention of small areas of the community (<3 hectares) within an urban setting is unlikely because of the difficulty in maintaining hydrological regimes. This means that such protection is a lower conservation priority. Resources may be better directed to larger examples, particularly where the catchment is not subject to development.

The department has identified two Seasonal Herbaceous Wetland occurrences it believes have high values, that are likely to meet the above circumstances and can be successfully managed for conservation:

- Hearnese Swamp (55 hectares) - Identified in the DEPI report as Site 20.
- 'Muddy Gates Lane Swamp complex' (10 hectares) – Identified as Site 49.

If the above sites are protected, the loss of Seasonal Herbaceous Wetland due to the Program would be reduced from 194 hectares to 129 hectares (decrease of 33%) and the total protected increased from 339 hectares to 404 hectares (16%).

The department considers that implementation of the Program will have acceptable outcomes for Seasonal Herbaceous Wetland provided the above examples are excluded from development. Protection of the majority of occurrences (>3 hectares) within the Western Grassland Reserves will ensure the retention of the community and associated catchments at a landscape scale.

The department believes that development of Hearnese Swamp and the Muddy Gates site should be excluded pending further investigation. The department considers these sites should be retained for conservation unless it can be demonstrated that Seasonal Herbaceous Wetland values are not present or effective conservation would have prohibitive cost. In the later circumstances, additional provision to offset Seasonal Herbaceous Wetland losses should be made through protection of one or more of the sites identified at page 40 of the DEPI report.

APPENDIX 1

Further information on Sub-regional Species Strategy for the Golden Sun Moth (GSM)

The GSM strategy identifies important habitat areas that will be protected within the growth corridors and relevant existing precincts based on systematic analysis of potential habitat. The strategy also describes the offset approach where habitat is allowed to be cleared and the nature and type of offset required.

The endorsed Program commits the Victorian Government to permanently protect and manage 80% of the highest priority habitats for the GSM within the Victorian Volcanic Plains bioregion. The highest priority habitat generally coincides with good quality listed grasslands, or grassy woodlands, with confirmed populations of the GSM and where the populations are likely to persist based on modelled data.

Method

At the time of the strategic assessment in 2009, the known sightings of GSM were almost exclusively concentrated to the west and north of Melbourne. There were few sightings elsewhere in the state although suitable habitat occurs. This was thought to be due to the concentration of survey effort associated with urban development.

Intensive and targeted surveys for the GSM have been undertaken by the Victorian Government in the new growth corridors over the last five years. Surveys have also been undertaken across the historic Victorian range of the moth in Victoria to gain a better picture of its likely occurrence and persistent in the landscape. These surveys indicate that the GSM is relatively widespread and persists in the fragmented agricultural landscape of the Victorian Volcanic Plains bioregion.

The sub-regional strategy identifies land requiring protection to achieve the conservation outcomes for GSM in the endorsed Program and under the prescription. The prescription requires that GSM habitat greater than 100 hectares be protected. Any final areas protected must be of a size and shape that enables their effective management whilst still retaining core values for the species.

DEPI used the 'time stamping' vegetation mapping to predict occurrences of GSM habitat meeting the 100 hectare prescription rule in the growth corridors. Smaller areas (50 to 100 hectares) of potential high value to the GSM were also identified as part of this mapping exercise. These maps represented the maximum extent of habitat protection as a result of applying the prescription. These areas were then refined and prioritised according to the following criteria:

- The practical management of retained areas taking into account future land uses
- The objective of establishing a system of smaller reserves across the growth corridors to provide insurance against a catastrophic event affecting the largely contiguous Western Grassland Reserves, and
- The need to retain genetic diversity across the range of the GSM.

The identification of further *in situ* reserves, whilst initially driven by outcomes expected from the GSM prescription, was also intended to pick up local sites of high biodiversity significance or with unusual local ecosystem assemblages. Blanket protection of all areas greater than 100 hectares identified through the prescription would not necessarily give a good conservation outcome because many areas contain non-listed grasslands with limited or no natural values. Further refinement was undertaken to ensure the final conservation areas contained high biodiversity values including for matters of national environmental significance.

Areas requiring protection for GSM in the sub-regional strategy have been identified in the BCS as conservation areas. These are conservation areas 1, 2, 3, 4 and 11 in the western growth corridor and conservation areas 16 and 21 in the northern growth corridor. Sites 7, 8, 9, and 13 have also been excluded from urban development due to their likely importance for GSM, despite lack of access to enable surveys to be undertaken.

According to the sub-regional strategy, these areas comprise all the land requiring protection to achieve the conservation outcomes for GSM in the endorsed Program, and to satisfy the protection requirements of the prescription. In some cases, the conservation areas were protected in the BCS for other reasons (e.g. threatened flora species).

Conservation outcomes in growth corridors

The GSM has not been recorded from the South-east growth corridor. No conservation areas were identified in the North-western growth corridor due to the generally smaller areas of potential habitat and relatively low recorded occurrences.

The final BCS identifies 11 conservation areas requiring protection as a consequence of the prescription being applied. These are conservation areas 1, 2, 3, 4 and 11 in the Western growth corridor and 16 and 21 in the Northern growth corridor. In addition, areas 7, 8, 9 and 13 have been included due to their likely values for Golden Sun Moth (yet to be surveyed). These areas total 1293.55 hectares and contain the majority of best quality habitat known (410 hectares) or likely to support GSM as well as occurrences of Natural Temperate Grasslands, Spiny Rice-flower and other matters of national environmental significance.

Conservation outcomes outside the Growth Corridors

As noted previously, the Victorian Government has committed to protection of 80% of confirmed high contribution habitat for the GSM across the Victorian Volcanic Plan bioregion. Within the Western Grassland Reserves, 8,100 hectares of high contribution habitat has been identified together with a further 410 hectares of confirmed habitat within the BCS conservation areas. Together this accounts for 75% of the target. A further 680 hectares is needed to reach the commitment for 80% protection of high contribution habitat.

All clearing within the Western, North-western and Northern growth corridors (excluding any areas identified as Growling Grass Frog habitat) will invoke a compensatory habitat fee for the GSM under the BCS. The fee has been calculated as a flat cost per hectare based on the 'time stamping' maps.

Fees collected from clearing of GSM habitat will be offset as native vegetation to the Western Grassland Reserves, the Grassy Woodland Reserve, the 36 conservation areas in the growth corridors and the 680 hectares of confirmed high persistence habitat outside of the Urban Growth Boundary until the 80% target is met.

The endorsed Program, and subsequent prescriptions, required that potential habitat be surveyed and that offset was only required if the presence of the GSM was confirmed. The new approach avoids the need for survey, but requires offset for all potential habitat in the western, north-western and northern corridors (eg whether or not GSM presence is confirmed).

DEPI will continue to report on progress in achieving the 80% commitment over the life of the Program with regular updates to be published on DEPI's website. A map showing confirmed GSM habitat across the Victorian Volcanic Plains bioregion and progress towards the target is maintained by DEPI on this web site and is also updated to reflect new survey information.

Appendix 1

Further information on Sub-regional Species Strategy for the Growling Grass Frog (GGF)

The GGF sub-regional species strategy identifies important populations of GGF, areas of habitat to be protected to secure these populations (including buffers) and linking habitat corridors. The endorsed Program identified indicative corridors for protection of GGF, but committed to further investigations to better understand GGF population and buffer needs.

The strategy identifies land in the growth corridors that may be suitable for GGF and designates this land into two categories:

- habitat that will be protected, enhanced and managed for the conservation of GGF (Category 1 habitat); and
- habitat that can be cleared for development, but for which a compensatory habitat fee is required (Category 2 habitat).

The strategy provides direction about enhancement of Category 1 areas for GGF, including guidance on preparation of Conservation Management Plans. The strategy also sets out the survey, compensatory habitat provisions and/or salvage and translocation requirements that will apply to Category 2 habitat.

Method

DEPI engaged Ecology and Heritage Partners in 2010 to prepare a technical background paper and habitat assessment across all the growth corridors. This included assessment of over 200 water bodies to complement existing information. Following public review of the draft strategy in late 2011, DSE engaged Biosis Research to undertake further detailed analysis, on a reach by reach basis, of proposed Category 1 habitat areas (*Review of habitat corridors for Growling Grass frog *Litoria raniformis* within Melbourne's Urban Growth Areas*, Biosis Research June 3 2012). This work identified a number of specific reductions in the habitat corridors. The outcomes are reflected in the final BCS.

The assessment method identified important populations using accepted criteria. Each water body was assigned one of three habitat quality rankings (high, moderate or low) based on habitat attributes to support important populations. A 'wetness habitat connectivity' model was also developed by DEPI to represent landscape permeability and predict potential occurrence of the GGF during bountiful years (e.g. several years of high rainfall).

'Important sites' are based on metapopulation nodes that include regular records and occurrences of GGF and the adjacent habitat for 200 metres either side of the streamline. Two hundred metres is recommended as an adequate habitat and buffer zone adjacent to streams and water bodies supporting breeding GGF in the *Significant impact guidelines for the vulnerable growling grass frog *Litoria raniformis** (SEWPAC 2009).

Metapopulation nodes were identified along Merri, Kororoit, Emu, Jacksons and Cardinia Creeks and the Werribee River (Figures 2 – 5 in the Biosis Report and shown in Figures 3 – 6 in the BCS). For intervening areas of Category 1 habitat between metapopulation nodes on these major streams, a minimum corridor width of 100 metres each side of the stream was used. According to DSE, the rationale for using 100 metres (rather than 200 metres) was:

- 100 metres was considered sufficient to allow movement as well as provide sufficient space to improve the value of this buffer as a stepping zone through provision of compensatory offset wetlands (frog ponds) with a minimum 50 metre setback from development areas, and
- Existing research indicated that most GGF occurrences were within 100 metres of the stream line (or water body).

The sub-regional strategy commits to construction of frog ponds, and other works, to enhance habitat values and passage for the GGF. These works will be funded from offset contributions paid by development of Category 2 habitat. The strategy includes detailed mapping of stream reaches based on local topography and hydrology to ensure enhancement works can be viably located.

Conservation outcomes in growth corridors

All four growth corridors contain important sites for GGF associated with the following creeks:

- Kororoit Creek and Werribee River in the Western growth corridor
- Jacksons and Emu Creeks in the North western growth corridor
- Merri Creek in the Northern growth corridor, and
- Cardinia Creek in the South eastern growth corridor.

Remaining streams within the growth corridors that are known to support GGF (Darebin, Edgars, Davis and Clyde Creeks, and tributaries of larger streams) have generally been assigned corridor widths of 50 metres (with some expansions to 100 metres to allow for construction of supplementary wetlands). This is less than the 100 - 200 metres assigned in the draft GGF strategy. According to the final strategy, each stream was analysed in more detail by Biosis (2012) and assigned a corridor width based on the likely usage by the GGF and practicality of constructing compensatory habitat.

Several smaller ephemeral streams in the Western growth corridor (Skeleton, Dry and parts of Lollypop Creeks) were changed to Category 2, based on onsite investigations, because of the lack of source populations, expected adverse drainage patterns under development and poor prospects for habitat enhancement.

According to the GGF strategy, a number of concessions have also been made where Precinct Structure Plans are well advanced (Rockbank and Lockerbie) and where town planning encroaches on Merri and Kororoit Creeks. The 200 metre buffer has been substantially reduced in these two locations. According to DEPI, these 'pinches' will still enable GGF movement. Habitat enhancements are proposed on either side of the pinches to act as reservoirs for the GGF and to facilitate movement.

Planning and management for GGF habitat

The detailed design of Category 1 areas will be provided in the schedules to Conservation Management Plans (CMPs) that must be prepared for each precinct. These Plans will be prepared by DEPI or, if by an expert consultant, to the satisfaction of DEPI.

Category 2 areas are not core habitat or associated buffers for the GGF, but represent potential opportunities for dispersal and colonisation during the most favourable conditions. Up to 9,374 hectares of this habitat is expected to be developed through the Program. This comprises 8,001 hectares in the 4 growth corridors and 1,373 hectares in the 28 precincts from the previous urban growth boundary. As noted above, removal of Category 2 habitat will incur a compensatory habitat fee.

The strategy states that, as a general principle, CMPs should be prepared and implemented prior to development of Category 2 areas. This is to ensure that Category 1 areas have been secured and new or enhanced habitat is sufficiently established to be available for the species, including use by translocated frogs (if relevant). According to the strategy, development should be staged to allow for creation and establishment of habitat ideally two or three years in advance.

The strategy commits DEPI to preparing a master-plan for the network of Category 1 habitat areas across the new growth corridors, focussed primarily on metapopulation nodes. This will guide the more detailed preparation of CMPs for individual precincts as well as setting out the overall requirements to be provided for GGF protection. These minimum requirements include:

- Up to 400 dedicated GGF wetlands and ponds created or enhanced within the urban growth areas in Category 1 habitat, spaced every 300 – 700 metres within metapopulation nodes, and based on the *Guidelines for Management of Endangered Growling Grass Frog in Urbanised Landscapes* (Heard and Scroggie, 2010)
- Provision of a minimum 100 metres of managed terrestrial habitat around each GGF wetland (subject to landform constraints), including 10 metres immediately adjacent to the wetland of high quality, densely planted indigenous vegetation
- Replanting and enhancement of waterway corridors to 30 metres from the water's edge
- Overall objective for the combination of dedicated GGF wetlands and ponds and managed buffers (100 metres), and stormwater wetlands, to occupy at least 50% of Category 1 areas
- Guidelines for management of predatory fish, and other indirect impacts, to be implemented in CMPs, and
- A monitoring program to be undertaken for a 10 year intensive survey period post-construction.

In areas where the width of Category 1 habitat has been significantly narrowed, such as Lockerbie town centre, the strategy states that the corridor should be managed exclusively for GGF rather than passive open space (unless it can be demonstrated that such uses can be achieved with no impact on the value of the area for GGF).

Surveys will be undertaken by DEPI to determine presence of GGF in wetlands or dams within the identified Category 2 habitat areas prior to any development. This is to determine whether salvage or translocation of animals is needed. A translocation strategy, including responsibilities of developers, contractors and DEPI, will be finalised for implementation by DEPI.

The strategy states that land that is encumbered as a result of Category 1 habitat should be vested in the Crown and be managed by a public authority. The public land manager will generally be Melbourne Water given the synergies with waterway management. On lands that are otherwise undevelopable (for example, wholly within a Rural Conservation Zone) the strategy allows private landholders to retain ownership, but they must enter into a management agreement with DEPI under section 69 of the Victorian *Conservation Forests and Lands Act 1987* providing for management of the land for GGF in perpetuity.

The strategy will be reviewed five years after its adoption and every 10 years thereafter. The reviews will be informed by the results of monitoring required in the GGF master-plan.

Conservation outcomes outside the Growth Corridors

The strategy maps GGF Category 1 habitat outside of the growth corridors where these are contiguous with Category 1 habitat in the corridors. These areas do not attract any specific protection or zoning under the endorsed Program, but provide a guide to possible protection requirements if future developments are proposed and require individual assessments (for example, under the EPBC Act).

Conclusion on GGF strategy

The department considers that the final strategy has identified and will adequately protect important sites for the GGF. The program of enhancement works for Category 1 habitat will

further help ensure that core populations and movement corridors can be protected. According to the strategy, the Category 1 protection areas are sufficient to:

- Protect most of the existing core habitat areas of important populations (metapopulation nodes) and to enhance these areas through construction of frog ponds and improved management
- Create new areas of habitat for increased connectivity consisting of a network of frog ponds planted with indigenous vegetation and interspersed with grassed or treed areas
- Include sufficient areas above Urban Floodway Zones where large off-stream water bodies can be created to provide for breeding, and
- Enable other uses such as stormwater treatment and passive recreation to occur while preserving conservation objectives

The department notes that significantly less than 200 metres is proposed at 'pinch' points along Merri and Kororoit Creeks to allow for town centre development at Rockbank and Lockerbie. Community Groups, such as the Friends of Merri Creek, expressed particular concern about the narrowing at the proposed Lockerbie town centre and risks of fragmentation and local extinctions if populations cannot pass the 'pinch' point.

The department notes intended enhancement works on either side of the 'pinch' points to help manage these risks. The GGF master-plan and relevant precinct CMPs, to be prepared by DEPI, should prioritise these works and include monitoring to help determine the success, or otherwise, of frog movement in these areas. Contingency measures should be included in the master-plan and be adopted if monitoring indicates poor or no GGF movement. Examples of contingency measures could include an additional program of enhancement works based on further *in situ* hydrological investigations or other measures to bypass the 'pinch' point.

In response, DEPI has advised that it is in the process of constituting an expert technical advisory group, with membership including the Chair of the GGF National Recovery Team and other GGF experts, to provide high quality scientific and technical advice on implementation of the sub-regional species strategy. This group will advise on priorities to be addressed in the master-plan including the pinch points identified. If required, works will commence two or more years prior to construction commencing. According to DEPI, development of the relevant precincts is still 10 – 15 years off. Against this time frame, the department accepts that the issue of the 'pinch' points is best resolved by the expert technical group.

Appendix 2

Summary of 36 conservation areas within the growth corridors

Tables 1 to 4 below summarise the 36 conservation areas described in the final BCS. The locations are shown at Figures 3 - 6. The tables use the BCS numbering system and reference the relevant figures in the BCS that show the proposed reserve boundaries. The key matters of national environmental significance are also listed.

Table 1: Summary of conservation areas in the Western growth corridor

Name of reserve	BCS Number	BCS Map Reference	Size (hectares)	MNES present in reserve (*tbc = to be confirmed)
Kororoit Creek North Grassland, Plumpton	1	Figure 23	13.29	<ul style="list-style-type: none"> Natural Temperate Grassland Spiny Rice-flower Golden Sun Moth (to be confirmed) Striped Legless Lizard (tbc)
Kororoit Creek North Grassland, Plumpton	2	Figure 23	45.02	<ul style="list-style-type: none"> Natural Temperate Grassland Spiny Rice-flower Golden Sun Moth (tbc) Striped legless Lizard (tbc) Small Golden Moths Orchid (tbc)
Clarke's Road Grassland, Rockbank	3	Figure 23	235.04	<ul style="list-style-type: none"> Small Golden Moths Orchid Natural Temperate Grassland Spiny Rice-flower Growling Grass Frog Golden Sun Moth (tbc) Striped legless Lizard (tbc)
Grieg's Road Grassland, Mount Cottrell	4	Figure 24	46.27	<ul style="list-style-type: none"> Natural Temperate Grassland Spiny Rice-flower Golden Sun Moth Striped Legless Lizard (tbc)
Ravenhall North Grassland	5	Figure 25	35.33	<ul style="list-style-type: none"> Natural Temperate Grassland Spiny Rice-flower Striped Legless Lizard Large-fruit Groundsel (tbc)
Deer Park Quarry Grassland, Ravenhall* *Previous offset	6	Figure 26	110.93	<ul style="list-style-type: none"> Natural Temperate Grassland Spiny Rice-flower Large-fruit Groundsel Striped Legless Lizard
Mount Atkinson Grassland	7	Figure 27	31.56	<ul style="list-style-type: none"> Natural Temperate Grassland Spiny Rice-flower (tbc) Golden Sun Moth (tbc) Striped Legless Lizard (tbc)
Middle Road (North), Mount Cottrell	8	Figure 27	112.58	<ul style="list-style-type: none"> Natural Temperate Grassland Golden Sun Moth (tbc) Striped Legless Lizard (tbc)
Middle Road (South), Mount Cottrell	9	Figure 27	43.34	<ul style="list-style-type: none"> Natural Temperate Grasslands Golden Sun Moth (tbc) Striped Legless Lizard (tbc)
Truganina Cemetery Grassland and Buffer	10	Figure 28	15.12	<ul style="list-style-type: none"> Natural Temperate Grassland Spiny Rice Flower Button Wrinklewort Striped Legless Lizard (tbc)
Woods Road, Truganina	11	Figure 29	21.96	<ul style="list-style-type: none"> Natural Temperate Grassland Spiny Rice-flower, Golden Sun Moth Striped legless Lizard (tbc)
Sewells Road Reserve, Truganina	12	Figure 30	1.52	<ul style="list-style-type: none"> Natural Temperate Grassland Spiny Rice-flower Golden Sun Moth (tbc) Striped Legless Lizard (tbc)
Ballan Road, Wyndham Vale	13	Figure 31	59.44	<ul style="list-style-type: none"> Natural Temperate Grassland Golden Sun Moth Striped Legless Lizard (tbc)
Growling Grass Frog Corridors (South)	14	Figures 32(a),(b),(c)	372	<ul style="list-style-type: none"> Growling Grass Frog
Growling Grass Frog Corridors (North)	15	Figures 32(a),(b),(c)	539.67	<ul style="list-style-type: none"> Growling Grass Frog
TOTAL (GRASSLANDS)			771.40 hectares (660.47 if CA 6 excluded)	
TOTAL (GROWLING GRASS FROG)			911.67 hectares	
TOTAL (RESERVE AREA)			1683.07 hectares	

Table 2: Summary of conservation areas in the North-western growth corridor

Name of reserve	BCS Number	BCS Map Reference	Size (hectares)	MNES present in reserve
Grassy Eucalypt Woodland Site 1, Sunbury	16	Figure 33	18.22	• Grassy Eucalypt Woodland
Grassy Eucalypt Woodland Site 2, Sunbury	17	Figure 33	14.50	• Grassy Eucalypt Woodland
Lancefield Road, Sunbury	18	Figure 34	252.94	• Grassy Eucalypt Woodland • Grey Box Grassy Woodland (tbc) • Growling Grass Frog (tbc)
Grassy Eucalypt Woodland Site 3, Sunbury	19	Figure 35	2.44	• Grassy Eucalypt Woodland
Racecourse Road, Sunbury	20	Figure 36	42.07	• Grassy Eucalypt Woodland (tbc)
Growling Grass Frog Corridors	21	Figures 37(a),(b)	666.83	• Growling Grass Frog
TOTAL (WOODLANDS)			330.17 hectares	
TOTAL (GROWLING GRASS FROG)			666.83 hectares	
TOTAL (RESERVE AREA)			997 hectares	

Table 3: Summary of conservation areas in the South-eastern growth corridor table

Name of reserve	BCS Number	BCS Map Reference	Size (hectares)	MNES present in reserve
Clyde-Tooradin Rail Reserve, Clyde	35	Figure 50	2.19	• Maroon Leek-orchid • Matted Flax-lily (potential) • Swamp Everlasting (potential) • Southern Brown Bandicoot (potential)
Growling Grass Frog Corridors	36	Figure 51	329.80	• Growling Grass Frog
TOTAL (GRASSLANDS)			2.19 hectares	
TOTAL (GROWLING GRASS FROG)			329.80 hectares	
TOTAL (RESERVE AREA)			331.99 hectares	

Table 4: Summary of conservation areas in the Northern growth corridor

Name of reserve	BCS Number	BCS Map Reference	Size (hectares)	MNES present in reserve (*tbc = to be confirmed)
Bald Hill, Donnybrook	22	Figure 38	207.18	<ul style="list-style-type: none"> Natural Temperate Grassland Grassy Eucalypt Woodland Matted Flax Lily Curly Sedge Growling Grass Frog Golden Sun Moth (tbc) Striped Legless Lizard (tbc) Adamson's Blown grass (tbc)
Hume Freeway, Kalkallo	23	Figure 39	103.67	<ul style="list-style-type: none"> Natural Temperate Grassland Matted Flax Lily Golden Sun Moth Growling Grass frog Australian Bittern Striped Legless Lizard (tbc)
Kalkallo Common Grassland and Cemetery, Kalkallo	24	Figure 40	24.97	<ul style="list-style-type: none"> Natural Temperate Grassland Matted Flax Lily Striped Legless Lizard
Grassy Eucalypt Woodland Site, Donnybrook	25	Figure 41	1.39	<ul style="list-style-type: none"> Grassy Eucalypt Woodland
Mt Ridley West, Mickleham	26	Figure 42	111.79	<ul style="list-style-type: none"> Grassy Eucalypt Woodland Matted Flax-lily Golden Sun Moth
Summerhill Road (West), Wollert	27	Figure 43	26.47	<ul style="list-style-type: none"> Grassy Eucalypt Woodland Golden Sun Moth Growling Grass Frog Striped Legless Lizard (tbc)
Summerhill Road (East), Wollert	28	Figure 44	331.12	<ul style="list-style-type: none"> Grassy Eucalypt Woodland Natural Temperate Grassland Striped Legless Lizard (tbc)
Mickleham Road, Mickleham	29	Figure 45	37.69	<ul style="list-style-type: none"> Grassy Eucalypt Woodland Golden Sun Moth
Austral Bricks Site, Wollert	30	Figure 46	215.90	<ul style="list-style-type: none"> Natural Temperate Grassland Grassy Eucalypt Woodland Matted Flax Lily Curly Sedge Golden Sun Moth Striped Legless Lizard Growling Grass Frog Latham's Snipe (potential)
Craigieburn Road (East), Wollert	31	Figure 47	29.75	<ul style="list-style-type: none"> Grassy Eucalypt Woodland
Craigieburn Road (West), Wollert	32	Figure 47	154.64	<ul style="list-style-type: none"> Natural Temperate Grassland Matted Flax Lily (tbc) Curly Sedge Striped Legless Lizard Plain's-wanderer (potential)
O'Hearns Road, Epping	33	Figure 48	468.34	<ul style="list-style-type: none"> Natural Temperate Grassland Grassy Eucalypt Woodland Matted Flax Lily Golden Sun Moth Striped Legless Lizard
Growling Grass Frog Corridors	34	Figures 49(a),(b),(c)	1009.74	<ul style="list-style-type: none"> Growling Grass Frog
TOTAL (GRASSLANDS & WOODLANDS)			1713.54 hectares	
TOTAL (GROWLING GRASS FROG)			1009.74 hectares	
TOTAL (RESERVE AREA)			2723.28 hectares	

Appendix 3

Changes made to Conservation Areas and Growing Grass Frog corridors

Changes made from the draft to final BCS are summarised at [Tables 5 - 8](#) below. The tables reference the nomenclature used in the draft BCS to identify potential reserves and the final conservation area designations used in the final BCS. The tables list the changes in area (if any) from the reserves proposed in the draft BCS and those presented in the final BCS.

Table 5: Differences between Draft and Final BCS - Western growth corridor

Name of reserve	Draft BCS ID	Final BCS ID	Difference (hectares)	Final size (hectares)	Comment
Kororoit Creek Nth, Plumpton	A3	1	None	13.29	No change.
Kororoit Creek Nth, Plumpton	A2	2	None	45.02	No change.
Clarke's Road, Rockbank	A1, A4	3	None*	235.04	*Area A4 in NW corner (30 ha) has little native vegetation and may be excised as 'active open space'.
Grieg's Road Grassland, Mt Cottrell	C	4	-15.65	46.27	Reduced from 61.92 to 46.27 ha. Further surveys led to changed boundary to exclude low conservation value lands.
Ravenhall North Grassland	B, K1, K2	5	-15.65	35.33	Reduced from 50.98 to 35.33 ha. Further surveys led to changed boundary to exclude low conservation value lands.
Deer Park, Ravenhall*	I	6	None	110.93	No change. *This is a previous offset.
Mount Atkinson Grassland	L	7	-97.04	31.56	Reduced from 128.6 to 31.56 ha. Further surveys on eastern (excluded) portion found no MNES. Permission not granted to survey remaining western portion.
Middle Road (Nth), Mt Cottrell	D1, D2	8	None	112.58	No change.
Middle Road (Sth), Mt Cottrell	M	9	-31.13	43.34	Reduced from 74.47 to 43.34 ha. Further surveys on western (excluded) portion found no MNES. Permission not granted to survey remaining eastern portion.
Truganina Cemetery Buffer	J	10	-9.56	15.12	Reduced from 24.68 to 15.12 ha. The buffer has been rationalised and may be reduced further if compatible with protection of core MNES values
Woods Road, Truganina	E	11	-0.13	21.96	Reduced from 22.09 to 21.59 ha. Conservation area shifted east, but incorporates key MNES values. Variation is compromise with intended development.
Sewells Reserve, Truganina	New	12	+1.52	1.52	New conservation area to protect population of Spiny Rice-flower in an unused road reserve
Ballan Road, Wyndham Vale	G1, G2	13	-17.63	59.44	Reduced from 77.07 to 59.44ha. Exclusion of Area G2 of 60ha (no native vegetation) confirmed as proposed in draft BCS.
Black Forest, Wynham Vale	H	n/a	n/a	n/a	Proposed for exclusion in draft BCS (limited or no native vegetation and poor GSM occurrence)
Skeleton Creek Grassland, Truganina	N	n/a	-25 (approx)	None	Indicative new conservation area in draft BCS, subject to further survey. Not retained in final BCS (surveys found no targeted MNES present)
Manor Quarry Buffer	O	n/a	-75 (approx)	None	Indicative new conservation area in draft BCS, subject to further survey. Not retained in final BCS (surveys found no targeted MNES present)
Growling Grass Frog (South)	F	14	-552.78	372	Reduced from 924.78 to 372 ha. Changes from Biosis report. Also excludes land in Regional Park with no GGF values.
Growling Grass Frog (North)	F	15	-612.26	539.67	Reduced from 1,151.93 to 539.67ha. Changes from Biosis report.
TOTAL			-1450.28	1683.07	Loss = 1165.04 (GGF) and 285.24 (other)

Table 6: Differences between Draft and Final BCS – North-western growth corridor

Name of reserve	Draft BCS ID	Final BCS ID	Difference (hectares)	Final size (hectares)	Comment
Grassy Eucalypt Woodland Site 1, Sunbury	A (North)	16	None	18.22	No change.
Grassy Eucalypt Woodland Site 2, Sunbury	A (North)	17	-20.52	14.5	Reduced from 35.03 to 14.5 ha. Surveys ruled out listed Grassy Eucalypt Woodland in some areas. Changes also to avoid low biodiversity areas and to rationalise reserve boundary.
Lancefield Road, Sunbury	B	18	None	252.94	No change (but primary purpose of reserve is to protect landscape values rather than MNES)
Grassy Eucalypt Woodland Site 3, Sunbury	A (South)	19	None	2.44	No change.
Racecourse Road, Sunbury	C	20	-18.97	42.07	Reduced from 61.04 to 42.07 ha. Areas with no native vegetation excluded, although some of these lands are now within CA 21 (Growling Grass Frog). Primary purpose is landscape protection.
Growling Grass Frog Corridors	n/a	21	-251.35	666.83	Reduced from 918.18 to 666.83. Reflects refinements by Biosis Research and also excludes land within the proposed Regional Park with no biodiversity values for GGF.
TOTAL			290.84	997.00	Loss = 251.35 (GGF) and 39.49 (other reserves)

Table 7: Differences between Draft and Final BCS – South-eastern growth corridor

Name of reserve	Draft BCS ID	Final BCS ID	Difference (hectares)	Final size (hectares)	Comment
Clyde-Tooradin Rail Reserve, Clyde	B	35	None	2.19	No changes. (note draft BCS incorrectly included approx 13 ha of reserve that was outside of the growth boundary)
Growling Grass Frog Corridors	n/a	36	-387.81	329.80	Reduced from 717.61 to 329.80 ha. Reflects refinements in Biosis Research report
TOTAL			-387.81	331.99	

Table 8: Differences between Draft and Final BCS – Northern growth corridor

Name of reserve	Draft BCS ID	Final BCS ID	Difference (hectares)	Final size (hectares)	Comment
Bald Hill, Donnybrook	A	22	+6.48	207.18	Changed from 200.7 to 207.18 ha. (Note: Draft BCS included 139.97 of GGF corridor in 'A'. This is now accounted for within CA 34.
Hume Freeway, Kalkallo	B	23	None	103.67	No change.
Kalkallo Common Grassland and Cemetery, Kalkallo	C	24	+15.11	24.97	Changed from 9.86 to 24.97. Changed boundary to include additional high biodiverse areas.
Grassy Eucalypt Woodland Site, Donnybrook	n/a	25	+1.39	1.39	New conservation area identified from public consultation process to protect Grassy Eucalypt Woodland.
Mt Ridley West, Mickleham	D1, D2	26	-35.16	111.79	Changed from 146.95 to 111.79 ha. Changed boundary to exclude low conservation lands and to reflect precinct planning at west end. Exclusion of Area D2 of 20ha (devoid of native vegetation) confirmed as proposed in draft BCS
Summerhill Road (West), Wollert	E	27	-	26.47	Changes reflected in CA 28 below due to previous combined nature of this conservation area.
Summerhill Road (East), Wollert	E	28	- 34.26	331.21	CA 27 & 28 changed from 391.85 to 357.68. Changed excludes low conservation value lands. Final BCS flags further potential changes to boundary, but commits to no loss of Grassy Eucalypt Woodland.
Mickleham Road, Mickleham	I	29	None	37.69	No change.
Austral Bricks Site, Wollert	G	30	+7.56	215.90	Changed from 208.34 to 215.90 ha. Minor changes to reflect submissions.
Craigieburn Road (East),	F	31	-	29.75	Changes reflected in CA 32 below due to previous combined nature of this conservation area.
Wollert Craigieburn Road (West), Wollert	F	32	-105.59	154.64	Changed from 294.47 to 184.39 ha. Changed boundary to exclude low conservation value lands. Final BCS flags further potential changes to boundary, but commits to no loss of MNES.
O'Hearns Road, Epping	H	33	-119.79	468.34	Changed from 588.13 to 468.34 ha. Changed boundary to exclude low conservation value lands. Final BCS flags further potential changes to boundary, but commits to no loss of MNES.
Growling Grass Frog Corridors	n/a	34	-308.57	1009.74	Changed from 1,318.31 to 1,009.74ha. Reflects refinements in Biosis Research report.
TOTAL			-575.83	2723.28	Loss = 308.57 (GGF) and 267.26 (other reserves)

Appendix 4

Public comment on final Biodiversity Conservation Strategy (BCS)

The department accepted submissions on the BCS up to 19 June 2013 given the 18 month period between public comment on the draft BCS in late 2011 and publication of the final BCS on 13 May 2013. This is not a requirement of the endorsed Program, or EPBC Act, but allowed for feedback on the BCS from key stakeholders to help inform the Minister's decision on whether to approve the strategy.

Community groups and individual developers were generally supportive of the strategic assessment process, but had varying views about the size and number of conservation areas proposed. Parties were also concerned about perceived flaws in the BCS and fairness of processes. The department observes that the BCS provides a fundamentally different approach to the Victorian precinct structure planning process and that adjustments and some difficulties in implementation are to be expected. The department expects that such changes can be addressed through administrative processes.

Comments from environment and community groups

The department met with key environment groups on 30 May 2013 to provide an update on the assessment process and to listen to concerns on the final BCS. The department agreed to accept written comments and to ensure these were available to the Minister when he made his approval decisions.

A comprehensive submission was subsequently received from the combined environment groups (CEGs) on 13 June 2013 (Victorian National Parks Association, Environment Defenders Office (Vic), Merri Creek Management Committee, Friends of Merri Creek, Western Catchment Network, Pinkerton Landcare and Environment Groups, Melton Environment Group and Jacksons Creek Eco Network). Submissions were also received from the Southern Brown Bandicoot Regional Recovery Group, Mr Damien Cook (Rakali Ecological Consulting) and a planning officer with the Whittlesea Council.

Information was sought from DEPI on specific additional reserves recommended in the CEGs submission. DEPI's response is at Table 1. The department further met with the CEGs on 18 June 2013. Issues raised are discussed below.

General

The CEGs believed that conservation outcomes from the BCS were inadequate and suggested specific expansions and additions to the proposed reserve network. The submission noted that conservation areas had been significantly reduced from the draft to the final BCS, and that these reductions were in the order of 35%.

The CEGs submission also recommended that any approval be conditional upon no activities being allowed within the 36 conservation areas, including infrastructure such as roads and bridges. This was to ensure that the integrity of the conservation system was fully maintained. The submission also suggested that a number of mechanisms were available to secure private properties for conservation including Trust for Nature covenants and under other Victorian legislation. The submission sought immediate protection for the conservation areas through zoning controls.

The department notes that some infrastructure within the 36 conservation areas will be unavoidable (such as roads and bridges traversing the GGF corridors). The proposed approval is conditioned to reduce unnecessary infrastructure.

The department notes that the BCS commits to immediate zoning controls, to ensure interim protection of the 36 conservation areas, following Commonwealth approval. The department

acknowledges that there are a number of mechanisms available to protect private lands for conservation, but accepts that the BCS approach is reasonable.

The CEG's submission further recommended that the Minister appoint an independent monitor immediately, as required under the endorsed Program, to ensure public accountability in implementation of the Program and BCS. The department notes the commitment in the BCS to submit a Monitoring and Reporting Framework for Commonwealth approval within 6 months and expects the role and appointment of the independent monitor to be addressed through this framework. DEPI has separately confirmed this commitment.

Growling Grass Frog

The CEG's submission recommended that the BCS only be approved conditional upon the original Category 1 habitat corridors in the draft BCS being retained.

The submission was generally supportive of the GGF corridors proposed in the draft BCS and expressed alarm at the reductions in the final BCS (calculated as a 42% loss). The submission considered that implementation of the final BCS had a real potential to lead to local extinctions of key GGF populations due to the narrowing of the Category 1 habitat corridors between the core meta-population nodes.

The submission argued that the final GGF corridors were biased towards current GGF records and did not give sufficient weight to likely occurrences or places with patchy survey effort. They considered that potentially important habitat areas, such as Dry, Skeleton and Davis Creeks in the Western growth corridor, had been excluded on this basis. The CEGs stated that the timing of the strategic assessment surveys coincided with a drought period when population numbers of GGF were suppressed further biasing the outcomes.

The submission expressed particular concerns about the narrowing of the corridor along Merri Creek to just 20 metres to cater for the proposed Lockerbie Town Centre. Based on ecological viability studies by Dr Geoff Heard, it was possible that the proposed development could result in loss of one of the healthiest current known populations of GGF on Merri Creek.

The submission considered that the proposed construction of hundreds of GGF dedicated wetlands in compensation for the reduction in GGF corridors was an untested mitigation measure. They argued that the removal of habitat corridors and reduction in corridor widths literally left no room for failure and was the opposite of a precautionary approach.

Mr Damien Cook (Rakali Ecological Consulting) provided a submission to the department on 13 June 2013 stating that the BCS failed to identify important populations of the GGF in quarry holes in the Northern growth corridor. Mr Cook recommended that a panel of experts be established to review protection requirements for the GGF before the BCS is approved.

The department notes that the final overall size of the proposed reserves has been reduced substantially for the GGF corridors and calculated this as being in the order of 40% (loss of 2112.77 hectares from the total 5,031.81 hectares in the draft BCS). This is similar to the estimate made by the CEGs. The final GGF corridors are identified in the BCS as conservation areas 14 (372 hectares), 15 (539.67 hectares), 21 (666.83 hectares), 34 (1009.74 hectares) and 36 (329.80 hectares).

The department's assessment concludes that implementation of the BCS will have acceptable outcomes for the GGF, but agrees with the CEGs that the reduction in buffer widths pose risks to the long term viability of populations. This means that the effective and timely implementation of mitigation strategies is of critical importance.

The BCS commits DEPI to preparing a master-plan for the network of Category 1 habitat areas across the new growth corridors, focussed primarily on meta-population nodes. This will guide the more detailed preparation of Conservation Management Plans required for individual precincts as well as setting out the overall requirements to be provided for GGF protection. The minimum requirements are described at [Appendix 1](#). The strategy will be reviewed five years after its adoption and every 10 years thereafter. The reviews will be informed by the results of monitoring required in the GGF master-plan.

In areas where the width of Category 1 habitat has been significantly narrowed, such as the Lockerbie Town Centre, the strategy states that the corridor should be managed exclusively for GGF rather than passive open space (unless it can be demonstrated that such uses can be achieved with no impact on the value of the area for GGF).

DEPI has advised that it is in the process of constituting an expert technical advisory group, with membership including the Chair of the GGF National Recovery Team and other GGF experts, to provide high quality scientific and technical advice on implementation of the sub-regional species strategy. This group will advise on priorities to be addressed in the master-plan including the pinch points identified. If required, works will commence two or more years prior to construction commencing. According to DEPI, development of the relevant precincts is still 10 – 15 years off. Against this time frame, the department accepts that the issue of the 'pinch' points is best resolved by the expert technical group.

The department notes the issues raised by Mr Cook. According to DEPI, the BCS approach has avoided more isolated dams and quarries supporting GGF populations because they cannot be functionally linked to the key meta-population nodes and corridors along the major creeks. The BCS states that surveys will be undertaken by DEPI to determine the presence of GGF in wetlands or dams within the identified Category 2 habitat areas prior to any development. This is to determine whether salvage or translocation of animals is needed. A translocation strategy, including responsibilities of developers, contractors and DEPI, will be finalised under the BCS.

Striped Legless Lizard (SLL)

The CEGs recommended addition of a further conservation area to specifically protect an identified population of SLL within the headwaters of Skeleton Creek (shown at Appendix 1 to the CEGs submission). According to the CEGs, none of the 36 conservation areas had been specifically established for the SLL and there were only 2 records from the Western Grassland Reserves. Protection of the population at Skeleton Creek was seen as a priority to ensure adequate representation of the SLL in the reserve system.

The department sought further advice from DEPI in view of the importance of this issue. DEPI advised that the strategic assessment had identified the consolidated Western Grassland Reserves as the primary offset for the SLL ([Table 1](#)). Potential conservation area 'N' (draft BCS) identified by the CEGs as SLL habitat had been surveyed and not found to contain MNES values. The department is concerned about the loss of an important potential habitat, but accepts that the BCS outcomes will ensure adequate outcomes for this vulnerable species.

'High persistence' GSM, SRF and MFF habitat

NGOs queried whether there were additional areas within the growth corridors that would qualify as 'high persistence' habitat. The implication here was that the area required to meet the 80% target had a larger than necessary component outside the growth corridors because some areas requiring protection would be developed.

DEPI provided the following estimates of 'high persistence' habitat remaining in the growth corridors that was not protected:

- MFL – 13 hectares (this is 2.4% of the total required outside the Urban Growth Corridors (529 hectares))

- SRF – 49 hectares (12% of the total (394 hectares))
- GSM - 317 hectares (47% of the total (680 hectares))

A detailed analysis is at [Table 1](#). The department notes that the remaining 'high persistence' habitat for the MFL and SRF within the growth corridors is relatively minor. This is not the case for GSM. The department accepts that this species, although listed as critically endangered, is relatively widespread in surveyed grasslands and considers that the proposed reserve system in the BCS will provide acceptable outcomes for this species.

Further grassland reserves

The CEGs submission used the publicly available 'time stamping' data to independently identify areas of high biodiversity for possible protection. The submission stated that the Western Grassland Reserves had a patchy coverage of Natural Temperate Grasslands that needed to be supplemented with other representative grasslands to ensure that the diversity of the grasslands in western Melbourne was protected.

The CEGs submission identified a number of smaller areas, excluded from the final BCS, considered to be representative of the diversity of grasslands and to also provide habitat for associated listed species. A total of 20 additional areas were identified as having high values based on the 'time stamping' data and a further 19 as likely to have values (mapped at Appendix 3 to the CEG submission). DEPI's comments on the values of some of these reserves is at [Table 1](#).

While most of these areas were relatively small, some were quite large including 500 hectares in the Western growth corridor already approved for a Boral quarry expansion. The submission also suggested that a network of grassland reserves along transmission line easements could be a valuable addition to the reserve network.

The submission recommended that the 39 additional areas be excluded from development as part of the approval. A possible approach raised in discussions was to require the additional areas to be assessed in more detail before a final decision on their inclusion into the reserve network. This would be an ongoing process as precinct structure plans are developed.

The department notes that many of the proposed additions were included in the draft BCS, but have been excluded from the final BCS based on surveys and further assessment by DEPI. The department's assessment accepts that the final reserve system proposed by DEPI will ensure acceptable outcomes for MNES. The department notes that some of the proposed additional reserves are relatively small (<5 hectares) and may present management difficulties. The department accepts that even relatively small grassland reserves can be managed to retain native grassland/species biodiversity, but believes that larger and more consolidated reserves are more likely to contribute to durable conservation outcomes.

Incorporation of a number of additional reserves may create difficulties in implementing the BCS because of uncertainty over final reserve requirements and associated offset costs. As noted above, the department's assessment concludes that the proposed reserve system is adequate and that implementation of the BCS will deliver certainty for both conservation and development outcomes. Allowing future discretion in the size and number of conservation areas, whether for conservation or development reasons, will erode this certainty and may deliver perverse outcomes. At the very minimum, it will leave current land use conflicts unresolved and potentially give rise to future conflicts to the detriment of conservation outcomes.

In the above circumstances, and having concluded that outcomes for MNES are acceptable, the department believes it highly desirable to 'lock in' the outcomes of the BCS and to avoid risks of major changes to the 36 designated conservation areas.

Grassy Eucalypt Woodland (GEW)

The CEG submission noted that only 61% of GEW would be protected contrary to the 80% commitment in the endorsed Program. The submission sought further information on the values of any GEW excluded from the reserve system and justification as to its exclusion. The submission recommended the expansion of conservation areas 19, 26, 31 and 25 to include any adjacent GEW and to contribute towards the 80% target. A network of smaller reserves was proposed in the Wollert region to add to the target.

A personal submission from an individual in Whittlesea Council suggested that an additional 20 hectares of GEW could be protected through the current Wollert Precinct structure planning process to help achieve the 80% target. The submission noted that discrete wooded areas were likely to be retained as part of the development process and queried how this could be achieved under the BCS.

The department sought further advice from DEPI in view of the importance of this issue. DEPI provided an analysis of the suggested additions which concluded that there was little additional GEW available (Table 1). The department accepts that options to achieve the 80% target have been adequately explored.

In regard to the issue raised by Whittlesea Council, the department understands that the precinct structure planning process maintains flexibility for additional conservation areas (see DEPI response at Table 1).

Seasonal Herbaceous Wetlands (SHW)

The CEGs recommended that all occurrences of SHW greater than 2 hectares be protected, including the following occurrences identified in the DEPI report *The impact of Melbourne's growth on 'Seasonal Herbaceous wetlands (freshwater) of the temperate lowland plains'* (May 2013):

- Donnybrook Road 1, 2 and 3
- Muddy Gates Lane
- Troups Road North
- Rockbank Railway Swamp
- Paynes Road Swamp
- Wyndham Vale Swamp
- Deanside East
- Chartwell No. 2 and No. 3)
- Tarneit
- Hearnnes Swamp

The department undertook its own assessment to identify any additional occurrences of SHW requiring protection. This assessment concluded that, of the above occurrences, only Hearnnes Swamp and Muddy Gates Lane were of sufficient size and integrity to warrant protection. Muddy Gates Lane is in the South-eastern corridor that is not currently being considered for approval. The department's proposed approval excludes development at Hearnnes Swamp.

Another area, of about 40 hectares, was identified as 'Merri Bend Swamp' or 'Camoola' based on observations of dense patches of Tall Tussock (*Poa labillardieri*) that may be

indicative of SHW. A further area of 9 hectares ('Camoola South-west Swamp') was also identified with similar characteristics. The CEGs recommended that this area of about 40 hectares be investigated and protected if it was found to contain SHW or other unusual associations of grasslands. This would also provide a buffer along Merri Creek to industrial lands to the west.

DEPI advised that 'Camoola' appeared to be a relatively large occurrence of SHW that may warrant further consideration. The department is of the view that implementation of the BCS will ensure adequate protection of SHW.

Mr Damien Cook (Rakali Ecological Consulting) provided a submission to the department on 13 June 2013 and stated that the BCS contained errors in identifying wetland vegetation. Mr Cook also identified several occurrences of SHW he believed warranted protection based on his own survey work. The department considers that the BCS and Program provide adequate protection for SHW.

Protection of conservation areas

NGOs sought further information on the process and timing of acquisitions and protection of conservation areas. They believed that an acquisition strategy should be prepared including guidelines for managing hardship cases that might need to be prioritised and dealt with in a sensitive manner.

In response, DEPI advised that an acquisition schedule was being developed. Initial indications were that DEPI would commit to acquiring 19 of the conservation areas as crown reserves. Conservation management under private ownership would be considered for the remaining conservation areas, particularly where the land holdings and conservation areas were large and conservation was likely to be compatible with existing or modified agricultural practices.

Southern Brown Bandicoot

The Southern Brown Bandicoot Regional Recovery Group wrote to the Minister on 12 June 2013 seeking the opportunity to comment on the final SBB sub-regional species strategy when it was finalised and submitted to the Commonwealth for approval. This is not relevant to the current approval. The proposed approval excludes development from the SBB habitat corridors proposed in the draft SBB sub-regional species strategy and this option remains open for consideration. The department will provide the Recovery Group with the opportunity to comment on the final strategy as part of its assessment and advice to the Minister.

Submissions from individual developers

The department received submissions from a number of developers directly affected by the BCS. Most submissions sought variations to the conservation areas described in the BCS, but some also expressed broader concern about aspects of the BCS. Concerns raised about specific conservation areas are discussed below followed by the more general issues.

Conservation area 6 (Deer Park Quarry, Ravenhall)

The Boral Property Group wrote to the department on 17 June 2013 stating that the boundary of conservation area 6 was incorrect and included land for which Boral had an approved extractive industries licence. According to the submission, the approved conservation area was 95 hectares rather than the 110.92 hectares shown in the BCS. The 95 hectares had been previously approved by both the Commonwealth and State.

The department will bring this submission to the attention of DEPI for correction if an error has been made. If necessary, this can be corrected by administrative agreement post approval.

Conservation area 10 (Truganina Cemetery)

The Dennis Family wrote to the Minister on 4 June 2013 objected to the 200 metre buffer proposed around important grasslands at the Truganina Cemetery (identified as conservation area 10 in the BCS). The submission argued there was no justification for the buffer and that its retention would compromise the development potential of land held by the Dennis Family at 690 Derrimut Road in Truganina. The letter attached a detailed report prepared by Brett Lane & Associates that concluded that a 20 metre intensively managed buffer would ensure adequate protection.

The department notes that the conservation area has been reduced from 24.68 hectares (draft BCS) to 15.12 hectares (final BCS). The final BCS states that a variable buffer width of 50 – 200 metres will be applied during the precinct structure planning process. The buffer is required to allow for expansion of the cemetery operations and to ensure protection from adjoining uses. The department believes that the measures proposed allow sufficient flexibility, if required, for reasonable land use planning.

Conservation area 14 (GGF corridor)

Sweett and Verve wrote to the department on 7 June 2013 asking that the BCS be modified to reduce the Growling Grass Frog (GGF) corridor requirements in conservation area 14 for lots at 1170 and 1245 Sayers Road in Tarneit (Western growth corridor). Specifically, it was requested that the GGF Category 1 buffer along the Werribee River be reduced to better conform to topographic boundaries and that GGF Category 2 habitat be removed. This was based on surveys indicating that no potential habitat for the GGF was present (areas of Category 2 habitat had been cropped for many years) and that frogs were not likely to utilise the full extent of the buffer.

According to the BCS, conservation area 14 will protect important populations of the GGF and ensure connectivity between populations along the Werribee River and Lollypop Creek. The BCS provides for slight variations to the boundaries of conservation area 14 at the precinct structure planning stage to account for site specific issues, however, any variations must not reduce the overall extent of the GGF corridor in that precinct.

The department notes that the BCS has applied a 200 metre buffer (either side of the stream) where GGF meta-populations are known to occur, except in a few cases where key town centre planning is affected. There do not appear to be strong grounds for reduced buffers on planning grounds at this locality and the department believes that the BCS buffers for conservation area 14 should be maintained. The buffers include terrestrial foraging habitat for the frog and passive protection against nearby land uses for key populations.

The department notes that 'Category 2' habitat is based on hydrological 'wetness' modelling and does not relate to known use by the GGF or current land uses. These habitats could potentially be used by the GGF in a series of very wet years. 'Category 2' habitat also provides the basis for determining offsets necessary to deliver the GGF conservation outcomes specified in the BCS. Reductions in the amount of 'Category 2' habitat on one property may shift the cost burden to other developers.

Conservation area 22 (Bald Hills)

Mirvac and Boral Limited requested that the conservation status of this area be reviewed against ecological surveys commissioned by the company (Ecology & Heritage Partners). These surveys found that about 20 hectares of the conservation area had no biodiversity values. Mirvac requested that any approval of the BCS maintain flexibility to adjust the boundaries of the conservation area during the precinct structure planning process.

According to the BCS, the 207.18 hectare conservation area is required to protect Natural Temperate Grasslands and Grassy Eucalypt Woodland. The conservation area also buffers

GGF habitat. The majority of the conservation area has scattered trees. The department notes that the reserve boundaries have been identified to assist in reserve management as well as encompassing the variety of habitats contained in the area. Further fragmentation or reduction in the conservation area may impact on the ability to manage conservation values, including through rehabilitation of degraded areas and maintenance of adequate buffers. Further discussion is below under 'General comment on the BCS'.

Conservation area 28 (Summerhill Road East, Wollert)

A submission was received from Tract Consultants Pty Ltd, on behalf of Australian Land Holdings Co. Pty Ltd, requesting that the BCS be amended to reduce the size of this conservation area so that only MNES were protected. The submission was supported by an ecological assessment prepared by Ecology and Heritage Partners. The assessment concluded that the site had limited values for MNES and did not meet requirements for protection described in the endorsed Program or relevant MNES prescriptions.

According to the BCS, the 231.12 hectare conservation area is required to protect GEW as well as grasslands considered of state significance within a manageable reserve boundary. The department notes that the reserve boundaries have been identified to assist in reserve management as well as encompassing the diversity of habitats contained in the area. Further discussion is below under 'General comment on BCS'.

Conservation area 34 (GGF corridor)

The Dennis Family wrote to the Minister on 3 June 2013 concerning land at 875 Donnybrook Road (Northern growth corridor). The Dennis Family maintained there was no suitable habitat for GGF on the property and requested that development be allowed to proceed. The Dennis family argued that compensation should be payable for any land rendered undevelopable.

Ecology & Heritage Partners, on behalf of Insight Planning Consultants Pty Ltd, made representations in regard to the impact of GGF 'Category 1' habitat affecting the English Street Precinct Structure Plan. The submission noted provisions in the BCS for minor variations to the boundaries of conservation area provided there was no net loss in 'Category 1' habitat for the overall precinct. Ecology flagged that such variations would be necessary, but that it was likely there would be net loss. Ecology sought greater flexibility in the process for refining Category 1 habitat during the precinct planning process, particularly for smaller precincts where there was less scope to achieve no net loss.

The department has assessed impacts from implementation of the BCS on GGF populations and concluded that outcomes were acceptable. However, corridors for the GGF have been very significantly reduced from the draft BCS. The department believes that buffers in the final BCS are the very minimum required and must be maintained to ensure impacts are acceptable.

Burnside Activity Centre

The Dennis Family made a submission to the department on 31 May 2013 seeking amendment to the BCS to allow the above development, which is outside the Western growth corridor, to use the offset mechanism under the BCS. According to the submission, impacts on MNES were relatively modest (up to 6.5 hectares of Natural Temperate Grasslands), but the securing of suitable offsets was proving to be a significant regulatory burden.

The department notes that this issue is not directly relevant to the BCS and will provide a separate response. The department has issued a policy statement *Melbourne Urban Development – Policy Statement for EPBC Act referrals* (July 2012) that provides for offset

into the Western Grassland Reserves. However, this is based on offsets calculated under the former MNES prescription approach rather than the BCS.

Use of 'time stamping' datasets

Verve were concerned that the DEPI 'time stamping' datasets overestimated the extent of native vegetation on several specific lots based on surveys they had commissioned. Verve considered that offset requirements should be calculated on their own commissioned survey data rather than DEPI's data. Verve had made representations to DEPI, but had been advised that the 'time stamping' datasets would be used.

The Amex Corporation Pty Ltd wrote to the Minister on 14 June 2013 regarding property holdings at Tarneit, and argued that the 'time stamping' datasets were flawed. Amex recommended a cost allocation method be used that more fairly spread the compensation costs for the loss of secondary grasslands across all landholders. Amex stated that surveys by Biosis Research indicated the 'time stamping' data for the property was incorrect and should be reviewed. They believed that landholders had been given inadequate opportunities to respond to the initial mapping. Amex had made representations to DEPI, but has been advised that the 'time stamping' datasets would be used.

Amex also noted that the 'time stamping' data did not reflect vegetation removed as part of the Barwon Water Melbourne-Geelong Interconnection Pipeline Project and considered that it was not reasonable to expect Amex to also pay this offset. The department will bring this issue to the attention of DEPI for correction if necessary. This will be done post approval.

The department's assessment supports the use of the 'time stamping' datasets and flat fees for listed species as providing the most certainty in delivering the BCS outcomes for MNES over the 30 plus year timeframe of the Program. The approach also delivers certainty for the State Government in population, services and precinct planning, and for developers in calculating costs. Developers no longer need to undertake surveys, which provides a cost benefit, and disputes about the quality of vegetation now (based on the 'time stamping' datasets) and 10 years into the future when development actually occurs, are avoided.

The department notes that DEPI provided the 'time stamping' datasets to landholders for comment and undertook a review process in finalising the mapping. The datasets are integral to delivery of the BCS conservation outcomes and hence the endorsed Program.

The department notes that the flat fee approach, as required for the Golden Sun Moth, is fundamentally different to the Victorian *Native Vegetation Management Framework* in that an offset is payable whether or not MNES or other values are present. The principle is that the cost is shared equally amongst all developers or as many developers as reasonable. Arguably, this is to the overall benefit of development although some individual developers may be aggrieved. The department believes this is a suitable approach for a species such as the Golden Sun Moth which is cryptic, expensive to survey and may occur in a variety of habitat types. The approach to a flat offset rate was supported by the Australian Property Council (see below).

General comment on BCS

The Dennis Family wrote to the Minister on 3 June and 4 June 2013 requesting that he not approve the BCS. The submissions argued that the BCS was fundamentally flawed and should be re-exhibited and refined in consultation with stakeholders before being considered for approval.

The submissions noted that the final BCS was significantly different to the draft BCS and stated that affected stakeholders had been denied natural justice. It was considered that the BCS did not adequately address matters associated with land acquisition, land sterilisation

and compensation. The Dennis Family believed that some of the requirements of the BCS and associated Draft Habitat Compensation Document were unreasonable and went well beyond the legislative powers of the EPBC Act and reasonable administrative decision-making.

The Dennis Family were particularly concerned about the implications of the GGF corridor requirements and considered that implementation would unnecessarily sterilise land. The submissions argued:

Compensation should be provided to landowners who cannot develop their land in order that the Commonwealth achieves a broader public and environmental objective. The nature of the strategy is that, unlike Part 9 referrals that protects species from harm, it seeks to expand and connect habitat. Decisions are made to locate new habitat and dispersal corridors on otherwise developable lands. This means that certain landholders are impacted so that other landholders can develop their land. This seems fundamentally unjust and furthermore the absence of compensation runs counter to the 'just terms' provisions of the Constitution.

The EPBC Act does not require compensation for lands that are rendered undevelopable whether through project-by-project assessments or strategic assessments. While land uses may be affected by decisions under the EPBC Act, this is a consequence of the normal administration of the legislation and does not give rise to special requirements for acquisition or other compensation rights.

The department considers that the BCS has applied a suitable scientifically-based methodology to identify lands with likely values for MNES. These have been further refined, including through a public review process, to determine the final 36 conservation areas. The outcome is inevitably a balance between development and conservation. The department recognises that some landholders may be disadvantaged if properties are identified with likely MNES values, have corridor linkage values or have other biodiversity values. This is no different to a project-by-project assessment where assessment outcomes under the EPBC Act may ultimately limit development potential. A stated objective of the EPBC Act is to protect MNES and administrative processes under the legislation give effect to this outcome.

The strategic assessment identifies requirements for protection of MNES upfront and delivers certainty to the planning process. This certainty arguably provides a benefit to the majority of developers compared to a project-by-project approval. The Victorian Government states that the Program represents a significant cost savings to landholders, in the order of \$500 million over 30 years, compared to project by project approvals.

The department's assessment concludes that the approach and outcomes of the strategic assessment and BCS have adequately identified MNES and that the final reserve system will ensure adequate protection of MNES for the 30 plus year life of the Program. This long term period has necessitated that a precautionary approach be taken. The department believes that the BCS conservation outcomes are the minimum required for protection of MNES and the intended approval decision seeks to lock in these outcomes. There is a danger in deferring final decisions on conservation areas and boundaries to the precinct structure planning process because of the risk that the minimum conservation outcomes will be diminished over time. Such an approach also fails to deliver certainty.

The offset strategy under the BCS and Draft Habitat Compensation Document is based on a mixture of offset fees for native vegetation and flat fees per hectare for listed species. The conservation outcomes of the BCS have been costed at just under \$1 billion and the fees have been set to match this costing. While it is reasonable individual developers will seek to

minimise their costs, including offset costs, any significant deviation from the BCS will ultimately increase costs for other developers.

In the above circumstances, the department believes it highly desirable to 'lock in' the outcomes of the BCS and to avoid risks of major changes to the 36 designated conservation areas. The alternative approach, allowing decisions on the final size of the conservation areas to be deferred to the precinct planning stage, risks undermining the strategic assessment conservation outcomes. This could increase uncertainty to the extent that the strategic assessment outcomes are jeopardised. Collapse of the strategic assessment, and reversion back to project-by-project assessments, is likely to be disadvantageous for the majority of developers.

A submission from Peet Limited generally supported the BCS, but sought further information on aspects of implementation.

Australian Property Council Victoria)

The Australian Property Council (Victoria) supported the BCS in a media release dated 13 May 2013. According to the Council's web site, key reforms under the new system will include:

- \$500 million saving to the development industry as a result of Property Council advocacy efforts.
- Long standing advocacy by the Property Council has seen the offset fee for Golden Sun Moth reduced from approximately \$40,000 per net developable hectare to a flat fee of \$7,914 per hectare developed.
- Removal of 'habitat hectare' measurement and move to simple calculation of hectares removed by development rather than cost of offsets to be purchased.
- Flat offset rates to be charged per hectare with costs made clear in advance of development.
- All multipliers have been removed and all previous conditions have been removed.
- Clear transparency as to where the Government will direct offsets collected.
- Offset liabilities not attached to title.
- Development of a Habitat Compensation Statement online system is underway which will be available to all landowners and outline liabilities and credits in a similar form to a bank statement.

The Council subsequently write to the Victorian Government on 12 and 17 June 2013 qualifying their support for the BCS. A copy of the submission was provided to the department by the Council. The submission stated that the BCS did not give adequate weighting to economic and social considerations and required further review. The submission argued that offsets should generally be sourced from *outside* the growth corridors.

The Council argued that it was not fair or reasonable to expect developers to exclusively pay the calculated \$1 billion offset which would provide a public good outcome. The submission argued that there should be full review of the BCS, including public exhibition. All conservation areas should be included in a Public Acquisition Overlay to allow affected landholders access to normal acquisition safeguards. Compensation was sought for lands rendered unsuitable for development as a consequence of the BCS.

The Australian Property Council also stated that the 'unapproved' status of the BCS was holding back development works undermining investment and job creation. The Council asked that interim measures be introduced to ensure land ready for development was not delayed.

The department notes the views of the Australian Property Council. There is an inherent contradiction in seeking further review of the BCS and delivering certainty for development. The department believes that the BCS provides acceptable outcomes for MNES and that approval of the BCS will deliver the certainty sought.

Wurundjeri Tribe

The department met with a representative of the Wurundjeri Land & Compensation Cultural Heritage Council on 13 June 2013 and was given a submission at the same time. The Wurundjeri are one of three Traditional Owner Groups potentially affected by clearing associated with the Program. The submission noted the importance of protecting native blackfish populations found in the Werribee River (a traditional fishing resource) and in protecting cultural aspects of the volcanic landscape in the Sunbury area.

The Wurundjeri also noted cultural associations with Merri Creek, particularly in the Kalkallo area, and recommended that GGF buffers be reinstated to 200 metres either side of the creek.

The department notes the issues raised by the Wurundjeri. While Indigenous cultural issues are not a relevant MNES for this assessment, the department assumes specific places will be addressed by the Victorian Government during the precinct planning process.

Request for review of interim prescriptions – Truganina South Precinct

Stockland wrote to the department seeking review of the outcomes of the Truganina South precinct structure planning process. This planning approach used the Golden Sun Moth prescription to determine reserve requirements for the species. A large *in situ* reserve was subsequently required. Stockland engaged Ecology & Heritage Partners to review the outcomes of the prescription approach against the BCS approach.

According to the submission, overall offset costs under the prescription approach for the precinct were \$4,799,678.13 compared to \$5,160,657.12 under the BCS approach (a difference of \$360,979). The submission was particularly concerned that the prescription approach unnecessarily protected lands of limited value for the GSM and that would otherwise be developable under the BCS approach. Stockland argued that the requirements for the GSM reserve should be revisited using the BCS standards.

The department notes that the approach expressed by Stocklands may have some merit even though the outcomes are fully consistent with the approach at the time. The department will raise this issue further with DEPI in the event the BCS is approved.

Table 1: DEPI response to key issues raised by the department

Issue	DEPI response
<p>CEGs suggested additional reserve for Striped Legless Lizard (discussed at page 16 and shown at Appendix 1 of the CEGs submission).</p>	<ul style="list-style-type: none"> • The prescription for SLL specifies that for the area between the 2010 UGB and 2005 UGB (ie. the growth corridors), impacts on native grasslands and SLL habitat have been avoided and minimised and further areas will only be retained for conservation of SLL if required to meet another relevant prescription (eg. prescriptions for SRF, MFL and GSM). • This approach reflects the Strategic Impact Assessment Report (pp 155-160), which identifies the Western Grassland Reserve as the primary strategy to mitigate impacts on SLL. • The site proposed by the environment groups mostly contains moderate to high quality native grassland (see Figures 11 and 15 of the BCS). Most of the proposed site has been surveyed, so the habitat scores shown in Figure 11 have been confirmed. • The highest quality part of the proposed site (the block shown in green in Figure 11 of the BCS) was identified as a Potential Conservation Area (PCA 'N') in the draft BCS and was investigated by DEPI as part of finalising the BCS. • The draft BCS specified that in deciding whether PCA 'N' requires protection, DEPI will take into account a range of factors, but particularly the presence of Spiny Rice-flower and Matted Flax-lily (p. 75). This approach is consistent with the prescription for SLL (ie. further areas will only be retained for conservation of SLL if required to meet another relevant prescription eg. prescriptions for SRF, MFL and GSM). • PCA 'N' was surveyed by Biosis in late 2011/early 2012 for SRF, MFL and other MNES flora, as well as GSM. Surveys were conducted in accordance with DEPI standards. None of these target MNES were recorded. The Biosis report is available on DEPI's website (see http://www.dse.vic.gov.au/land-management/land/native-vegetation-home/melbourne-strategic-assessment/msa-suporting-documents), titled 'Targeted species survey of 868 Boundary Road, Truganina; Biosis 2012'. • As a result, DEPI did not require PCA 'N' to be protected for conservation within a conservation area.
<p>CEGs suggested additional reserves for Grassy Eucalypt Woodland to help meet the 80% target in the endorsed Program.</p>	<ul style="list-style-type: none"> • DEPI analysed the environment groups suggestions (listed on pages 21-22 of their submission, with additional sites shown in Appendix 3), and the response for each is as follows. The individual maps of conservation areas in the BCS show this visually in many cases, and the overall map of GEW (Figures 19 and 20) are a useful reference. The notes below use these sources supplemented by site observations and published reports where available. • <u>CA 17</u>: DEPI considers that additions would contribute little to the conservation of GEW. DEPI investigated a significant proportion of this area as part of finalising the BCS. The DEPI report is available on DEPI's website (see http://www.dse.vic.gov.au/land-management/land/native-vegetation-home/melbourne-strategic-assessment/msa-suporting-documents), titled 'Investigation of Grassy Eucalypt Woodland at Clarke Court, Sunbury'. • The investigation informed the final boundary shown in the BCS based on a new understanding of the extent of GEW in the area. The final boundary excludes the two house blocks. Most of the native vegetation in the areas of land to the west of the final boundary were cropped in 2012, and these areas were excluded from the final CA. In relation to the area of land to the north-east of the final boundary adjoining Emu Creek – no or very little GEW occurs outside the final boundary in this area. • <u>CA 19</u>: The addition would only pick up a very small amount of derived grassland of only moderate quality.

Issue	DEPI response
	<ul style="list-style-type: none"> • <u>CA 25</u>: The final conservation area boundary captures the core area of GEW in this area. DEPI considers that the CEGs suggestion would only pick up small amounts of mainly derived grassland. The shape of this area of derived grassland is narrow and would cause problems for long-term management. • <u>CA 26</u>: This addition would result in only marginal improvements in GEW conservation if the CA is extended close to its margins and questionable or no improvement if the large area proposed as part of the western extension is added. The proposed additions on the northern margins add some scattered trees, but almost certainly very little GEW. The proposed additions in the far west add a large area of treeless paddock which is unlikely to have been GEW. • <u>CA 29</u>: This addition would add several very small area of GEW, not necessarily contiguous with the main reserve. DEPI observations from nearby roadsides suggest it would be of moderate to poor quality. CA29 protects the vast majority of the GEW in that location. • <u>CA 31</u>: According to DEPI, there is very little GEW between CA 31 and CA 32. There are no trees and the small amounts of native vegetation that exist are of low quality and are not GEW. This addition would contribute little to GEW conservation. • <u>'Summerhill Rd.'</u> (proposed new CA in the northern growth corridor, south of Summerhill Rd, between existing CA28 and CA30): This addition adds very little or no treed GEW. It would protect a large expanse of native grassland and stony knolls of moderate quality, but this has not been determined by DEPI to be derived grassland due to a lack of evidence of trees. Historical accounts suggest this was only ever marginal GEW country. • <u>'Sunbury'</u>: (proposed new CA in the north-western growth corridor, between Melbourne Lancefield Rd and Jacksons Creek): This suggested site has not been surveyed and DEPI is relying on modelled information, however, the site is almost certainly low quality native vegetation and does not include any trees. Historical records, as well as the railside adjacent to the area (railsides are rarely cleared, and this one is virtually treeless) suggest that the area was not previously GEW. • <u>Additional Note</u>: The City of Whittlesea is currently preparing the Wollert PSP. Consistent with the BCS, which allows voluntary protection of GEW over and above the BCS requirements, the current draft of the plan indicates additional protection of approximately 20 Ha of GEW within the precinct (approximately 50% of the GEW that would otherwise be cleared within this precinct). Conservation Area 31 in this precinct already protects approximately 5 ha of GEW. The Wollert PSP is draft and it is not yet known what the final outcome will be, however, it is likely that additional GEW will be protected within the precinct. Any protection of GEW will need to meet similar standards as for areas protected under the BCS.
<p>Report of 3-5 small golden moth orchids having been located in a small patch of high quality Natural Temperate Grasslands near a rail reserve in the Toolern Precinct, Sunbury.</p>	<p>DEPI have investigated this report and can confirm as follows:</p> <ul style="list-style-type: none"> • After the finalisation of the Toolern PSP (approved by the Minister for Planning in October 2010) the Shire of Melton commissioned detailed flora inspection of a council owned grassland reserve due to suspicion that the reserve may contain Small Golden Moths orchid (<i>Diuris basaltica</i>). After several surveys two orchids were found (October 2012) by consultant botanists and confirmed by National Herbarium taxonomists to be (most likely) this species. • The site is a small fenced reserve managed by council and within land owned by council. It is 0.75 ha in size and supports native grassland. It adjoins a railway line. It is designated in the Toolern PSP as part of a major activity centre.

Issue	DEPI response
	<ul style="list-style-type: none"> Due to its location (contiguous with the railway reserve) and tenure (Council owned land), Melton Council intend to retain and manage the site. However this has not been formalised and further investigation will be required within Council to determine an ongoing security arrangement. DEPI will assist Council in this process if requested.
<p>Calculation of high persistence habitat for GSM, SRR and MFF in the growth corridors</p>	<ul style="list-style-type: none"> The background documents released with the BCS describe the methodology for calculating this habitat. The emphasis is on <i>confirmed (or "occupied")</i> high persistence habitat. The method to calculate occupied habitat for GSM differed from that of SRF and MFL, the latter two species being based on an estimate due to a lack of systematic data. The amount of confirmed high persistence habitat within the growth corridors that is not within a conservation area is as follows (rounded to nearest ha): <ul style="list-style-type: none"> MFL = 13 ha SRF = 49 ha GSM = 317 ha <p><u>MFL</u></p> <ul style="list-style-type: none"> The 13 ha are actually all on one parcel where the majority of the parcel is within a CA. We have accurate site data for this parcel and all the actual MFL plants are within the CA, but some habitat is outside the CA. <p><u>SRF</u></p> <ul style="list-style-type: none"> The 49 ha consists of areas adjacent to, but outside CA 2 and CA 4. The majority is adjacent to CA 4. The area adjacent to CA 2 was excluded for manageability and planning reasons. The reserve CA 2 contains the "best" habitat and probably all the SRF plants. The area adjacent to CA 4 (North and north-west side) was likewise excluded as part of the preferred reserve design, with the best habitat and SRF population within the reserve. The area adjacent on the east side of CA4 is already partially protected as part of a planning decision that requires permanent protection and management of the "best" area of habitat that supports virtually the whole SRF population. <p><u>GSM</u></p> <ul style="list-style-type: none"> The 317 ha occurs in four main areas, 2 in the north and 2 in the west. In the north, 100 ha (approx.) occurs at Mickleham (now Craigieburn) Employment Area Sth PSP. This habitat was removed, some of it illegally, and was the subject of enforcement proceedings including under the EPBC Act. The habitat will not be generally be reinstated as part of the legal decision and most will be allowed to be developed. Also in the north, smaller areas occur adjacent to CA 29 and some others, and were excluded for manageability and reserve design considerations. In the west the largest area (100 ha approx.) is the network of habitat between CA 13 and the Werribee River to the north-east. It is scattered and difficult to design a reserve around, given the intersecting Ballan Rd (which forms the boundary of CA13) which will be upgraded and the generally scattered nature of the habitat patches. This area will also be close to the new

Issue	DEPI response
	<p>Regional Rail Link and therefore important for urban development given social and economic considerations.</p> <ul style="list-style-type: none"> In the west also, approx. 100ha is associated with area "H" in the draft BCS which, although designated as RCZ in VC68 and indicated in the Program report, was confirmed following field inspection by DEPI to be degraded and very difficult to manage given weed issues. It was also surveyed and very few GSM were found. It was therefore removed as a CA in the final BCS, as recommended in the draft BCS.
Treatment of BCS Conservation Area boundary changes.	<ul style="list-style-type: none"> The BCS provides for adjustment to some conservation area boundaries at the PSP stage. This includes the GGF corridors and six other sites (generally those larger sites in the north with scattered values). Most Conservation Areas have firm boundaries that cannot change. The BCS also contains some decision guidelines for how these changes (where permitted) would be handled. In all cases the changes must be to DEPI satisfaction. In the case of the GGF corridors (and most others) there must be no net change in area of the CA across the precinct area. DEPI have almost finished a draft of guidelines for how CA boundary changes will be considered. DEPI is aware that in some cases there will be some unavoidable impacts within conservation areas as a result of linear infrastructure - roads, bridges across GGF corridors, shared trails, pipelines, etc. DEPI have written into the BCS that any such impacts will only occur with the "approval" of DEPI. DEPI is developing a process for managing these. Primarily this will be resolved at the PSP stage where DEPI will be preparing a "concept plan" for the conservation areas showing where agreed infrastructure or passive open space (eg picnic area) etc can be located. This recognises the fact that - where this does not undermine the values significantly - bridges, walking paths and areas for public use, as well as stormwater infrastructure etc are going to be necessary features of GGF corridors. This point has been repeatedly made in the GGF SRSS (draft and final). This also recognises the fact that the Growth Corridor Plans identified the strategic transport network and locations for arterial roads etc. several of these will cross GGF corridors and this was acknowledged at the time.