

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 S.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.

- 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 |

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MINISTER
/ /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> |



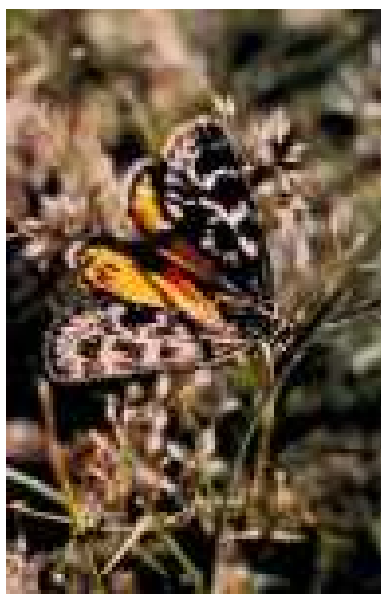
Australian Government

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).

EXECUTIVE SUMMARY	2
RECOMMENDATION.....	6
1 STRATEGIC ASSESSMENT OVERVIEW	9
2 ENDORSEMENT OVERVIEW	9
2.1 ENDORSEMENT CONSIDERATIONS	10
2.1.1 <i>The impact assessment report adequately addresses impacts</i>	10
2.1.2 <i>Recommended modifications have been made.....</i>	10
2.1.3 <i>Endorsement criteria considered.....</i>	10
2.1.4 <i>Terms of reference addressed.....</i>	11
2.1.5 <i>Public consultation on impact assessment report.....</i>	12
3 DESCRIPTION OF THE PROGRAM.....	13
3.1 CONTENT OF THE PROGRAM DOCUMENT	13
3.1.1 <i>Where the program will be implemented.....</i>	14
3.1.2 <i>Program implementation phases: program approval, planning, construction and operation.....</i>	14
3.1.3 <i>Conservation outcomes and activities</i>	15
3.1.4 <i>Role of the Victorian and Commonwealth Governments.....</i>	15
3.1.5 <i>Program evaluation.....</i>	16
3.2 NOTIONAL ACTIVITIES UNDER THE PROGRAM	16
3.3 HOW THE PROGRAM WORKS	16
3.3.1 <i>Legislation and policy informs process and guides decision making</i>	16
3.3.2 <i>Program planning framework</i>	17
3.3.3 <i>Prescriptions.....</i>	18
3.3.4 <i>Implementing urban development.....</i>	19
3.3.5 <i>Implementing transport</i>	21
3.3.7 <i>Planning for reserves.....</i>	23
3.3.8 <i>Offsets.....</i>	24
3.3.9 <i>Commonwealth Government involvement</i>	25
3.3.10 <i>Monitoring, reporting, compliance and adaptive management.....</i>	26
4 ANTICIPATED IMPACTS FROM PROGRAM IMPLEMENTATION	28
4.1 GENERAL DESCRIPTION OF THE ENVIRONMENT	28
4.2 LIKELY IMPACTS ON MNES	28
4.3 MINIMISING IMPACTS	30
4.3.1 <i>Avoid.....</i>	31
4.3.2 <i>Mitigate.....</i>	31
4.3.3 <i>Offset.....</i>	32
4.4 ANTICIPATED PROGRAM OUTCOMES.....	33
4.5 SPECIFIC MNES IMPACTS AND MITIGATION MEASURES	34
4.6 CLIMATE CHANGE IMPACTS.....	71
4.7 CONCLUSION ON IMPACTS FROM PROGRAM.....	72
5 RISKS AND COMPLIANCE	73
5.1 PROCESS RISKS	73
5.2 OUTCOME RISKS	74
5.3 SCIENCE RISKS	75
5.4 CONCLUSION	75
6 PRINCIPLES OF ECOLOGICALLY SUSTAINABLE DEVELOPMENT	77
7 RECOMMENDED MODIFICATIONS	83
7.1 FIRST RECOMMENDED MODIFICATIONS	83
7.2 SECOND RECOMMENDED MODIFICATIONS	85
7.3 CONCLUSION ON RECOMMENDED MODIFICATIONS	88
8 PUBLIC CONSULTATION	89

9	OVERALL CONCLUSIONS.....	91
10	REFERENCES.....	100
	SCHEDULE 1: MNES THAT COULD BE IMPACTED BY THE PROGRAM.....	92
	SCHEDULE 2: COMMONWEALTH GOVERNMENT INVOLVEMENT IN THE PROGRAM TO REVISE THE MELBOURNE URBAN GROWTH BOUNDARY	94

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

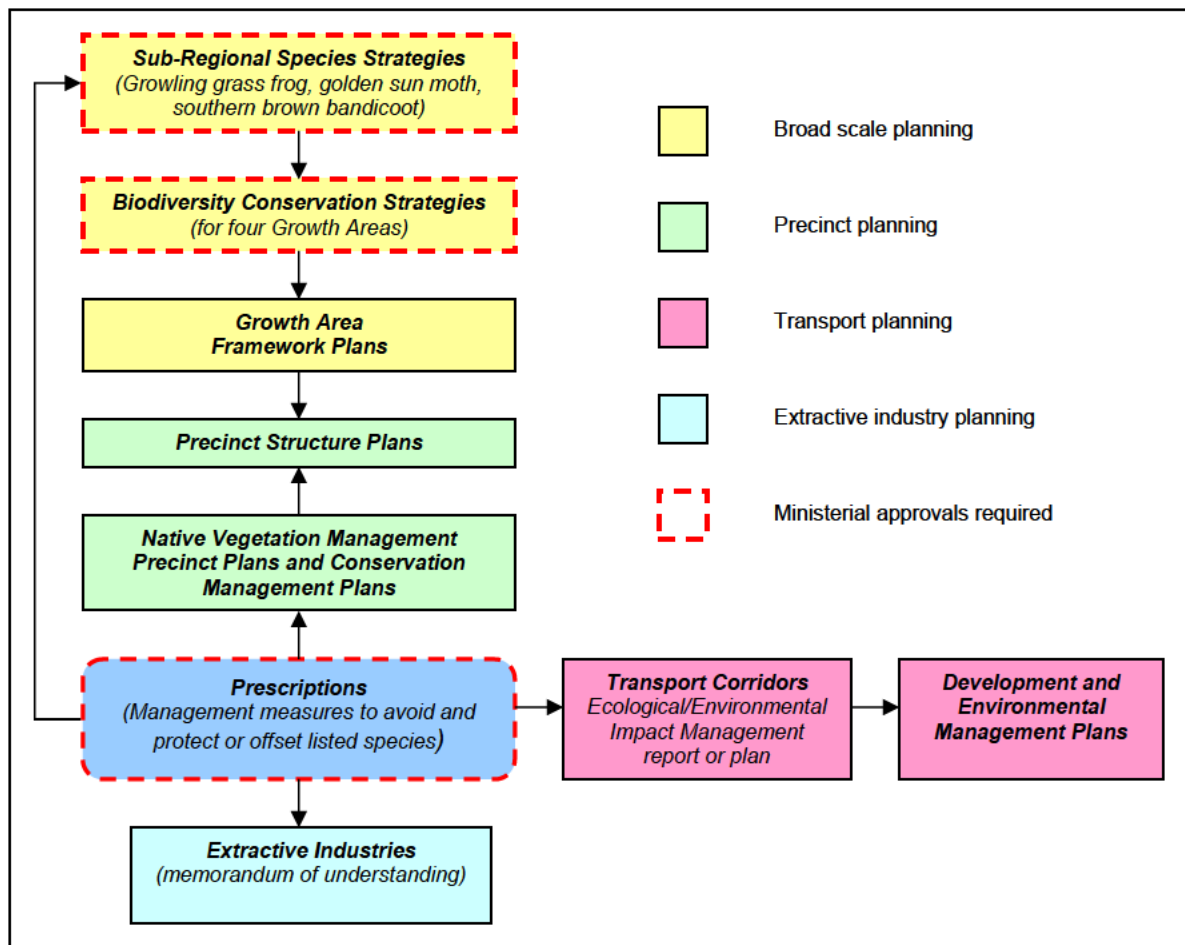
79. A key feature of the program is the linkages between Victorian legislation, policy and planning frameworks that will guide decision making and implementation of the program.
80. The planning framework in the program utilises existing Victorian Government legislation, such as the *Planning and Environment 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 80 per 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

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

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

10 References

- Baker-Gabb, D. J. 2002. Recovery Plan for the Plains-wanderer *Pedionomus torquatus* 2002-2006: *Conservation of lowland native grassland dependent fauna*. DEWHA, Canberra.
- Briggs, J.D., V.T. Corrigan & W.J.S. Smith 1998. *Rutidosia leptorrhynchoidea* (Button Wrinklewort) revised national recovery plan, 3rd ed. NSW National Parks & Wildlife Service.
- Commonwealth Government 2009a. Letters to Victorian Ministers for Planning and Environment and Climate Change recommending modifications. 2 October 2009
- Commonwealth Government 2009b. Letters to Victorian Ministers for Planning and Environment and Climate Change recommending modifications. 18 December 2009
- Department of Infrastructure 2002. *Melbourne 2030*.
- Department of Planning and Community Development, 2008. *Melbourne @ 5 Million*.
- Department of Transport 2008. *Victorian Transport Plan*
- Growth Areas Authority 2009. *Precinct Structure Planning Guidelines*
- Hills, A. & R. Boekel 2003. *Flora & Fauna Guarantee Action statement - Large-fruit Groundsel Senecio macrocarpus*. [Online]. Melbourne Victoria: Department of Sustainability and Environment
- Strategic assessment agreement under Section 146 (1) of the *Environment Protection and Biodiversity Conservation Act 1999* 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, 4 March 2009 (amended 16 June 2009).
- Victorian Department of Sustainability and Environment (Vic. DSE) 2003) *Flora & Fauna Action Statement #28 - Button Wrinklewort - Rutidosia leptorrhynchoidea*.
- Victorian Department of Sustainability and Environment 2009. *Biodiversity Precinct Planning Kit*
- Victorian Government 2009a. *Delivering Melbourne's Newest Sustainable Communities Strategic Impact Assessment Report. October 2009*.
- Victorian Government 2009b. *Delivering Melbourne's Newest Sustainable Communities Program Report December 2009*.
- 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*.

DELIVERING MELBOURNE'S NEWEST SUSTAINABLE COMMUNITIES



PROGRAM REPORT

DECEMBER 2009



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CONTENTS

PART 1: PROGRAM OVERVIEW

1.	Introduction	4
1.1	Purpose of this Document	4
1.2	Definition of the Program	5
1.3	Planning Context	7
1.4	Structure of this Report	8
2.	Program Description	9
2.1	Designation of areas for future urban development within an expanded Urban Growth Boundary	9
2.2	Outer Metropolitan Ring / E6 Transport Corridor	10
2.3	Regional Rail Link Corridor (west of Werribee to Deer Park)	10
2.4	Grassland Reserves	16
2.5	Precincts within the Existing Urban Growth Boundary	16
2.6	Summary of activities under the Program	18

PART 2: PROGRAM IMPLEMENTATION

3.	Program Stages	19
4.	Legislation and Policy	20
5.	Implementation Framework	23
5.1	Stage 1: Program Approval	23
5.2	Stage 2: Process Implementation	26
5.3	Stage 3: Construction and Works	38
5.4	Stage 4: Operational	41
6.	Role of the Victorian Government	43
7.	Role of the Commonwealth Government	44
8.	Reasonable Assurance	45

PART 3: CONSERVATION ACTIVITIES

9.	Greater Melbourne Region	46
10.	Matters of National Environmental Significance	47
10.1	Natural Temperate Grasslands	47
10.2	Grassy Eucalypt Woodlands	51
10.3	Golden Sun Moth, Spiny Rice-Flower and Matted Flax-Lily	53
10.4	Small Golden-Moths Orchid	56
10.5	Southern Brown Bandicoot and Growling Grass Frog	58
10.6	Striped Legless Lizard	60
10.7	Australian Grayling	62
10.8	Button Wrinklewort, Large-Fruit Groundsel	64
10.9	Maroon Leek-Orchid, Swamp Everlasting	66
10.10	Listed species without current prescriptions and species & communities that may be listed in the future	67
10.11	Migratory Species, Waterways, Wetlands and Ramsar Sites	68
10.12	Heritage	71

PART 4: PROGRAM EVALUATION

11.	Monitoring and Reporting	72
11.1	Victorian Government and Independent Monitoring and Reporting Processes	72
11.2	Adaptive Management	82
11.3	Compliance and Enforcement	85
12.	References	87

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:

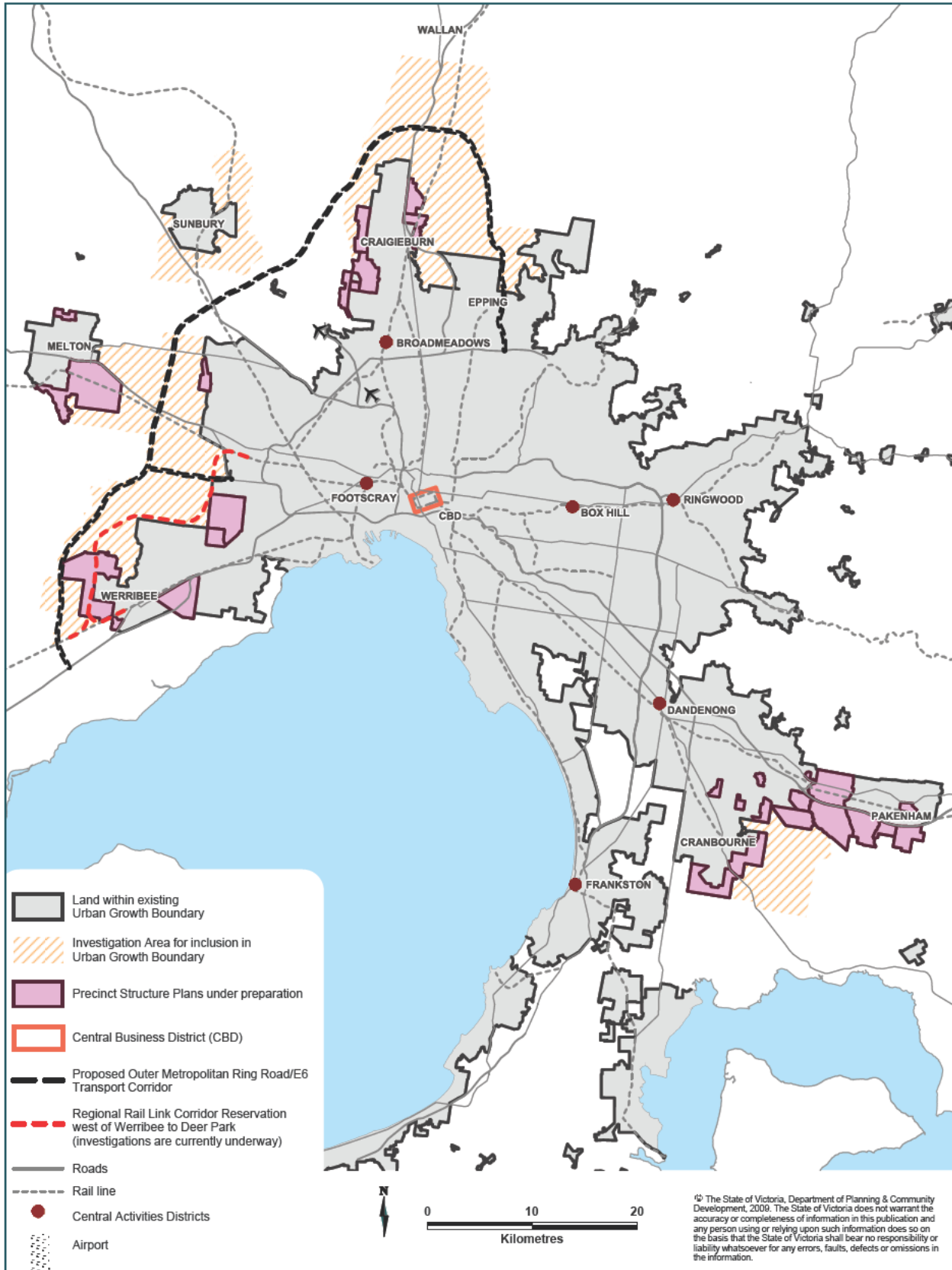
- i. the investigation areas shown in the *Melbourne 2030: a planning update, Melbourne @ 5 million Report* (published by the State of Victoria in December 2008) including the subsequent extension to these areas as shown on Map 1;
- ii. areas inside the existing Urban Growth Boundary for which a planning 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)*.

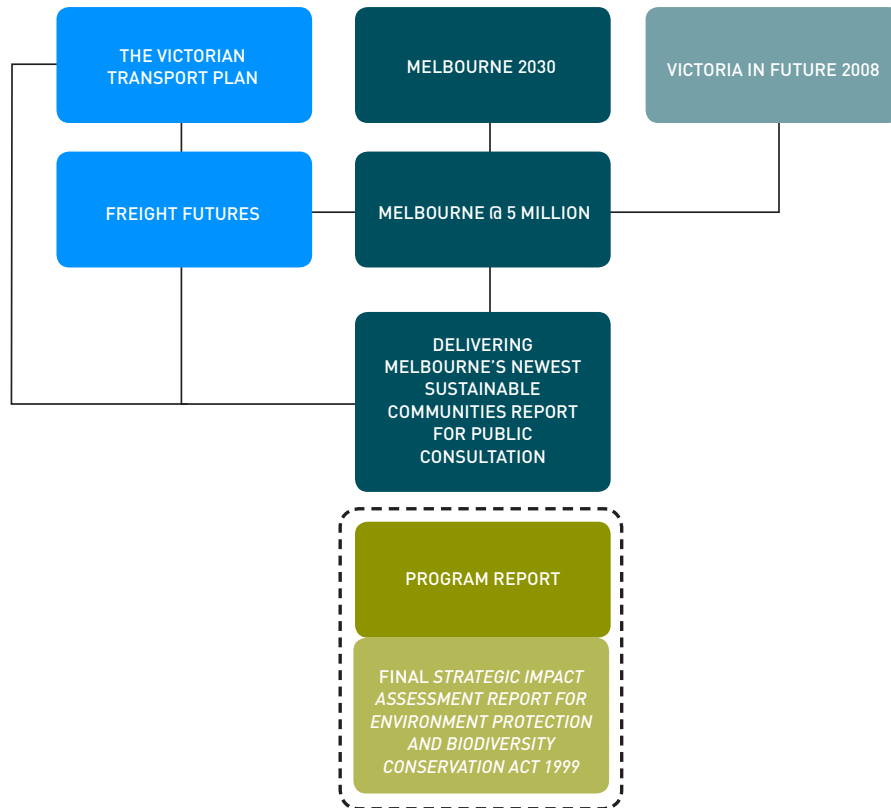
Delivering Melbourne's Newest Sustainable Communities Report for Public Consultation was provided for public comment in June 2009. Information was provided about the Program including the rationale and proposed location of:

- > 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.

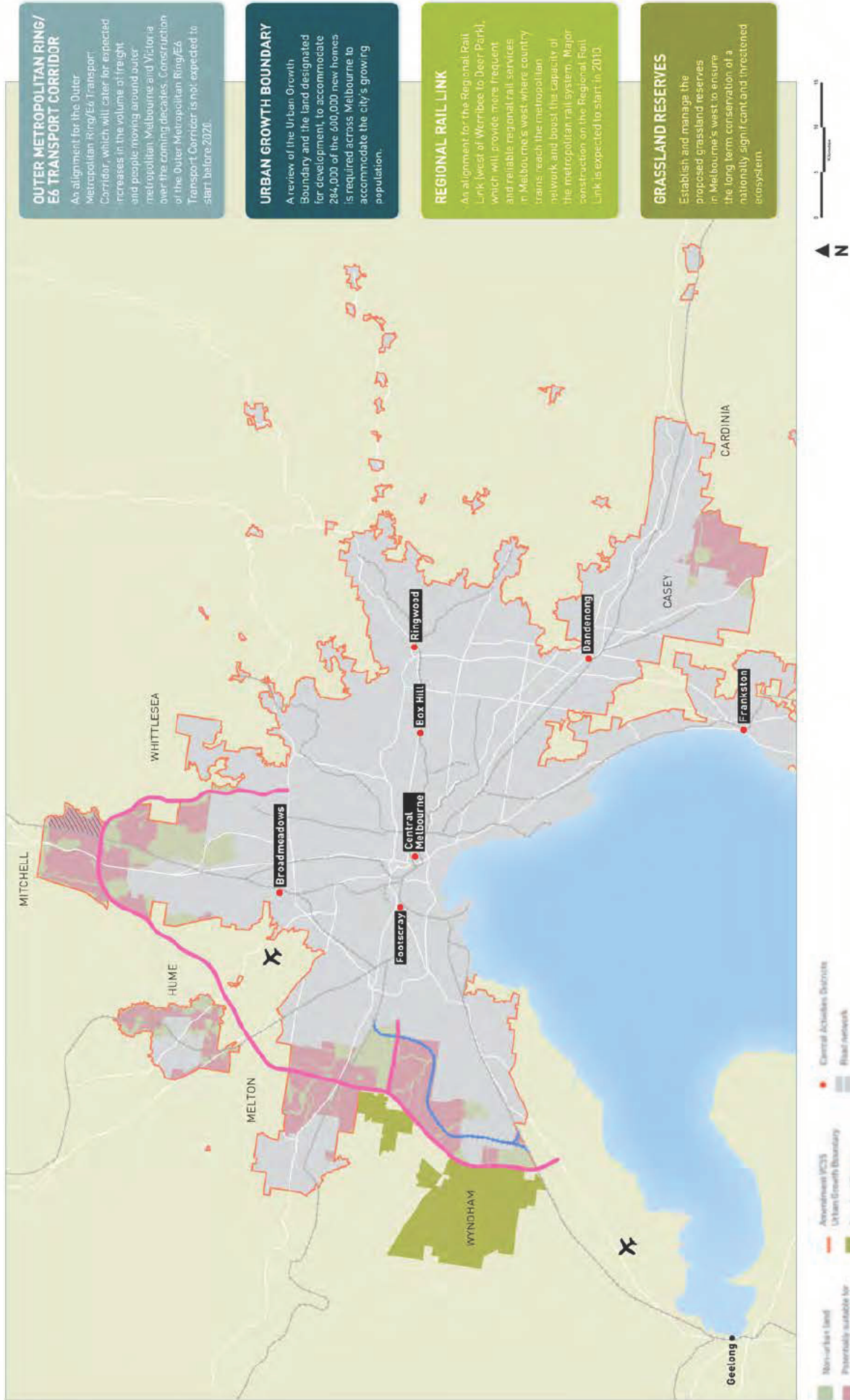
The final *Strategic Impact Assessment Report for Environment Protection and Biodiversity Conservation Act 1999* assesses the potential impacts of this final corridor on matters of national environmental significance.

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.

MAP 2: DELIVERING MELBOURNE'S NEWEST SUSTAINABLE COMMUNITIES - PRINCIPAL INITIATIVES



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 600,000 new homes is required across Melbourne to accommodate the city's growing population.

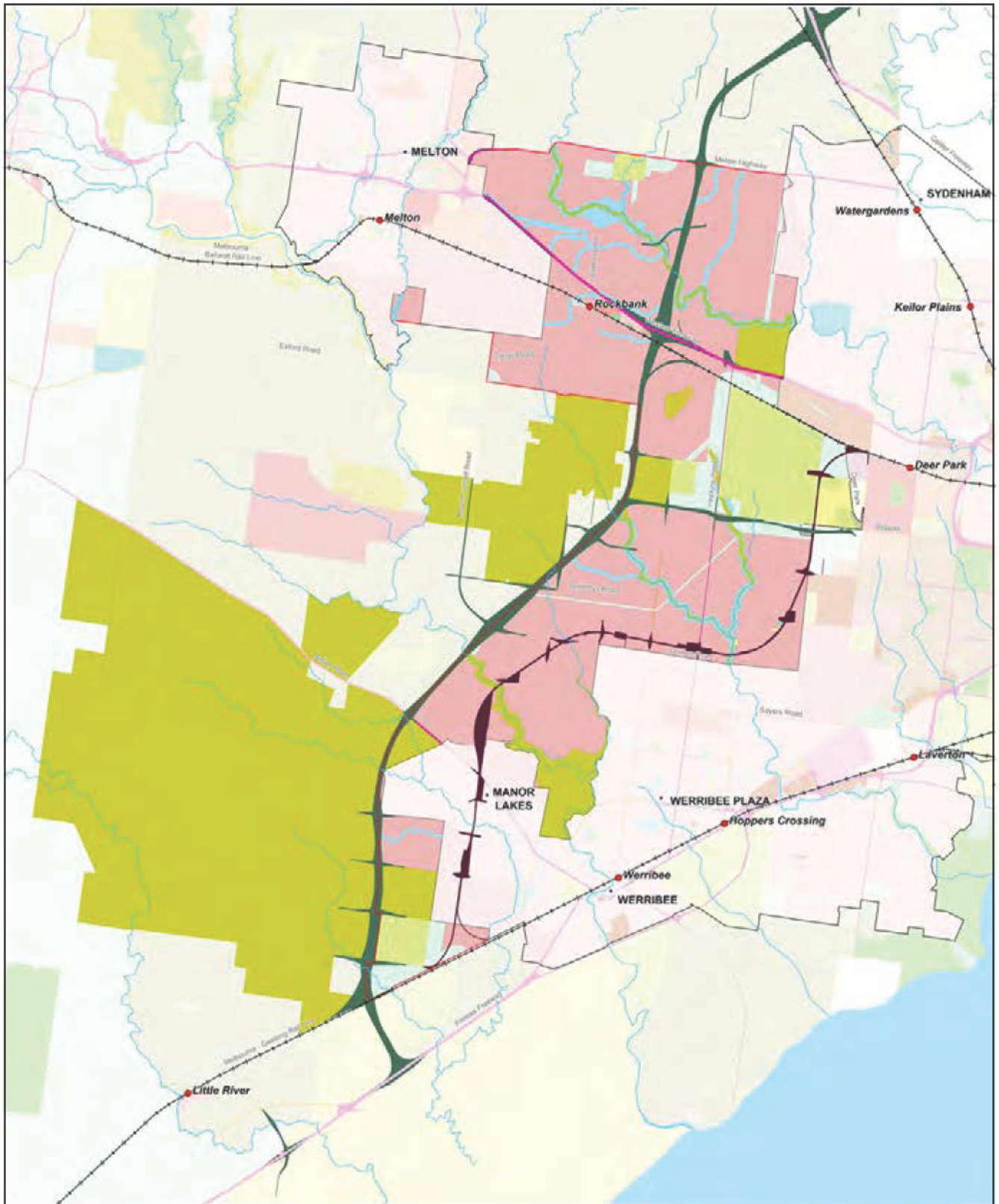
REGIONAL RAIL LINK
An alignment for the Regional Rail Link (west of Werribee to Deer Park), which will provide more frequent and reliable regional rail services in Melbourne's west where country trains reach the metropolitan network and boost the capacity of the metropolitan rail system. Major construction 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.

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MAP 3: MELBOURNE'S WEST – ZONING MAP

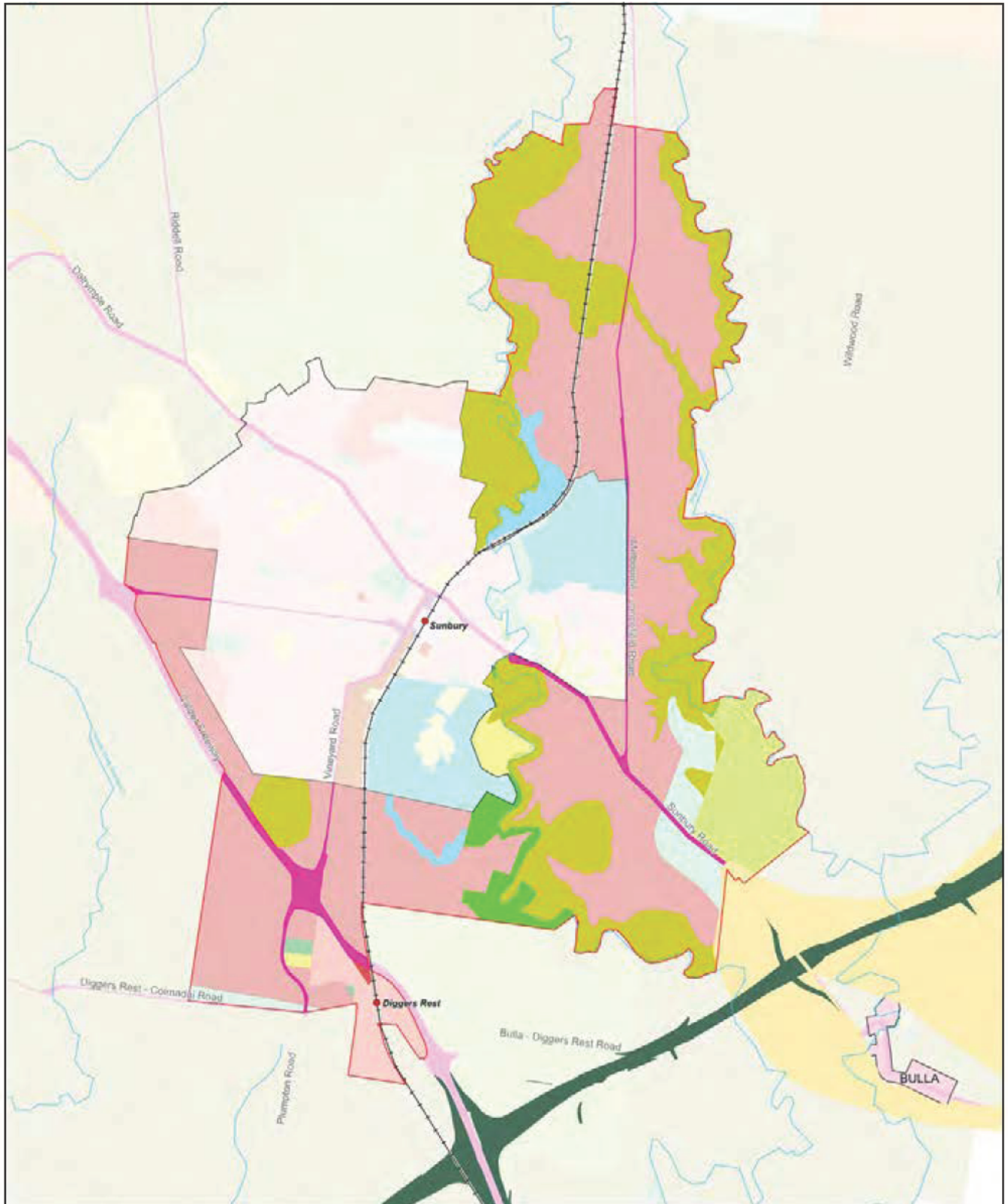


<ul style="list-style-type: none"> Land within existing Urban Growth Boundary Amendment VC55 Urban Growth Boundary Regional Rail Link Outer Metropolitan Ring/BS Transport Corridor <small>(For contextual purposes the DARTS Transport Corridor and the RRL have been highlighted; the map does not show the 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"> Essential 1 Zone Essential 2 Zone Residential 1 Zone Low Density Residential Zone Mixed Use Zone Neighbourhood Zone Industrial 1 Zone Industrial 2 Zone Business 1 Zone Business 2 Zone Business 3 Zone Business 4 Zone Business 5 Zone Rural Living Zone Green Wedge Zone Green Wedge 4 Zone Rural Conservation Zone Farming Zone Local 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 Freeway 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 be shown)
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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 cartographic purposes, the OMR has been highlighted, the map does not show the zones underneath
- Rail Line and Stations
- Roads
- Rivers / Creeks
- Locality

Planning Zones

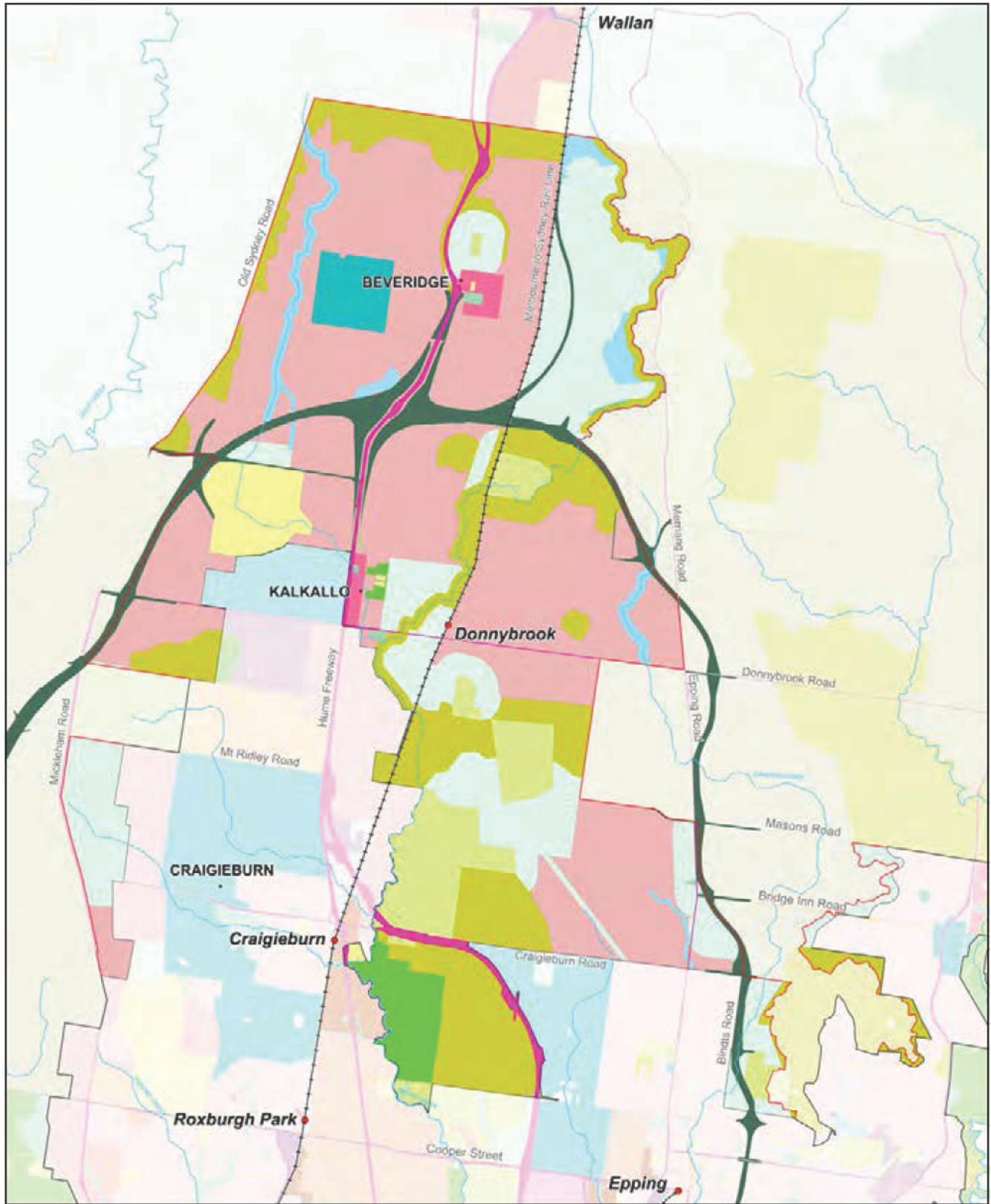
Residential 1 Zone	Industrial 1 Zone	Rural Living Zone	Public Use Zone other than transport	Special Use Zone
Residential 2 Zone	Industrial 2 Zone	Green Wedge A Zone	Public Use Zone (transport)	Comprehensive Development Zone
Residential 3 Zone	Industrial 3 Zone	Green Wedge B Zone	Public Park and Recreation Zone	Urban Foodshed 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

Contour/with Land (not to be used)



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MAP 5: MELBOURNE'S NORTH - ZONING MAP



Legend

- Land within existing Urban Growth Boundary
- Amendment VC55 Urban Growth Boundary
- Outer Metropolitan Ring Transport Corridor
- For informational purposes the DMIRS Transport Corridor has been highlighted. This map does not show the zones underneath.
- Rail Line and Stations
- Roads
- Rivers / Creeks
- Locality

Planning Zones

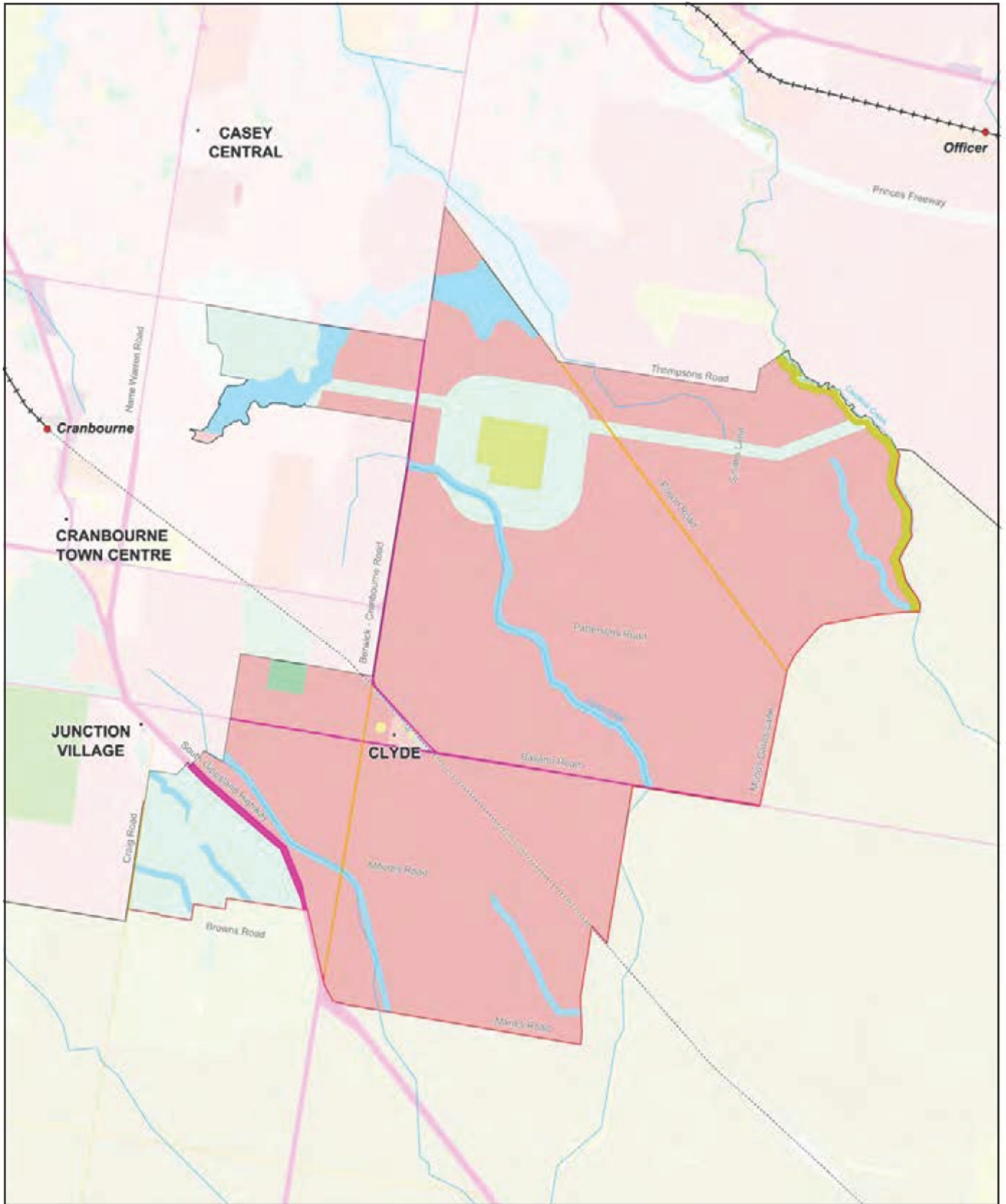
Residential 1 Zone	Industrial 1 Zone	Rural Living Zone	Public Use Zone (other than transport)	Special Use Zone
Residential 2 Zone	Industrial 2 Zone	Green Wedge Zone	Public Use Zone (transport)	Comprehensive Development Zone
Residential 3 Zone	Industrial 3 Zone	Green Wedge A Zone	Public Park and Recreation Zone	Urban Floodway Zone
Low Density Residential Zone	Local Conservation Zone	Flood Conservation Zone	Public Conservation & Resource Zone	Capital City Zone
Medium Density Residential Zone	Business 1 Zone	Farming Zone	Road Zone Category 1	Coastlands Zone
Township Zone	Business 2 Zone	Rural Activity Zone	Road Zone Category 2	Priority Development Zone
	Business 3 Zone			Urban Growth Zone
	Business 4 Zone			Activity Centre Zone
	Business 5 Zone			

Commonwealth Land (not in release)



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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"> — Rivers / Creeks • Locality 	<p>Planning Zones</p> <table border="0"> <tr> <td>Residential 1 Zone</td> <td>Industrial 1 Zone</td> <td>Rural Living Zone</td> <td>Public Use Zone (other than transport)</td> <td>Special use Zone</td> </tr> <tr> <td>Residential 2 Zone</td> <td>Industrial 2 Zone</td> <td>Green Wedge Zone</td> <td>Public Use Zone (transport)</td> <td>Comprehensive Development Zone</td> </tr> <tr> <td>Residential 3 Zone</td> <td>Industrial 3 Zone</td> <td>Green Wedge A Zone</td> <td>Public Park and Recreation Zone</td> <td>Urban Fringe Zone</td> </tr> <tr> <td>Low Density Residential Zone</td> <td></td> <td>Rural Conservation Zone</td> <td>Public Conservation & Resource Zone</td> <td>Capital City Zone</td> </tr> <tr> <td>Mixed Use Zone</td> <td>Business 1 Zone</td> <td>Farming Zone</td> <td>Road Zone: Category 1</td> <td>Doonlands Zone</td> </tr> <tr> <td>Transition Zone</td> <td>Business 2 Zone</td> <td>Rural Activity Zone</td> <td>Road Zone: Category 2</td> <td>Priority Development Zone</td> </tr> <tr> <td></td> <td>Business 3 Zone</td> <td></td> <td></td> <td>Urban Growth Zone</td> </tr> <tr> <td></td> <td>Business 4 Zone</td> <td></td> <td></td> <td>Activity Centre Zone</td> </tr> <tr> <td></td> <td>Business 5 Zone</td> <td></td> <td></td> <td></td> </tr> </table>	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)	Comprehensive Development Zone	Residential 3 Zone	Industrial 3 Zone	Green Wedge A Zone	Public Park and Recreation Zone	Urban Fringe Zone	Low Density Residential Zone		Rural Conservation Zone	Public Conservation & Resource Zone	Capital City Zone	Mixed Use Zone	Business 1 Zone	Farming Zone	Road Zone: Category 1	Doonlands Zone	Transition Zone	Business 2 Zone	Rural Activity Zone	Road Zone: Category 2	Priority Development Zone		Business 3 Zone			Urban Growth Zone		Business 4 Zone			Activity Centre Zone		Business 5 Zone				<ul style="list-style-type: none"> □ Commonwealth Land (not in shelter)
Residential 1 Zone	Industrial 1 Zone	Rural Living Zone	Public Use Zone (other than transport)	Special use Zone																																												
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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.

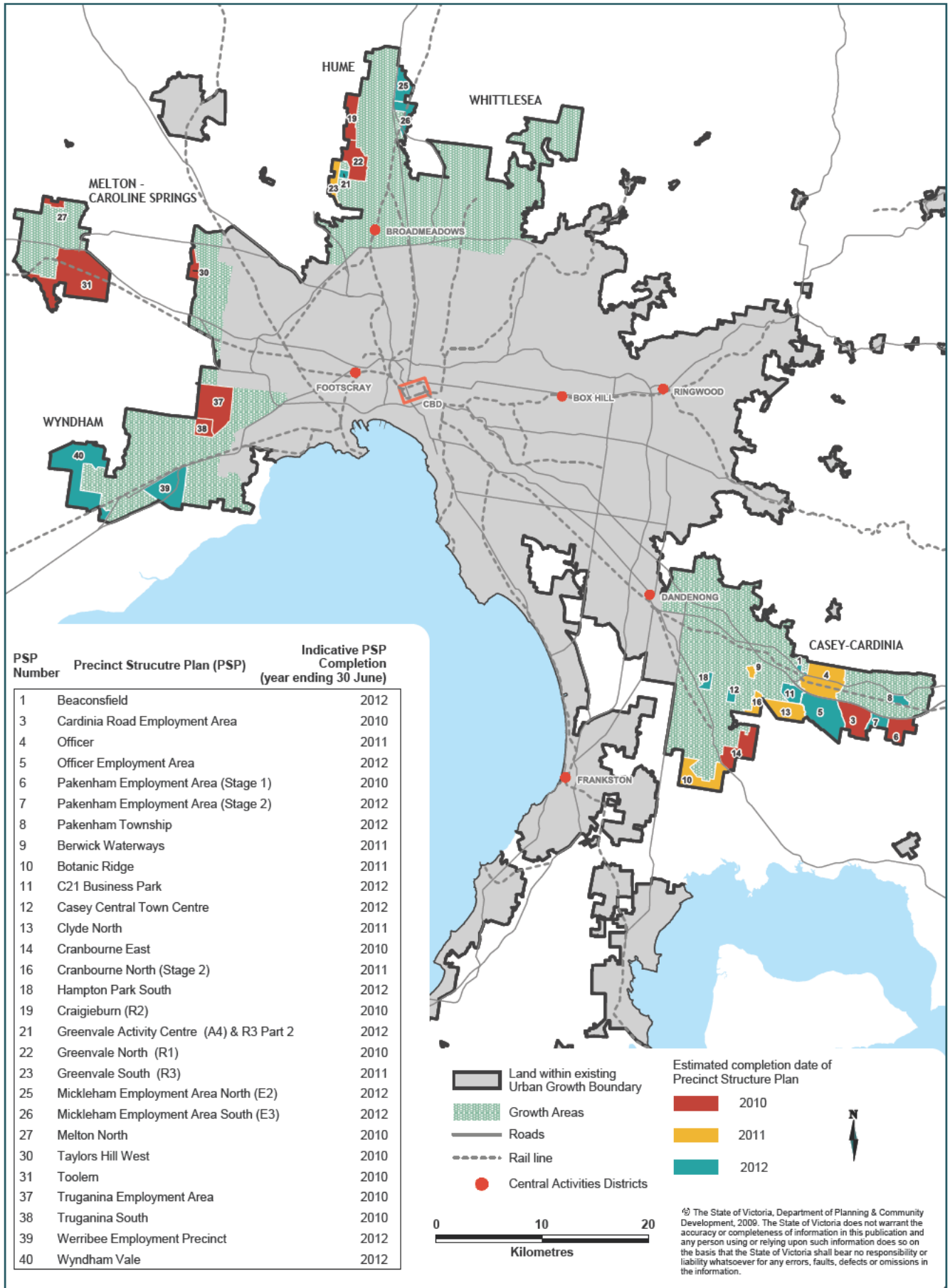
The process of creating, advertising and selling native vegetation credits will utilise the well established BushBroker® program. It is expected that developers requiring offsets for clearing native grasslands in accordance with the Program will purchase credits generated from the western grassland reserves, 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>Austroads 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>		●		

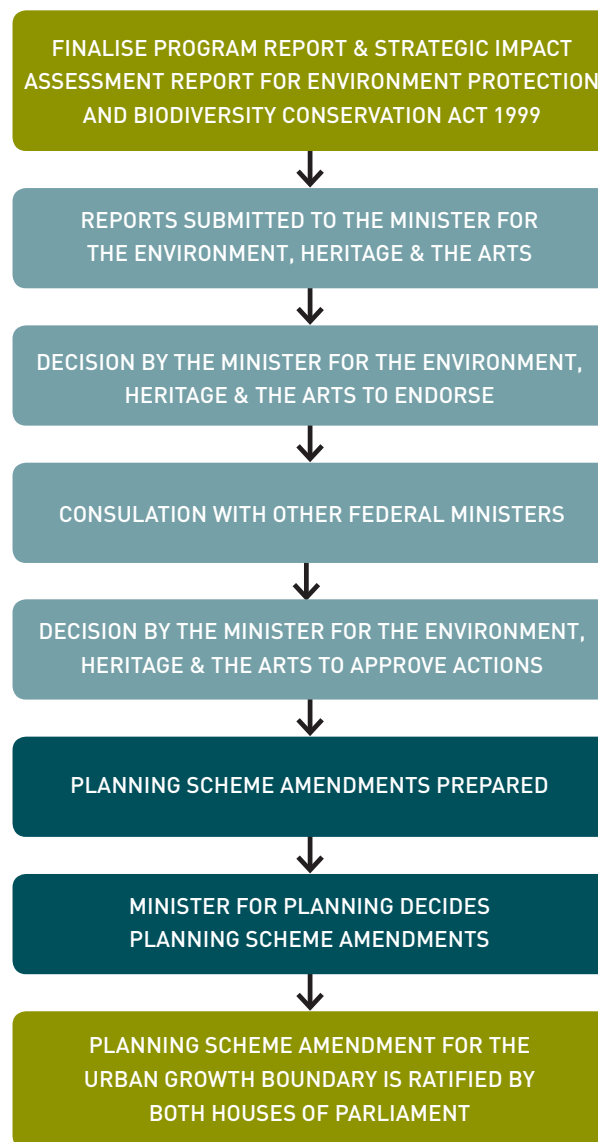
5. IMPLEMENTATION FRAMEWORK

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.

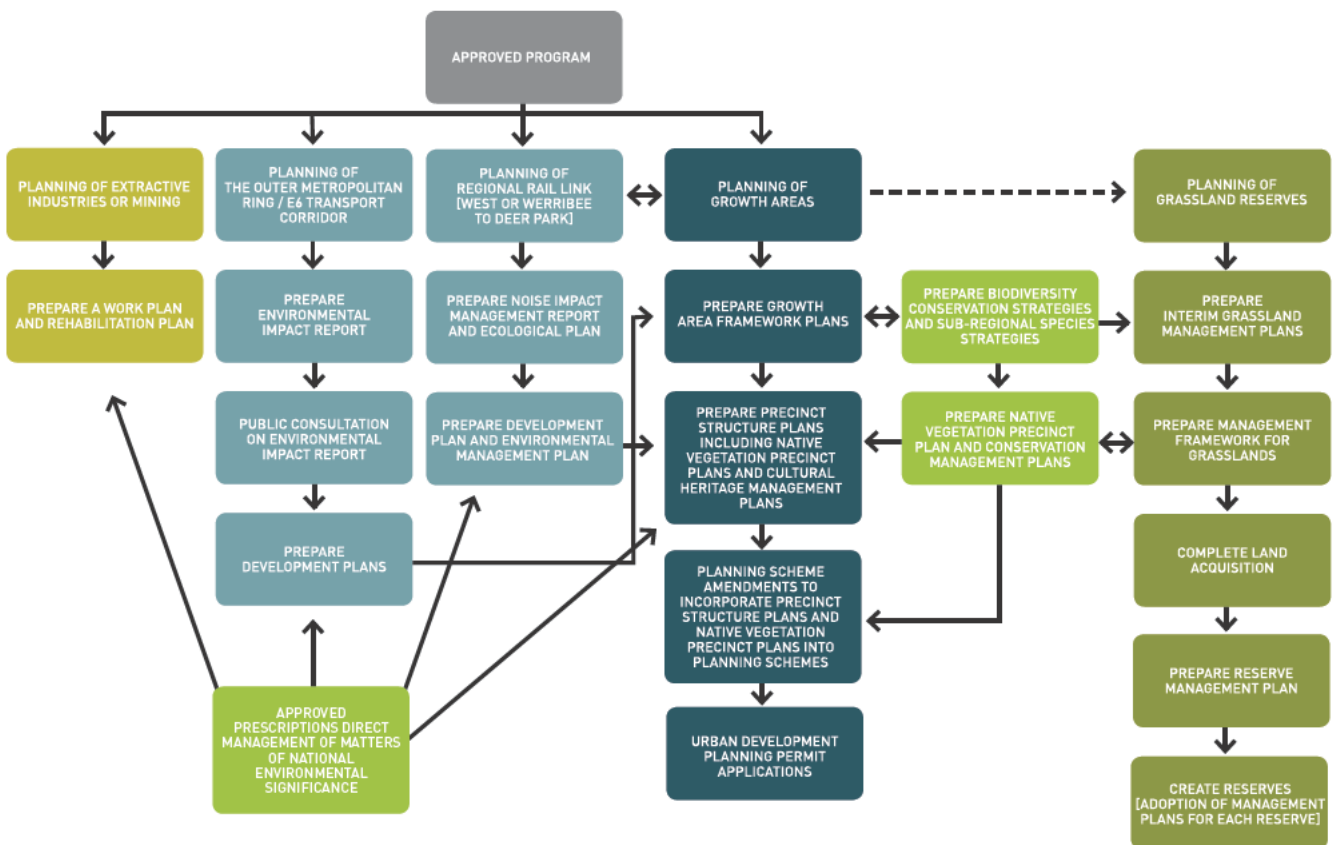
Medium term means the activity is expected to occur within the period 2014 to 2019.

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:

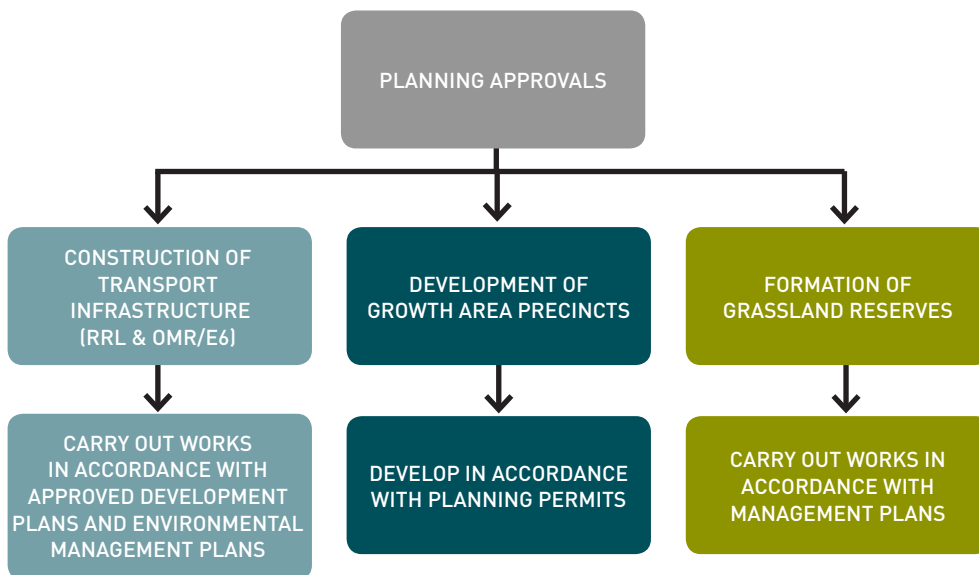
Short term means the activity is expected to occur within the period 2010 to 2013.

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:

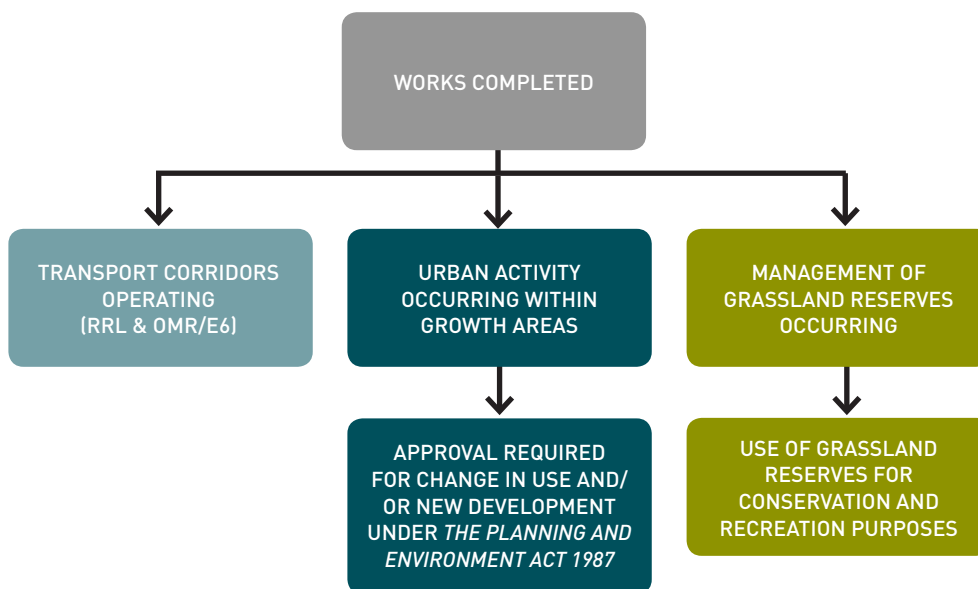
Short term means the activity is expected to occur within the period 2010 to 2013.

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
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 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.

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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	<p>Victorian Minister for Planning</p> <p><i>Assisted by:</i></p> <ul style="list-style-type: none"> 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.

12. REFERENCES

- 2004 Australian Drinking Water Guidelines*. National Health and Medical Research Council, 2004.
- A Fairer Victoria 2008: Strong People, Strong Communities*. Department of Planning and Community Development, 2008
- A Strategic Framework for Creating Liveable New Communities*. Growth Areas Authority, 2008.
- A Plan for Melbourne's Growth Areas*. Department of Sustainability and Environment, 2005.
- Aboriginal Heritage Act 2006*. Victorian Legislation and Parliamentary Documents, Version No. 1, 2007.
- Aboriginal Heritage Regulations 2007*. Victorian Legislation and Parliamentary Documents, Version No.10, 2007.
- Activity Centre Design Guidelines*. Department of Sustainability and Environment, 2005.
- Australian Guidelines for Water Quality Monitoring & Reporting*. Australian Government, 2000.
- Austroroads Guide to Traffic Management Part 13 – Pedestrians*. VicRoads, 1995.
- Austroroads Guide to Traffic Management Part 14 – Bicycles*. VicRoads, 1999.
- Bunding Guidelines - EPA Publication 347*. Environment Protection Authority Victoria, 1992.
- Catchment and Land Protection Act 1994*. Victorian Legislation and Parliamentary Documents, Version No. 43, 2009.
- Central Region Sustainable Water Strategy*. Department of Sustainability and Environment, Melbourne, Victoria, 2008.
- Classification of Wastes - EPA Publication 448, EPA Victoria*. Environment Protection Authority Victoria, 2007.
- Commissioner for Environmental Sustainability Act 2003*.
- Victorian Legislation and Parliamentary Documents, Version No. 10, 2003*. Construction Techniques for Sediment Pollution Control, Environment Protection Authority Victoria, 1991.
- Conservation Forests and Lands Act 1987*. Victorian Legislation and Parliamentary Documents, Version No.72, 2009.
- Crown Land Reserves Act 1978*. Victorian Legislation and Parliamentary Documents, Version No. 91, 2009.
- Delivering Melbourne's Newest Sustainable Communities. Urban Growth Boundary Review Report for Public Consultation 2009. State Government of Victoria, 2009*. Prepared by the Department of Planning and Community Development, Melbourne.
- Delivering Melbourne's Newest Sustainable Communities. Strategic Impact Assessment Report for Environment Protection and Biodiversity Conservation Act 1999*. State Government of Victoria, 2009. Prepared by the Department of Sustainability and Environment, Melbourne.
- Delivering Melbourne's Newest Sustainable Communities. Regional Rail Link: West of Werribee to Deer Park. Strategic Assessment Report for Public Consultation 2009. State Government of Victoria, 2009*. Prepared by the Department of Transport, Melbourne.
- Delivering Melbourne's Newest Sustainable Communities. Outer Metropolitan Ring/E6 Transport Corridor Planning Assessment Report*. State Government of Victoria, 2009. Prepared by VicRoads, Kew.
- EPA Best Practice Environmental Management – Environmental Guidelines for Major Construction Sites*. Environment Protection Authority Victoria, 1996.
- Environment Effects Act 1978*. Victorian Legislation and Parliamentary Documents, Version No. 25, 2007.
- Energy Efficiency for Victoria Action Plan*. Sustainability Victoria, 2006.

Environment Protection Act 1970. Victorian Legislation and Parliamentary Documents, Version No. 170, 2009.

Environment Protection and Biodiversity Conservation Act 1999. Commonwealth of Australia Law, Version No 125, 2008.

Environment Protection (Environment and Resource Efficiency Plans) Regulations 2007. Victorian Legislation and Parliamentary Documents, Version No. 1, 2008.

Environment Protection (Prescribed Waste) Regulations. Environment Protection Authority Victoria, 1998.

Environment Protection (Scheduled Premises and Exemptions) Regulations 2007. Victorian Legislation and Parliamentary Documents, Version No. 4, 2007.

Environment Protection (Prescribed Waste) Regulations 1998. Victorian Legislation and Parliamentary Documents, Version No. 13, 2009.

Extractive Industries Development Act 1995. Victorian Legislation and Parliamentary Documents, Version No.34, 2007.

Flora and Fauna Guarantee Act 1998. Victorian Legislation and Parliamentary Documents, Version No.35, 2007.

Freight Futures – Victorian Freight Network Strategy for a more prosperous and liveable Victoria. Department of Transport, 2008.

Growth Area Framework Plans. Department of Sustainability and Environment, 2006.

Guide to Preparing Aboriginal Cultural Heritage Management Plans. Aboriginal Affairs Victoria, 2007.

Guidelines for Conducting Historical Archaeological Surveys. Heritage Council of Victoria and Heritage Victoria, 2008.

Guidelines for Higher Density Residential Development. Department of Sustainability and Environment, 2004.

Guidelines for the Preparation of Environment Improvement Plans. Environment Protection Authority Victoria, 2002.

Heritage Act 1995. Victorian Legislation and Parliamentary Documents, Version No. 44, 2008.

Industrial Waste Management Pollution (National Pollutant Inventory). Environment Protection Authority Victoria, 1998.

Industrial Waste Management Policy (Acid Sulfate Soils). Environment Protection Authority Victoria, 1999.

Industrial Waste Management Policy (Prescribed Industrial Waste). Environment Protection Authority Victoria, 2000.

Interim Design Guidelines for Large Format Retail Premises. Department of Planning and Community Development, 2007.

Land Acquisition and Compensation Act 1986. Victorian Legislation and Parliamentary Documents, Version No 40, 1986

Linking People and Spaces. Parks Victoria, 2002.

Melbourne 2030: a planning update–Melbourne @ 5 million. Department of Planning and Community Development, 2008.

Melbourne 2030–planning for sustainable growth. Department of Infrastructure, 2002.

Mineral Resources (Sustainable Development) Act 1990. Victorian Legislation and Parliamentary Documents, Version No.63A, 2006.

Ministerial Guidelines for Environmental Assessment under the Environment Effects Act 1978. Department of Sustainability and Environment, 2006.

National Greenhouse and Energy Reporting Act 2007. Commonwealth of Australia Law, Version No. 175, 2007.

National Greenhouse and Energy Reporting Regulations 2008. Commonwealth of Australia Law, Version No. 28, 2009.

National Parks Act 1975. Victorian Legislation and Parliamentary Documents, Version No.123, 2009.

National Strategy for Ecologically Sustainable Development. Department of the Environment, Water, Heritage, and the Arts, Canberra, Australian Capital Territory, 1992.

National Strategy for the Conservation of Australia's Biological Diversity. Department of the Environment, Water, Heritage and the Arts, Canberra, Australian Capital Territory, 1996.

National Water Quality Management Strategy. Department of the Environment, Water, Heritage and the Arts, Canberra, Australian Capital Territory, 1992.

Noise Control Guidelines - EPA Publication TG302/92. Environment Protection Authority Victoria, 1992.

Our Environment, Our Future – Sustainability Action Statement. Department of Sustainability and Environment, 2006.

Our Water Our Future - Waterway Management Guidelines. Department of Sustainability and Environment, 2008.

Parks Victoria Act 1998. Victorian Legislation and Parliamentary Documents, Version No. 10, 2008.

Planning for all of Melbourne: The Victorian Government Response to the Melbourne 2030 Audit. State of Victoria, 2008.

Pipelines Act 2005. Victorian Legislation and Parliamentary Documents, Version No. 4, 2008.

Planning and Environment Act 1987. Victorian Legislation and Parliamentary Documents, Version No. 86, 2008.

Planning for all of Melbourne: The Victorian Response to the Melbourne 2030 Audit. Department of Planning and Community Development, 2008.

Port Phillip and Westernport Regional Catchment Strategy. Port Phillip Regional Catchment and Land Protection Board, Victoria, 1997.

Precinct Structure Planning Guidelines. Growth Areas Authority, 2009.

Protocol for Environmental Management - Greenhouse Gas Emissions and Energy Efficiency in Industry. Environment Protection Authority Victoria, 2002.

Public Transport Guidelines for Land Use Development. Department of Transport, 2008.

Ramsar Convention on Wetlands, Australian Government, Switzerland, 1971.

Renewable Energy Action Plan. Department of Sustainability and Environment, 2006.

Renewable Energy (Electricity Regulations) 2001. Commonwealth of Australia Law, Version No 219, 2001.

Safer Design Guidelines for Victoria. Department of Sustainability and Environment, June 2005.

Safe Drinking Water Act 2003. Victorian Legislation and Parliamentary Documents, Version No. 4, 2007.

Safe Drinking Water Regulations 2005. Victorian Legislation and Parliamentary Documents, Version No. 2, 2008.

Schedule F8 (Waters of Western Port and Catchment) No. S192. Environment Protection Authority, 2001.

State Environment Protection Policy (Air Quality Management). Environment Protection Authority Victoria, 2001.

State Environment Protection Policy (Waters of Victoria) Schedule F8 Waters of Western Port and Catchment. Environment Protection Authority Victoria, 2001.

State Environment Protection Policy (Ambient Air Quality). Environment Protection Authority Victoria, 1999.

State Environment Protection Policy (Control of Noise from Commerce, Industry and Trade) No. N1. Environment Protection Authority Victoria, 1989.

State Environment Protection Policy (Groundwaters of Victoria). Environment Protection Authority Victoria, 2002.

State Environment Protection Policy (Prevention & Management of Contaminated Land). Environment Protection Authority Victoria, 2002.

State Environment Protection Policy (Waters of Victoria). Environment Protection Authority Victoria, 1988.

Strategic Management Plan for the Western Port Ramsar Site. Department of Sustainability and Environment, 2003

The Victorian Transport Plan. Department of Transport, 2008.

Transport Act 1983. Victorian Legislation and Parliamentary Documents, Version No. 141, 2009.

VPP Practice Note—Preparing a native vegetation precinct plan. Department of Planning and Community Development, 2008.

VPP Practice Note—Urban Growth Zone. Department of Planning and Community Development, 2008.

Victoria in Future 2008. Department of Planning and Community Development, 2008.

Victorian Heritage Register. Heritage Victoria, 2008.

Victorian Renewable Energy Act 2006. Victorian Legislation and Parliamentary Documents, Version No. 4, 2009.

Victorian Conservation Trust Act 1972. Victorian Legislation and Parliamentary Documents, Version No. 33, 2008.

VicRoads Access Management Policies Version 1.02. VicRoads, May 2006.

Victoria's Biodiversity Strategy - Sustaining our Living Wealth. Department of Sustainability and Environment, 1997.

Victoria's Environmental Sustainability Framework. Department of Sustainability and Environment, 2005.

Victorian Greenhouse Government Strategy Action Plan Update. Department of Sustainability and Environment, 2005.

Victorian Heritage Strategy: Strengthening our Communities. Heritage Victoria, 2006.

Victorian Renewable Energy Target Scheme Rules made under the Victorian Renewable Energy Act 2006. Essential Services Commission, Victoria 2007.

Victorian River Health Strategy. Department of Sustainability and Environment, Melbourne, Victoria, 2002.

Victoria's Native Vegetation Management: A Framework for Action. Department of Sustainability and Environment, 2002.

Water Act 1989. Victorian Legislation and Parliamentary Documents, Version No.92, 2008.

Western Port Ramsar Site Strategic Management Plan. Department of Sustainability and Environment, 2003.

The Wetlands Policy of the Commonwealth Government of Australia. Department of the Environment, Water, Heritage and the Arts, Canberra, Australian Capital Territory, 1997.

Wildlife Act 1975. Victorian Legislation and Parliamentary Documents, Version No.82, 2008.

DELIVERING MELBOURNE'S NEWEST SUSTAINABLE COMMUNITIES



STRATEGIC IMPACT ASSESSMENT REPORT

FOR THE ENVIRONMENT PROTECTION AND
BIODIVERSITY CONSERVATION ACT 1999

OCTOBER 2009





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CONTENTS



FOREWORD	VII
1 EXECUTIVE SUMMARY	1
2 INTRODUCTION	11
2.1 OBJECTIVES	11
2.2 WHAT IS A STRATEGIC ASSESSMENT UNDER THE EPBC ACT?	12
3 PROJECT PURPOSE AND DESCRIPTION	15
3.1 PROGRAM SUMMARY	15
3.2 LEGAL STANDING	17
3.3 BACKGROUND	17
3.4 ACTIONS TO BE INCLUDED	17
3.5 VICTORIAN APPROVALS PROCESS	17
3.5.1 STATUTORY FRAMEWORK AND IMPLEMENTATION	18
3.5.2 SUMMARY OF THE PROPOSED VICTORIAN STATUTORY PROCESSES AFFECTING THE PROGRAM	22
3.5.3 SUMMARY OF RESPONSIBILITIES	23
3.6 STUDY AREA	25
3.6.1 INVESTIGATION AREAS	25
3.6.2 PROPOSED PRECINCT STRUCTURE PLANNING AREAS	27
3.6.3 TRANSPORT CORRIDORS	28
3.6.4 REGIONAL CONTEXT	29
3.7 THE IMPACT ASSESSMENT REPORT: APPROACH AND METHODOLOGY	32
3.7.1 LISTED THREATENED SPECIES AND ECOLOGICAL COMMUNITIES	35
3.7.2 MIGRATORY SPECIES	41
3.7.3 WETLANDS OF INTERNATIONAL IMPORTANCE	42
3.7.4 NATIONAL HERITAGE PLACES	42
4 PROMOTING ECOLOGICALLY SUSTAINABLE DEVELOPMENT	57
4.1 PLANNING AND DESIGN PROCESS	57
4.1.1 MELBOURNE @ 5 MILLION	57
4.1.2 RELATED TRANSPORT PROJECTS (OMR/E6 TRANSPORT CORRIDOR AND REGIONAL RAIL LINK)	57
4.2 PROMOTION OF THE PRINCIPLES OF ECOLOGICALLY SUSTAINABLE DEVELOPMENT	58
5 EXISTING ENVIRONMENT	65
5.1 COMPONENTS OF BIODIVERSITY, ECOLOGICAL AND PHYSICAL ENVIRONMENTAL PROCESSES	65

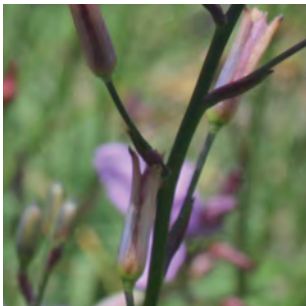
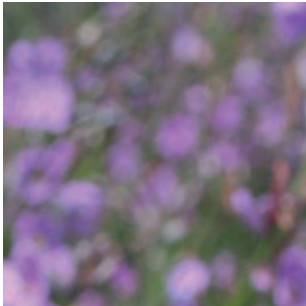
5.2 LISTED AND NOMINATED COMMUNITIES UNDER THE EPBC ACT	65
5.2.1 NATURAL TEMPERATE GRASSLAND OF THE VICTORIAN VOLCANIC PLAIN	66
5.2.2 GRASSY EUCALYPT WOODLAND OF THE VICTORIAN VOLCANIC PLAIN	67
5.2.3 TEMPERATE LOWLAND PLAINS GRASSY WETLAND	68
5.3 LISTED AND NOMINATED THREATENED SPECIES UNDER EPBC ACT	70
5.3.1 SPECIES THAT INHABIT GRASSLANDS AND GRASSY WOODLANDS	70
5.3.2 SPECIES THAT PREDOMINANTLY INHABIT NON-GRASSY ENVIRONMENTS	88
5.4 LISTED MIGRATORY SPECIES AND THEIR HABITATS	111
5.4.1 SHOREBIRDS RECORDED WITHIN THE STUDY AREA	111
5.4.2 WETLAND BIRDS RECORDED WITHIN THE STUDY AREA	112
5.5 RAMSAR WETLANDS OF INTERNATIONAL IMPORTANCE	112
5.5.1 PORT PHILLIP BAY (WESTERN SHORELINE) AND BELLARINE PENINSULA	113
5.5.2 EDITHVALE-SEAFORD WETLANDS	116
5.5.3 WESTERN PORT	116
5.6 HERITAGE SITES AND COMMONWEALTH PROPERTIES	118
6 IMPACTS AND MITIGATION	123
6.1 STRATEGIC MITIGATION APPROACH	123
6.1.1 WESTERN GRASSLAND RESERVES	123
6.1.2 GRASSY EUCALYPT WOODLAND RESERVE	130
6.1.3 SOUTH-EASTERN WETLAND RESERVES	130
6.1.4 PROTECTION OF OTHER KEY SITES	131
6.1.5 ACCOUNTING FOR NATIVE VEGETATION LOSSES AND GAINS	132
6.1.6 DEALING WITH CLIMATE CHANGE	137
6.1.7 THREATENING PROCESSES	139
6.2 COMPONENTS OF BIODIVERSITY, ECOLOGICAL AND PHYSICAL ENVIRONMENTAL PROCESSES	141
6.3 IMPACTS ON LISTED AND NOMINATED COMMUNITIES AND PROPOSED MITIGATION	141
6.3.1 NATURAL TEMPERATE GRASSLAND OF THE VICTORIAN VOLCANIC PLAIN	142
6.3.2 GRASSY EUCALYPT WOODLAND OF THE VICTORIAN VOLCANIC PLAIN	148
6.3.3 TEMPERATE LOWLAND PLAINS GRASSY WETLAND	152
6.4 IMPACTS ON LISTED THREATENED SPECIES AND THEIR HABITATS AND PROPOSED MITIGATION	153
6.4.1 SPECIES THAT INHABIT GRASSLANDS AND GRASSY WOODLANDS	153
6.4.2 SPECIES THAT PREDOMINANTLY INHABIT NON-GRASSY ENVIRONMENTS	186
6.5 IMPACTS ON LISTED MIGRATORY SPECIES AND THEIR HABITATS	199
6.6 IMPACTS ON RAMSAR WETLANDS OF INTERNATIONAL IMPORTANCE	202

6.7	IMPACTS BY PROJECT ON MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE	208
6.7.1	PROPOSED EXPANDED URBAN GROWTH BOUNDARY	208
6.7.2	PRECINCTS WITHIN THE EXISTING URBAN GROWTH BOUNDARY	210
6.7.3	OUTER METROPOLITAN RING/E6 TRANSPORT CORRIDOR	212
6.7.4	OUTER METROPOLITAN RING TRANSPORT CORRIDOR	213
6.7.5	E6 TRANSPORT CORRIDOR	214
6.7.6	REGIONAL RAIL LINK CORRIDOR (WEST OF WERRIBEE TO DEER PARK)	216
6.8	IMPACTS ON HERITAGE SITES AND COMMONWEALTH PROPERTIES	220
6.9	INFORMATION SOURCES AND CONFIDENCE LEVELS	220
6.10	MANAGEMENT COMMITMENTS	222
7	AUDITING, REPORTING AND REVIEW	257
8	CONCLUSION	261
9	REFERENCES	263
10	APPENDICES	273
	APPENDIX 1: STRATEGIC IMPACT ASSESSMENT: VEGETATION LOSSES AND GAINS FROM THE PROPOSED PROGRAM AND GAINS GENERATED FROM THE WESTERN GRASSLAND RESERVES	274
	APPENDIX 2: SPECIES DISTRIBUTION MODELLING: OVERVIEW OF METHODOLOGY AND ASSUMPTIONS	282
	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.	294
	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.	298
	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.	301
	APPENDIX 6: SUMMARY OF NATIVE GRASSLAND RESERVE PRIORITISATION APPROACH	306
	APPENDIX 7: PROJECTIONS OF FUTURE GRASSLAND EXTENT-CONDITION CHANGE IN THE WEST OF MELBOURNE	311

FIGURES

FIGURE 1. STUDY AREA	26
FIGURE 2. MODELLED MAP OF PRE 1750 NATIVE GRASSLAND EXTENT WITHIN THE VICTORIAN VOLCANIC PLAIN BIOREGION	33
FIGURE 3. MODELLED MAP OF CURRENT NATIVE GRASSLAND EXTENT WITHIN THE VICTORIAN VOLCANIC PLAIN BIOREGION	36
FIGURE 4. SAMPLE OF DETAILED NATIVE VEGETATION DATA USED IN THIS REPORT	45
FIGURE 5. NATIVE VEGETATION TO THE WEST OF MELBOURNE: WYNDHAM GROWTH AREA AND PROPOSED WESTERN GRASSLAND RESERVES	47
FIGURE 6. NATIVE VEGETATION TO THE WEST OF MELBOURNE: MELTON AND CAROLINE SPRINGS GROWTH AREA	49
FIGURE 7. NATIVE VEGETATION TO THE NORTH OF MELBOURNE: HUME (SUNBURY) GROWTH AREA	51
FIGURE 8. NATIVE VEGETATION TO THE NORTH OF MELBOURNE: WHITTLESEA GROWTH AREA	53
FIGURE 9. NATIVE VEGETATION TO THE SOUTH-EAST OF MELBOURNE: CASEY – CARDINIA GROWTH AREA	55
FIGURE 10. MODELLED MAP OF PRE 1750 GRASSY EUCALYPT WOODLAND EXTENT WITHIN VICTORIAN VOLCANIC PLAIN BIOREGION	69
FIGURE 11. SURVEY RECORDS OF PLAINS-WANDERER (<i>Pedionomus torquatus</i>)	72
FIGURE 12. SURVEY RECORDS OF GRASSLAND EARLESS DRAGON (<i>Tympanocryptis pinguicolla</i>)	73
FIGURE 13. SURVEY RECORDS OF STRIPED LEGLESS LIZARD (<i>Delma impar</i>)	75
FIGURE 14. SURVEY RECORDS OF GOLDEN SUN MOTH (<i>Synemon plana</i>)	77
FIGURE 15. SURVEY RECORDS OF ADAMSON'S BLOWN-GRASS (<i>Lachnagrostis adamsonii</i>)	79
FIGURE 16. SURVEY RECORDS OF BUTTON WRINKLEWORT (<i>Rutidosis leptorrhynchoides</i>)	80
FIGURE 17. SURVEY RECORDS OF CLOVER GLYCINE (<i>Glycine latrobeana</i>)	81
FIGURE 18. SURVEY RECORDS OF CURLY SEDGE (<i>Carex tasmanica</i>)	83
FIGURE 19. SURVEY RECORDS OF LARGE-FRUIT GROUNDESEL (<i>Senecio macrocarpus</i>)	84
FIGURE 20. SURVEY RECORDS OF MATTED FLAX-LILY (<i>Dianella amoena</i>)	86
FIGURE 21. SURVEY RECORDS OF SPINY RICE-FLOWER (<i>Pimelea spinescens</i> subsp. <i>spinescens</i>)	87
FIGURE 22. SURVEY RECORDS OF SWAMP FIREWEED (<i>Senecio psilocarpus</i>)	89
FIGURE 23. SURVEY RECORDS OF GREY-HEADED FLYING-FOX (<i>Pteropus poliocephalus</i>)	91
FIGURE 24. SURVEY RECORDS OF SOUTHERN BROWN BANDICOOT (<i>Isoodon obesulus obesulus</i>)	92
FIGURE 25. SURVEY RECORDS OF AUSTRALIAN PAINTED SNIPE (<i>Rostratula australis</i>)	94
FIGURE 26. SURVEY RECORDS OF SWIFT PARROT (<i>Lathamus discolor</i>)	95
FIGURE 27. SURVEY RECORDS OF GROWLING GRASS FROG (<i>Litoria raniformis</i>)	96
FIGURE 28. SURVEY RECORDS OF AUSTRALIAN GRAYLING (<i>Prototroctes maraena</i>)	98
FIGURE 29. SURVEY RECORDS OF DWARF GALAXIAS (<i>Galaxiella pusilla</i>)	99
FIGURE 30. SURVEY RECORDS OF MAROON LEEK-ORCHID (<i>Prasophyllum frenchii</i>)	101
FIGURE 31. SURVEY RECORDS OF RIVER SWAMP WALLABY-GRASS (<i>Amphibromus fluitans</i>)	102
FIGURE 32. SURVEY RECORDS OF SWAMP EVERLASTING (<i>Xerochrysum palustre</i>)	103
FIGURE 33. SURVEY RECORDS OF MIGRATORY SPECIES AND RAMSAR SITES	114
FIGURE 34. SITES LISTED ON THE REGISTER OF THE NATIONAL ESTATE IN THE WESTERN INVESTIGATION AREA	121
FIGURE 35. SITES LISTED ON THE REGISTER OF THE NATIONAL ESTATE IN THE NORTHERN INVESTIGATION AREA	122
FIGURE 36. PROPOSED WESTERN GRASSLAND RESERVES	243
FIGURE 37. MODELLED HABITAT SUITABILITY FOR STRIPED LEGLESS LIZARD (<i>Delma impar</i>)	245
FIGURE 38. SPECTRUM OF CONTRIBUTION TO SPECIES PERSISTENCE FOR GOLDEN SUN MOTH (<i>Synemon plana</i>) HABITAT	247
FIGURE 39. SPECTRUM OF CONTRIBUTION TO SPECIES PERSISTENCE FOR MATTED FLAX-LILY (<i>Dianella amoena</i>) HABITAT	249
FIGURE 40. SPECTRUM OF CONTRIBUTION TO SPECIES PERSISTENCE FOR SPINY RICE-FLOWER (<i>Pimelea spinescens</i> ssp. <i>spinescens</i>) HABITAT	251
FIGURE 41. MODELLED HABITAT SUITABILITY FOR SOUTHERN BROWN BANDICOOT (<i>Isoodon obesulus obesulus</i>)	253
FIGURE 42. ALIGNMENT OPTIONS	255

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.

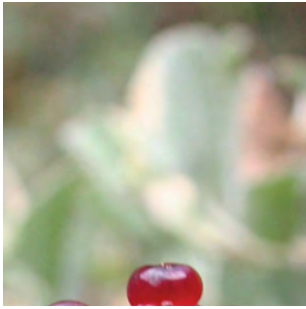
An independent monitor will be appointed to check compliance and provide assurance to the Commonwealth Government that the Victorian Government is effectively implementing the endorsed Program. For example, this will assess how the Precinct Structure Planning guidelines are helping to protect matters 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.

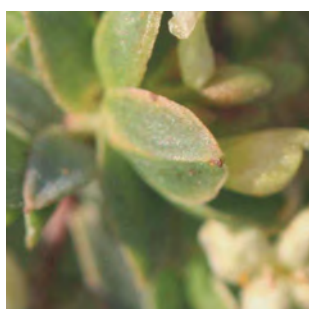
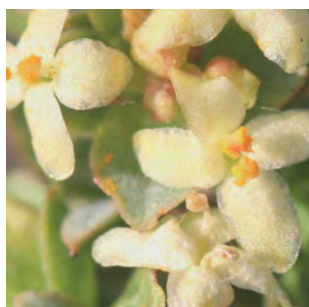
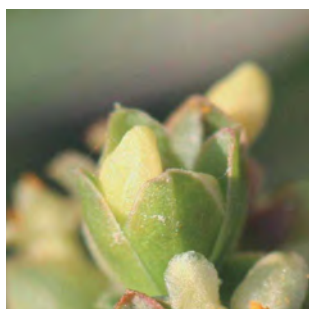
The strategic assessment process involves the following stages:

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.

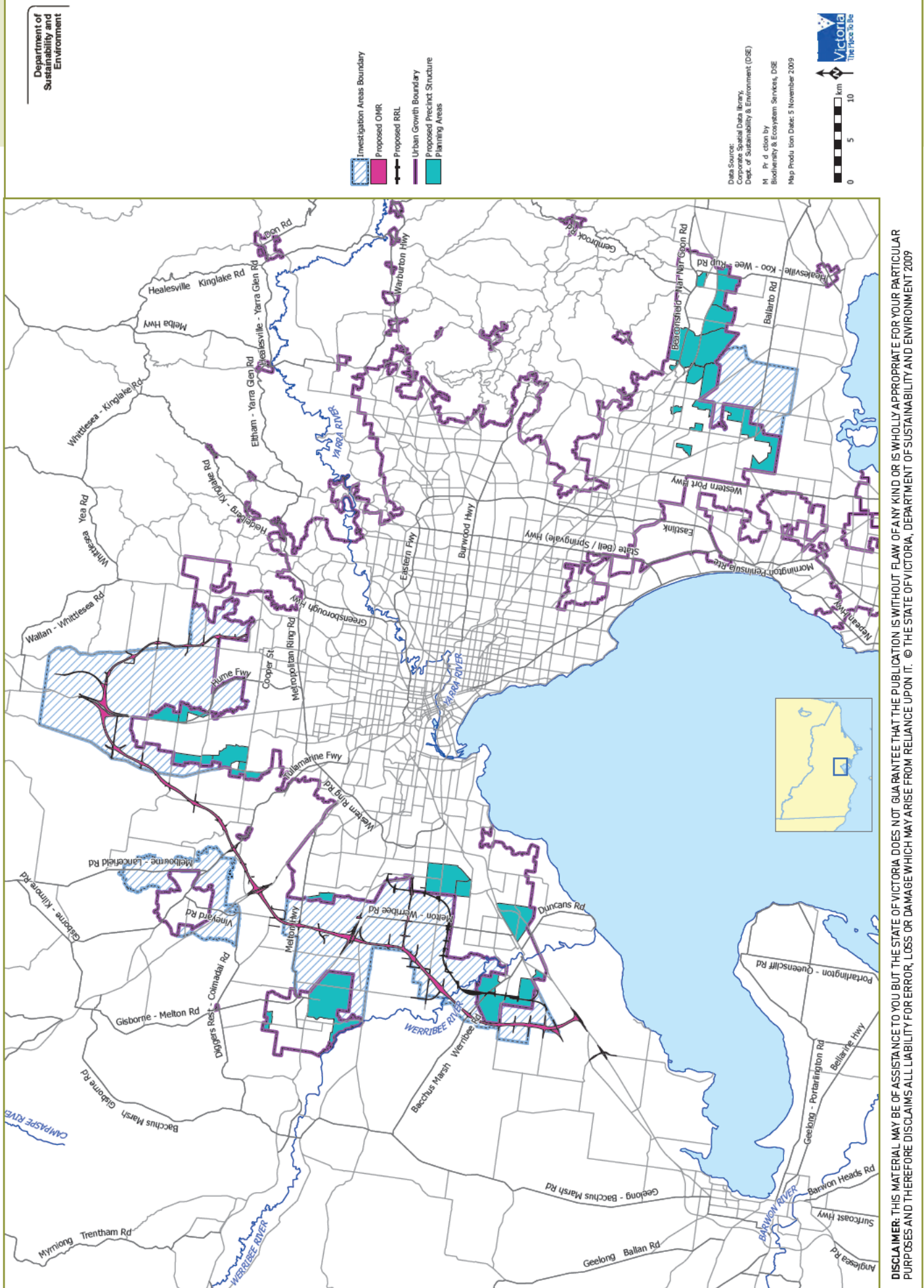
3.6.1 INVESTIGATION AREAS

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



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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).

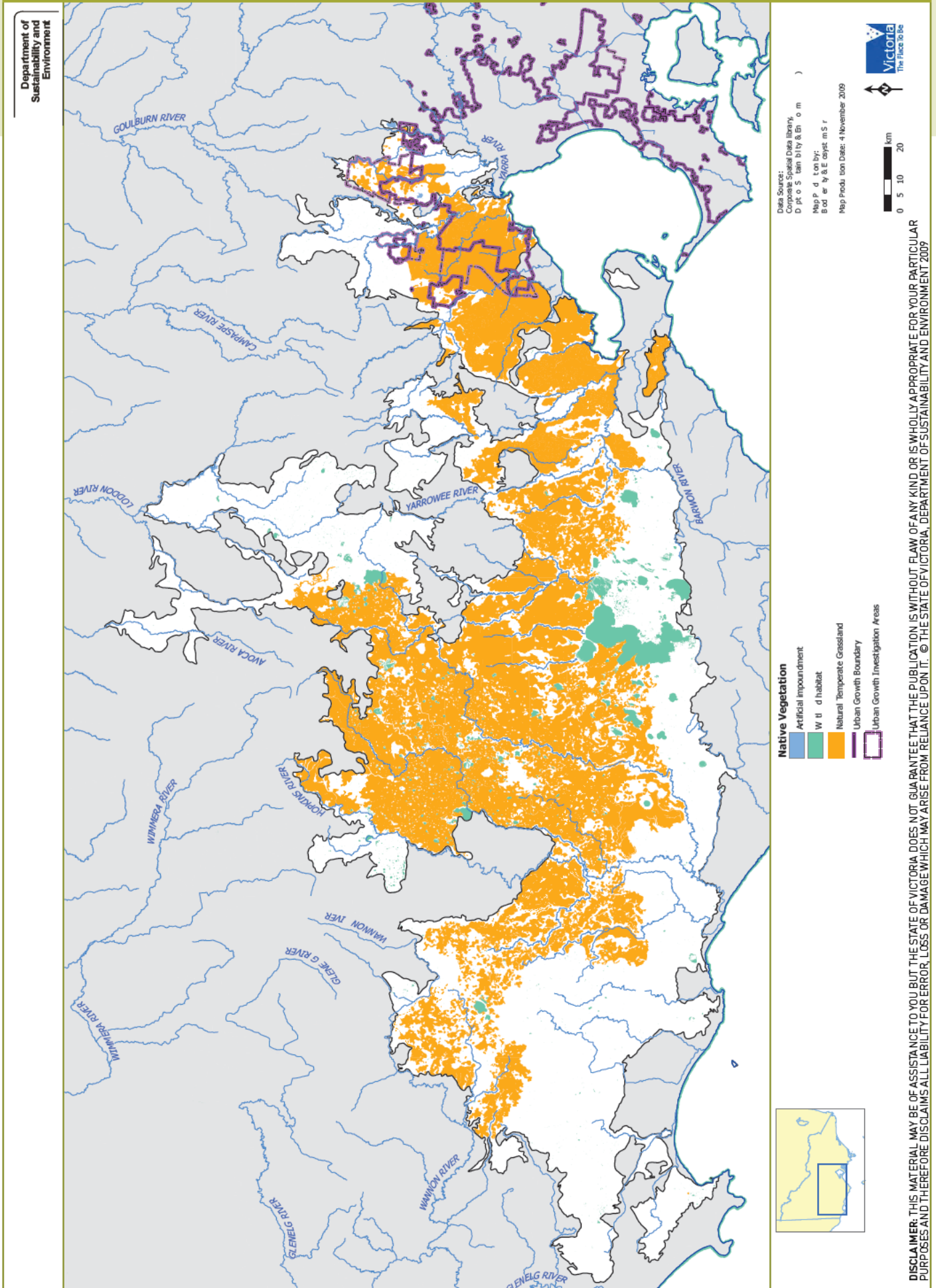
3.7 THE IMPACT ASSESSMENT REPORT: APPROACH AND METHODOLOGY

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.

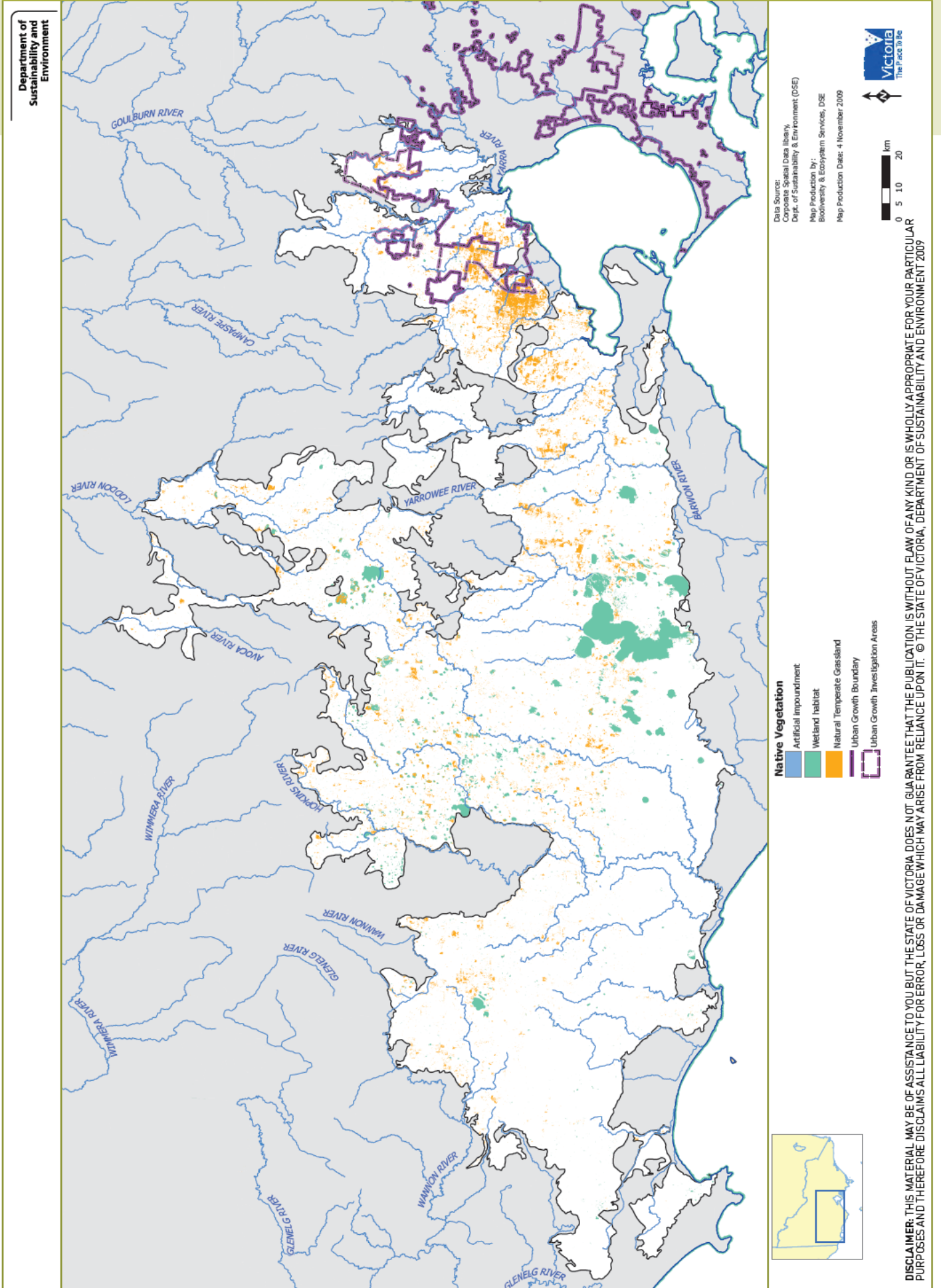
The public consultation process provided some additional information in relation to threatened species records and local occurrences of patches of ecological communities. All such additional advice was investigated and used in the revised Impact Assessment Report where relevant.

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

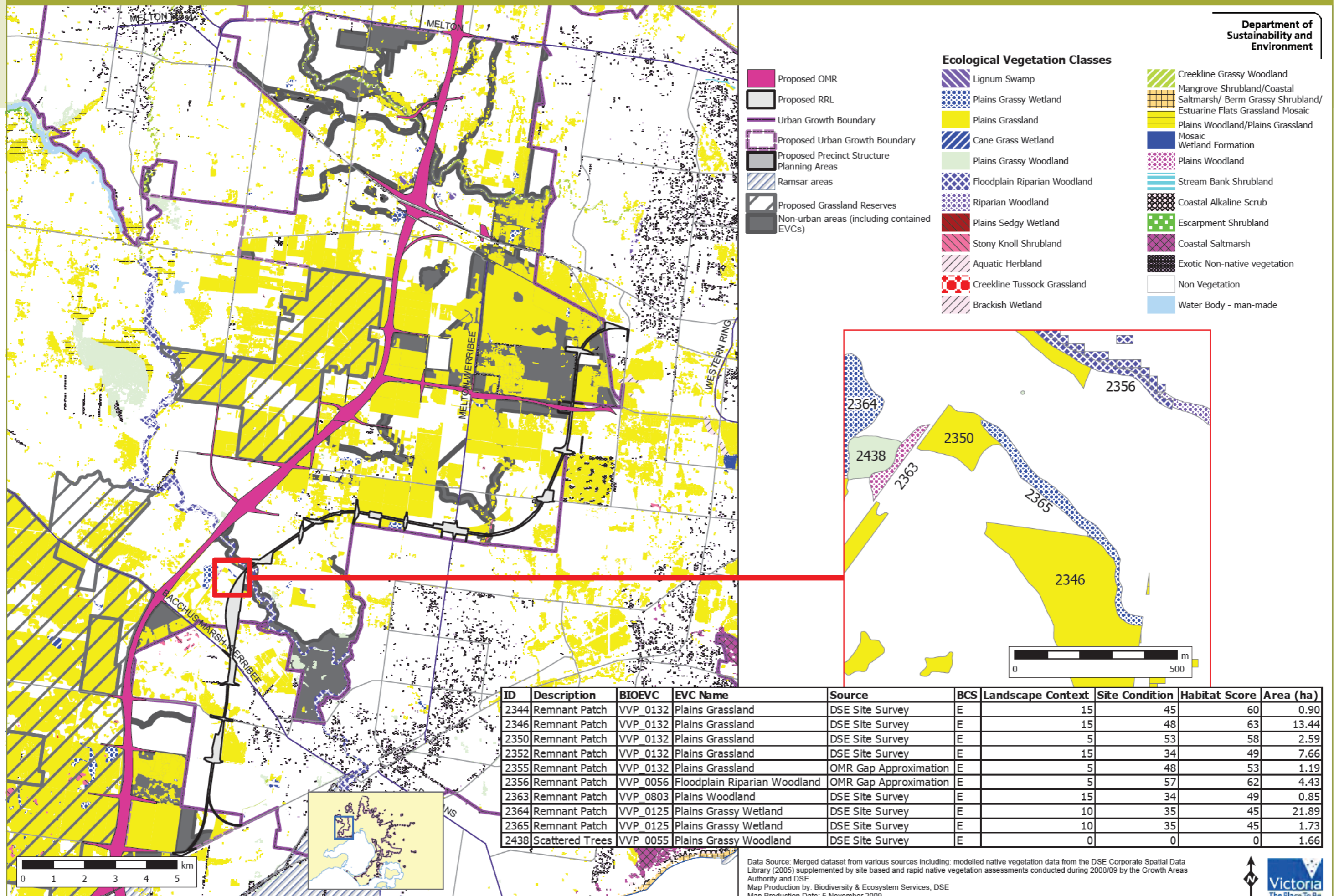
advertisements were placed in state and national newspapers outlining the Program and inviting participation in eight public information sessions. Information was also provided on the websites of the Victorian Government agencies involved. Over 2,000 people participated in these information sessions, 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.

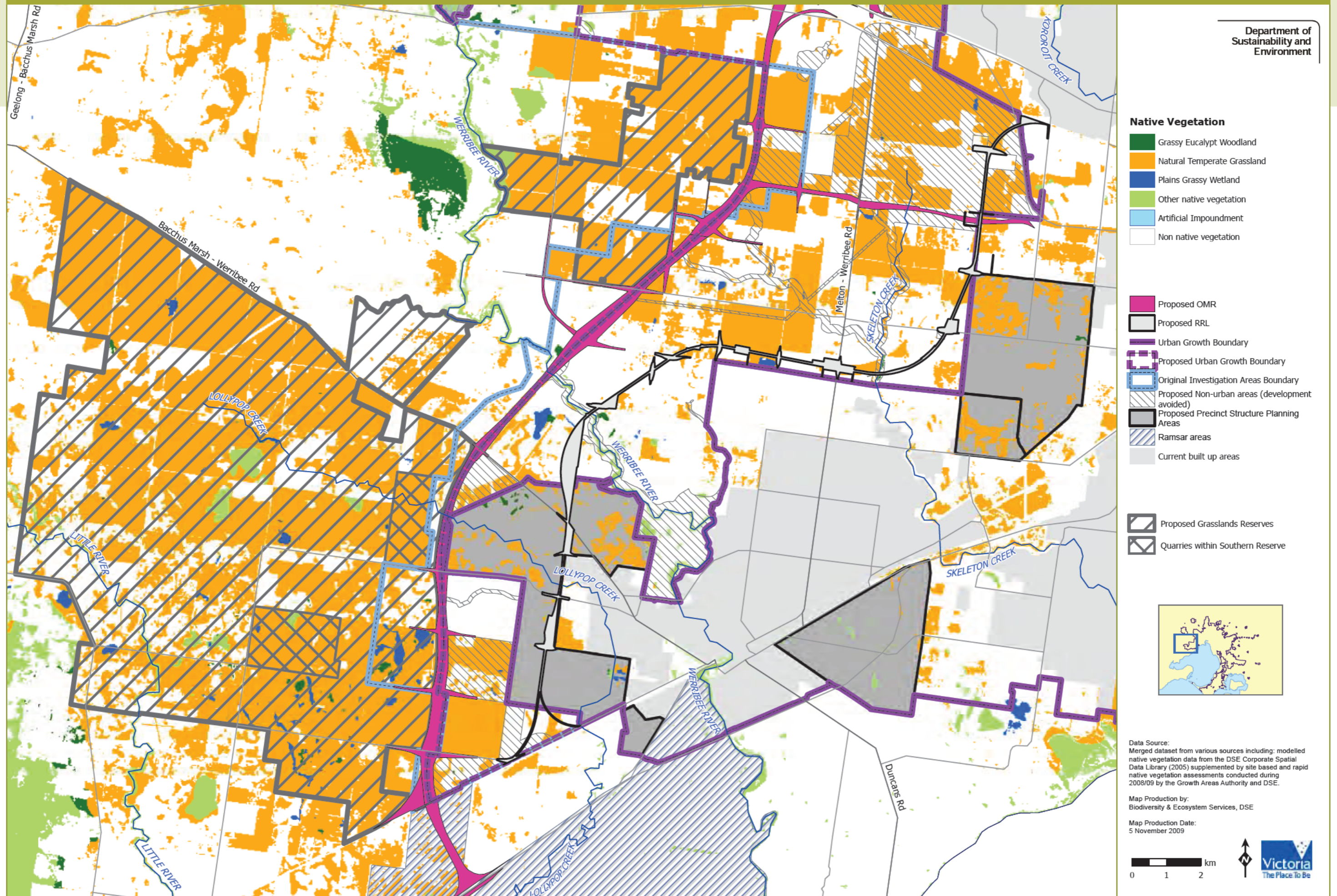
A report on the submissions received from both these rounds of consultation and the Victorian Government response has been prepared.

FIGURE 4. SAMPLE OF DETAILED NATIVE VEGETATION DATA USED IN THIS REPORT



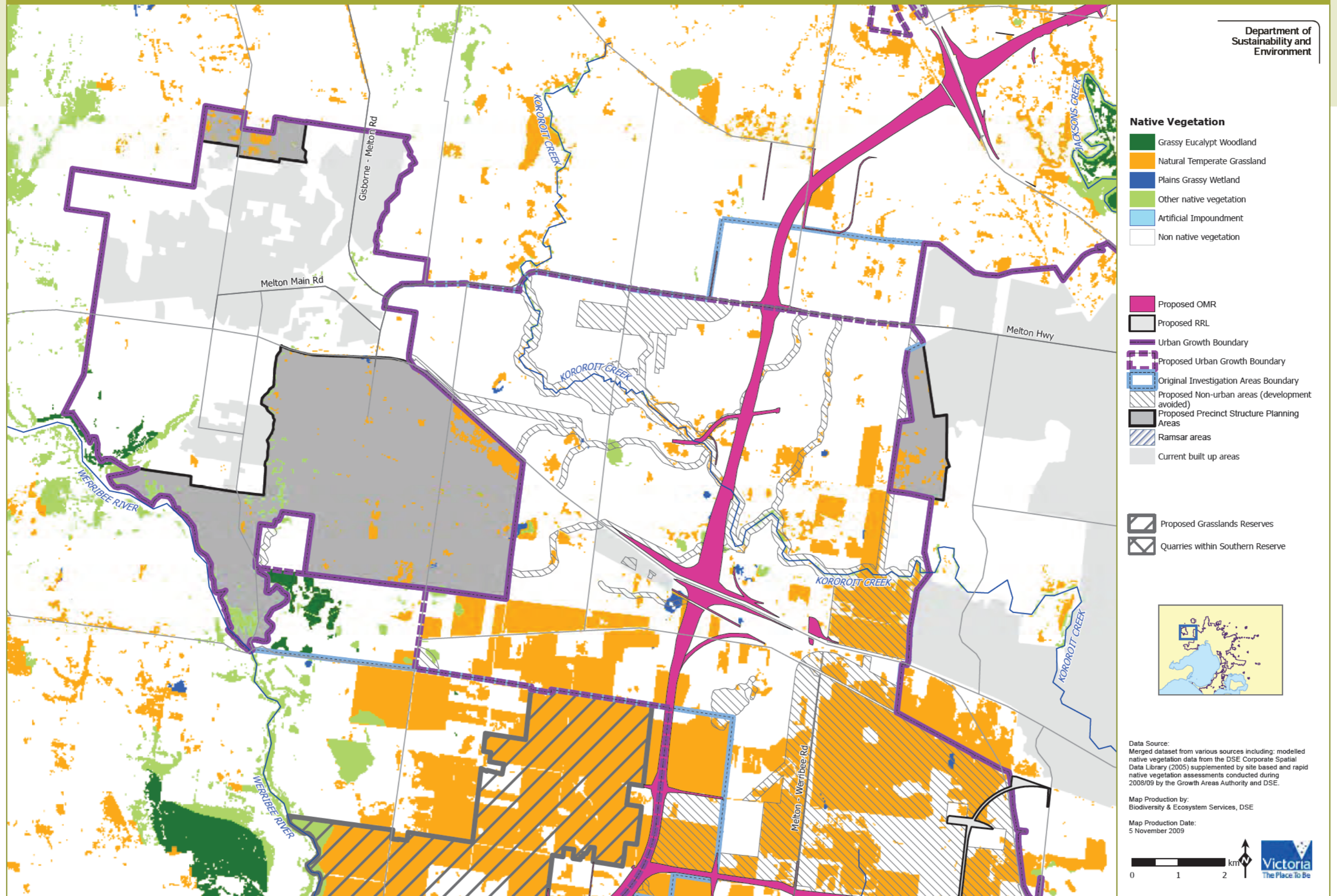
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FIGURE 5. NATIVE VEGETATION TO THE WEST OF MELBOURNE: WYNDHAM GROWTH AREA AND PROPOSED GRASSLAND RESERVES



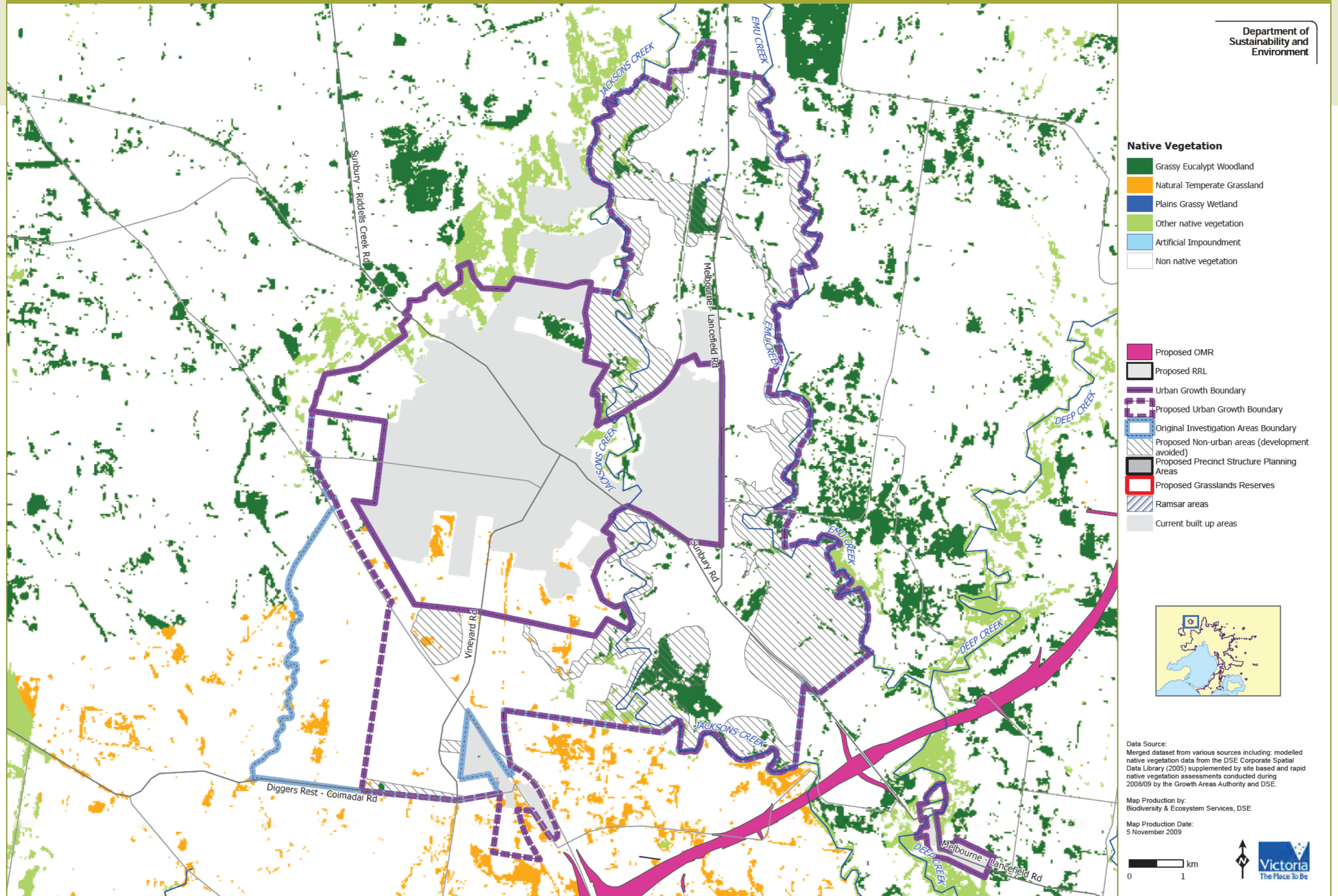
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FIGURE 6. NATIVE VEGETATION TO THE WEST OF MELBOURNE: MELTON AND CAROLINE SPRINGS GROWTH AREA



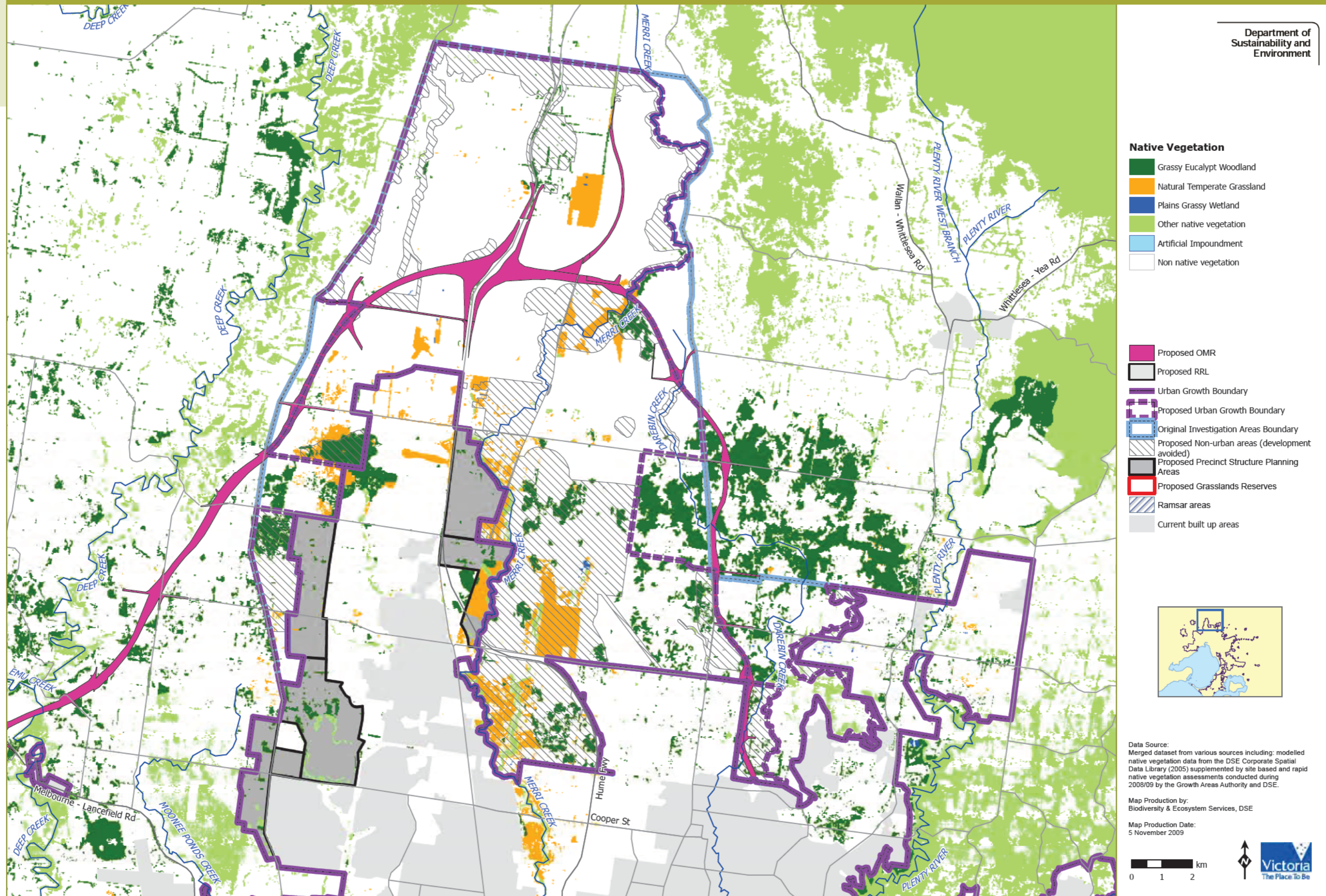
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FIGURE 7. NATIVE VEGETATION TO THE NORTH OF MELBOURNE: HUME (SUNBURY) GROWTH AREA



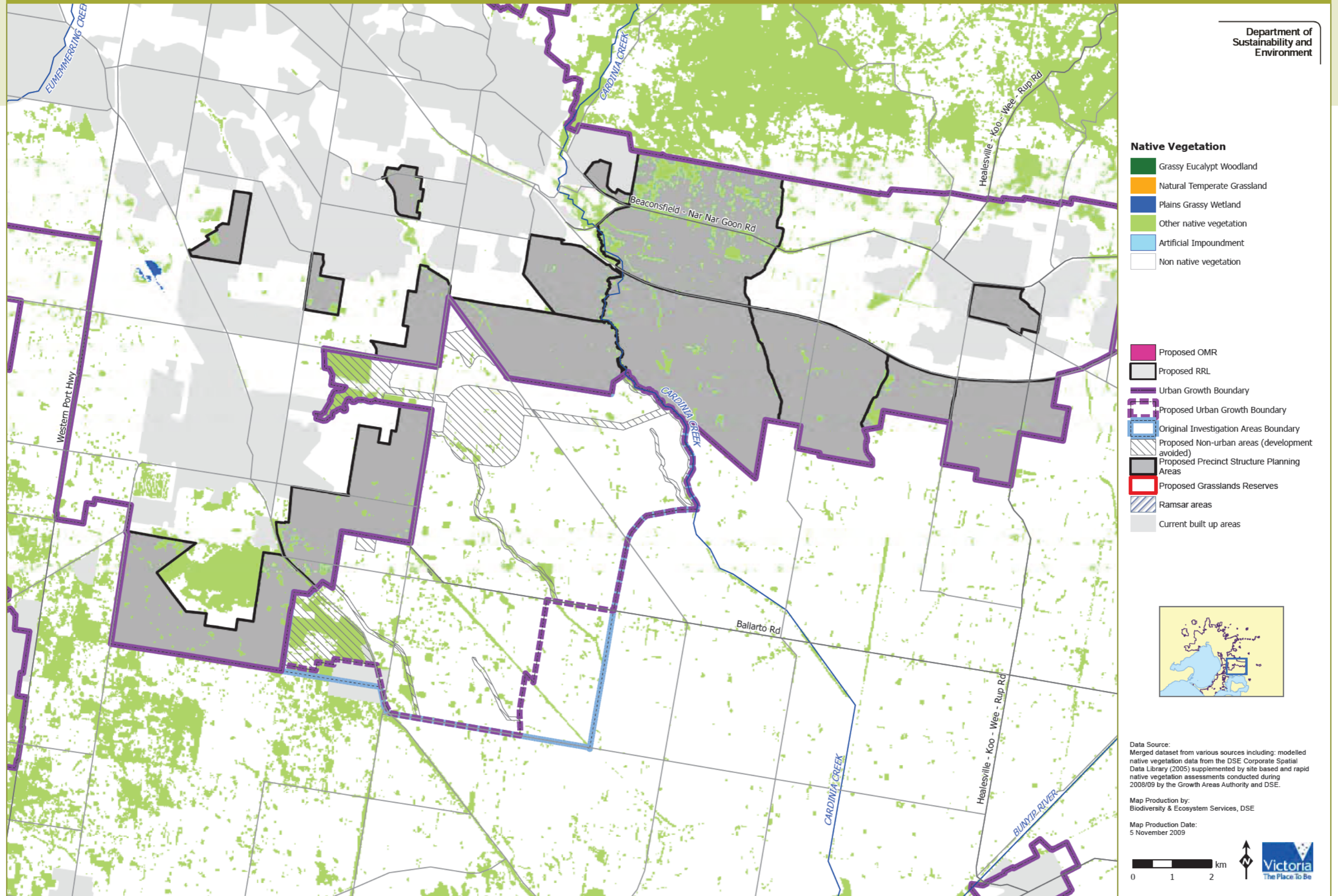
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FIGURE 8. NATIVE VEGETATION TO THE NORTH OF MELBOURNE: WHITTLESEA GROWTH AREA



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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;

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- 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.



