



Assessment of Code of Practice for Plantation Forestry: Australian Capital Territory

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Prepared for Australian Government Department of Agriculture, Fisheries and Forestry

May 2012

Cover Photo: Aerial view of a plantation site after site preparation. Contour ploughing is an erosion control measure that also facilitates the growth of a new plantation by reducing soil strength, and increasing soil aeration, soil moisture retention, weed control and nutrient availability. Debris was removed from the streamside buffer in the lower left of the photo, but this area was not cultivated.

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Contents

1.	Summary	5
2.	Background	5
3.	Method of assessment	6
3.1	General Approach.....	6
3.2	Approach in the ACT	6
3.3	CSIRO Team	8
3.4	Discussions and Field Visits	8
4.	Introductory comments on the Australian Capital Territory system	8
5.	Criterion 1: Compliance of plantation management with relevant planning schemes and legislation	9
5.1	Relevant National Principles and Questions	9
5.2	Existing Processes	9
5.3	Comments on Existing Processes.....	10
5.4	Scope for Improvement	10
5.5	Conclusion	10
6.	Criterion 2: Protection of native vegetation and animal communities and natural landscape values	10
6.1	Relevant National Principles and Questions	10
6.2	Existing Processes	11
6.3	Comments on Existing Processes.....	11
6.4	Scope for Improvement	12
6.5	Conclusion	12
7.	Criterion 3: Protection of water quality and, where required, management of water yield	12
7.1	Relevant National Principles and Questions	12
7.2	Existing Processes	12
7.3	Comments on Existing Processes.....	13
7.4	Scope for Improvement	13
7.5	Conclusion	13
8.	Criterion 4: Protection of soil resources	13
8.1	Relevant National Principles and Questions	13
8.2	Existing Processes	14
8.3	Comments on Existing Processes.....	14
8.4	Scope for Improvement	14
8.5	Conclusion	14
9.	Criterion 5: Protection of cultural heritage values	14

9.1	Relevant National Principles and Questions.....	14
9.2	Existing Processes.....	15
9.3	Comments on Existing Processes	15
9.4	Scope for Improvement.....	15
9.5	Conclusion	15
10.	Criterion 6: Protection from fire, pests and diseases	16
10.1	Relevant National Principles and Questions.....	16
10.2	Existing Processes.....	16
10.3	Comments on Existing Processes	16
10.4	Scope for Improvement.....	16
10.5	Conclusion	16
11.	Criterion 7: Training for environmental care	17
11.1	Relevant National Principles and Questions.....	17
11.2	Existing Processes.....	17
11.3	Comments on existing processes	17
11.4	Scope for Improvement.....	17
11.5	Conclusion	17
12.	Other National Principles.....	18
12.1	NP2. SAFETY	18
12.2	NP3. PLANNING.....	18
12.3	NP4. ACCESS	19
12.4	NP5. ESTABLISHMENT AND MAINTENANCE	19
12.5	NP6. TIMBER HARVESTING	19
12.6	NP7. FOREST PROTECTION.....	20
12.7	NP8. MONITORING AND REVIEW	20
13.	Acknowledgements.....	20
14.	References.....	21
	Appendix A – National Principles.....	22
	Appendix B – Acronyms	26
	Appendix C – Terms of reference for CSIRO.....	26
	Appendix D – Meetings and field visits.....	27
	Appendix E – Organisations or individuals consulted	27

1. SUMMARY

The Australian Capital Territory (ACT) Code and inter-related aspects of the forest practices system in the ACT, including its implementation, were assessed for their effectiveness in meeting the ‘Forest Practices Related to Wood Production in Plantations: National Principles’¹. These national principles are mainly concerned with environmental care. The current ACT Code and its implementation are generally achieving these national principles. The ACT plantation resource is small and declining in area. If there was a reversal of this trend, suggested improvements would be to more systematically implement training and auditing programs.

2. BACKGROUND

Codes of forest practice are integral to developing and managing forest plantations in Australia. Their development and implementation are a responsibility of State and Territory governments. The Commonwealth Government has a role in sustainable forest management at the national level, which is implemented through various Acts, regulations and policies (Plantations2020 2007). These include:

- *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*
- *Environment Protection and Biodiversity Conservation Act 1999*
- *Export Control Act 1982*
- Export Control (Unprocessed Wood) Regulations 1986
- Export Control (Hardwood Wood Chip) Regulations 1996
- Export Control (Regional Forest Agreements) Regulations 1997
- National Forest Policy Statement
- *Quarantine Act 1908*
- *Regional Forest Agreements Act 2002*
- Renewable Energy (Electricity) Regulations 2001

The Export Control (Unprocessed Wood) Regulations 1986 (section 4) requires the Federal Minister for Agriculture, Fisheries and Forestry to take into account the outcomes of a scientific assessment of a State or Territory code of practice in relation to its effectiveness in meeting the ‘Forest Practices Related to Wood Production in Plantations: National Principles’ (National Principles, Appendix A).

¹ <http://www.daff.gov.au/forestry/plantation-farm-forestry/principles>

The outcome of this assessment is part of the decision making process by the Minister, if businesses in the State or Territory are to be exempt from requiring export licences for unprocessed wood as chips or logs. This assessment has been conducted in close consultation with the State and Territory agencies responsible for developing and administering the Codes, and with input from other relevant parties including local government, planning authorities, and public and private plantation forest owners or managers. Codes in all States and Territories were previously assessed by CSIRO (Acronyms, Appendix B) during 1996-2002 (ACT in 1997).

In July 2010, CSIRO was commissioned by the Department of Agriculture, Fisheries and Forestry (DAFF) to undertake a second assessment. In addition, after this assessment, CSIRO was requested by DAFF to comment on the National Principles (Terms of Reference, Appendix C). This report is our assessment of the ACT Code.

3. METHOD OF ASSESSMENT

3.1 General Approach

The assessment followed a consistent approach across all States and Territories:

- Review of the scientific validity of the goals and guidelines contained in the Code, the way the Code is implemented, and how environmental performance and other aspects of compliance are monitored. The process did not fully evaluate environmental outcomes in the field, but observations at a sample of sites and discussions with stakeholders were used as the basis for assessing the impacts of forest operations on the environment.
- Effectiveness in complying with the National Principles was assessed against eight criteria based on responses to a set of questions exploring each criterion. These were agreed between DAFF, representatives of all States and Territories, and CSIRO at the outset.
- Review of the relevant regulations (e.g. planning) and guidelines applicable to the regional and local contexts that affect risk to environmental values.
- Discussions with key stakeholders.
- Visits to and discussions at representative sites where plantation forestry operations including harvesting could impact on the environment.
- In each State and Territory, we also sought information from organisations not concerned with wood production (e.g. Environment Protection Authority, local government, and one or more Aboriginal organisations) that could advise on potential environmental impacts and provide comments.

Although this assessment is focussed on the Code, it also took into account guidelines, policies and regulations that contributed to overall environmental outcomes, e.g. Territory-wide environmental plans for biodiversity, catchment management plans, company internal processes, and forest management certification.

3.2 Approach in the ACT

Our work was facilitated by Neil Cooper, Manager Fire, Forest and Roads, Department of Territory and Municipal Services, ACT. Key documents reviewed included:

- The ACT Code of Forest Practice, (hereafter referred to as the Code, Environment ACT 2005), which applies to native forests, plantations and other lands managed as part of the forest estate.
- Environmental risk assessments
- Work plans detailing environmental protection measures
- Draft Code of Sustainable Land Management, and associated manuals that provide guidelines on how to conduct plantation operations

We visited several forest plantations sites to understand how the Code and related measures were applied to achieve the intent of the National Principles. These visits focussed on plantation harvesting, which was the only significant plantation activity occurring during our visit.

A map showing the distribution of plantation land in the ACT in 2005 is provided in Fig. 1, but almost all the plantations in the western half of the estate shown were destroyed by a bushfire in 2003. The ACT has about 8,000 hectares of plantations (mainly *Pinus radiata*), which is 0.4% of the national total of 2 M hectares (Gavran and Parsons 2011).

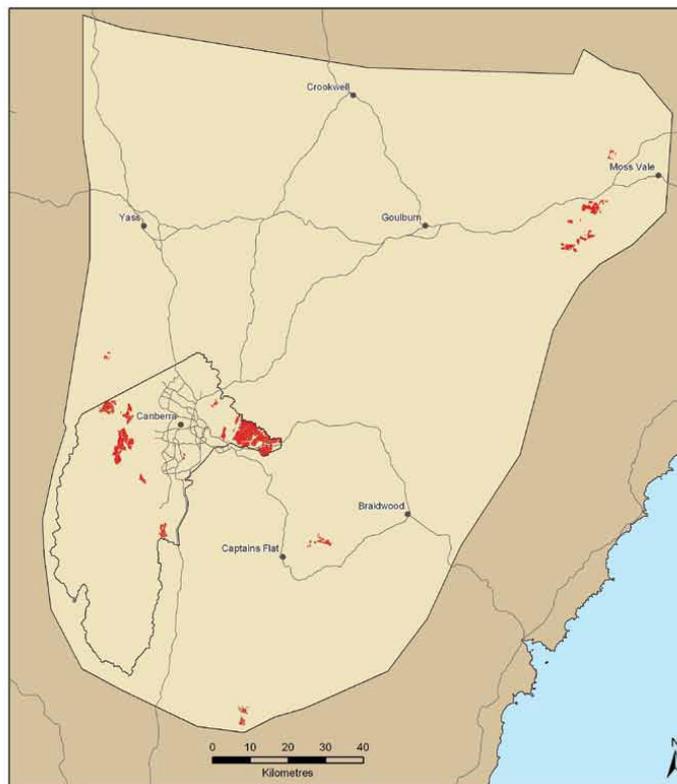


Figure 1. Map showing the location of plantations in the ACT and neighbouring areas (Gavran and Parsons 2011). Softwoods plantations are shown as red. There are no commercial hardwood plantations in the ACT. Note that plantations destroyed by fire wildfire in the 18th of January 2003, and not retained as plantation area, are not shown. Only a very small proportion of the burnt area was replanted.

3.3 CSIRO Team

The CSIRO team consisted of Philip Smethurst (Project Leader), John Raison, Sadanandan Nambiar, and Bradley Moggridge, which covered all fields of expertise required and it specifically included sustainable plantation management, soils, nutrition, hydrology, biodiversity, conservation, and cultural heritage. Smethurst, Raison, and Nambiar participated in the field visit. Moggridge conducted a desk-top assessment of cultural heritage values, including contact with relevant stakeholders.

3.4 Discussions and Field Visits

The team visited the ACT once during the assessment, with the itinerary as provided in Appendix D. Smethurst also gathered information from the EPA. During these visits and follow-up activities we gathered the information required for the assessment of the Code in the ACT.

4. INTRODUCTORY COMMENTS ON THE AUSTRALIAN CAPITAL TERRITORY SYSTEM

The commercial forest plantations in the ACT consist of 8,470 hectares of *Pinus radiata* managed by the Department of Territory and Municipal Services. This is about half the area that existed before the 2003 bushfire. After that bushfire, small areas of plantation were re-established, and some areas that previously supported plantations were designated for other uses. A summary of the current plantation estate and its management in the ACT is provided by The Department of Territory and Municipal Services (http://www.tams.act.gov.au/play/pcl/parks_reserves_and_open_places/trees_and_forests/forest_land_areas).

Despite the small area of the estate, plantation management practices in the ACT are required to comply with the Code. We were also provided with a draft of a revised version of the Code (along with associated guidance manuals), which is intended to also cover all land use operations conducted by the Department of Territory and Municipal Services.

Staff and other resources available for plantation management are very limited. We discussed Code matters with most staff, and despite these limitations, they were very committed to achieving Code goals. They explained that their historical records had been completely lost during the 2003 bushfire, which left them without hard or electronic information systems, including maps, records of plantation areas and age classes, etc. Since the bushfire, maps and databases have been only partially re-established.

5. CRITERION 1: COMPLIANCE OF PLANTATION MANAGEMENT WITH RELEVANT PLANNING SCHEMES AND LEGISLATION

5.1 Relevant National Principles and Questions

National Principle: 1.3

1.3 Plantation management should comply with State and regional conservation and catchment management objectives, relevant planning schemes and legislation.

a) Are the processes adequate to meet this criterion?

5.2 Existing Processes

The regulatory guidelines used in plantations operations in the ACT include the following;

- *Emergencies Act 2004*
- *Environment Protection Act 1997*
- *Fisheries Act 2000*
- *Heritage Act 2004*
- *Nature Conservation Act 1980*
- *Occupational Health and Safety Act 1989*
- *Planning and Development Act 2007*
- *Public Health Act 1997*
- *The Water Resources Act 2007*
- *Pest Plant and Animals Act 2005*
- ACT Code of Forest Practice (Environment ACT 2005)
- ACT Heritage Guidelines
- ACT Nature Conservation Strategy
- ACT Natural Resource Management Plan 2004-2014
- ACT Integrated Catchments Management Framework
- ACT Electricity and Water “Think water act water” strategy
- Environmental Authorisations
- Harvesting Manual Dec 2005
- Rooding Manual Jan 2006
- Lower Cotter Catchment (Draft) Strategic Management Plan 2006
- Silvicultural Manual July 2006
- The Territory Plan

The Code lists relevant Territory and Commonwealth legislation, and it specifically addresses each of the areas set out in the National Principles, e.g. native plant and animal communities, water, soil, fire, pests and diseases, and cultural heritage. In each section, general principles and operational principles are described.

Plantation developments require approval from the EPA through an application for environmental authorisation. The Department of Territory and Municipal Services has approval for several plantation activities including forest operations, chemical application, and hazard reduction burning. The conditions on forest operations have been incorporated into the Code. If operations outside these conditions are necessary, written approval from the EPA is required.

Implementation of individual activities (e.g. a harvesting operation) is guided by a works plan that identifies any risks to values described in the National Principles, and it provides instructions on how operations are to proceed in a manner that protects these values.

5.3 Comments on Existing Processes

Plantation management using the ACT forest practices system adequately informs users of relevant planning schemes and legislative requirements. These requirements are specified in works plans that require internal approval and provide good operational guidance.

5.4 Scope for Improvement

We have identified no scope for improving the Code to meet this criterion.

5.5 Conclusion

The ACT has an effective system of planning for (i) identifying and defining environmental risks, and (ii) regulating plantation activities that might pose risks to environmental values. The system is supported by guidelines for addressing the risks at the planning stage.

6. CRITERION 2: PROTECTION OF NATIVE VEGETATION AND ANIMAL COMMUNITIES AND NATURAL LANDSCAPE VALUES

6.1 Relevant National Principles and Questions

National Principles: 1.1, 1.2 and 1.8, except for cultural heritage values, which are considered in Criterion 5

<p>1.1 Native forest should not be cleared for plantation establishment where this would compromise regional conservation and catchment management objectives. In some circumstances it may be appropriate to clear forests that have been severely degraded by impacts such as disease, weed invasion, wind and fire so as to enable rehabilitation through replanting.</p>
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- 1.2 Values such as intensive recreation, high scenic quality, significant geomorphic, biological, or cultural heritage sites, should be recognised in the planning of plantation forest operations.
- 1.8 Fauna, floristic, and landscape values should be protected by the careful planning of plantation layout establishment operations and the reservation and protection of appropriate areas of native vegetation; such values should be recognised in subsequent plantation management.

- a) Are the processes for managing the clearing of native vegetation adequate to meet the objectives of the National Forest Policy Statement (including the objective of not clearing for plantation establishment where this would compromise regional conservation and catchment management objectives)?
- b) Do these processes take into account the need to achieve adequate conservation of important natural heritage values?
- c) Are there measures and processes in place for the identification of these values in assessing proposed plantation sites and adjacent areas for natural values?
- d) Where values are identified are protection measures taken into account in the planning and future management of plantations?
- e) In the planning of plantation layout and establishment operations, are there measures and processes for managing identified natural heritage values, including the protection of threatened species and communities?

6.2 Existing Processes

The Code requires all natural heritage values (native animal and plant communities, and other landscape values) to be considered during the planning process and particularly in operational plans, which are called ‘works’ plans by the Department of Territory and Municipal Services. Specifically, managers need to take into account information from a range of sources: regional strategic plans for the conservation of flora and fauna, action plans for protecting threatened and endangered species and ecological communities, vegetation maps, and databases. Specialists from the ACT Environment and Sustainable Development Directorate are available for advice on this criterion.

Because the ACT plantation estate is not expanding, there is no significant clearing of native vegetation or planting of cleared land. Where a special need to remove remnant individuals or patches of native vegetation arises for safety or other operational reasons, it can occur only where the action does not put at risk the regional conservation strategy and permission is obtained from the ACT Environment and Sustainable Development Directorate.

6.3 Comments on Existing Processes

The works plans that we studied included specific consideration of these values, and appropriate management actions.

6.4 Scope for Improvement

We have identified no scope for improving the Code to meet this criterion.

6.5 Conclusion

The ACT has good processes in place, via the Code and other mechanisms, to protect native plant and animal communities and other natural landscape values.

7. CRITERION 3: PROTECTION OF WATER QUALITY AND, WHERE REQUIRED, MANAGEMENT OF WATER YIELD

7.1 Relevant National Principles and Questions

National Principles: 1.4 and 1.5

- 1.4 Water quality (physical, chemical, or biological) should be protected by measures controlling change resulting from plantation activities
- 1.5 Water yield should be managed as required by careful planning of operations.

- a) Do measures that protect water quality include streams, springs, soaks, swampy ground and bodies of standing water, and minimise sediment and other contaminant input to streams from plantation areas including roads?
- b) What environmentally sound guidance regarding plantation management strategies for the use of nutrients and biocides do the codes of practice provide especially to ensure that changes to water quality are within acceptable limits?
- c) Where the water resource is required to be managed (for example, controlled catchments), do the codes of practice provide effective strategies for managing water yield?

7.2 Existing Processes

Section 5 of the Code focuses on protecting water quality. All operational plans need to be consistent with the objective of maintaining water quality and conserving riparian values. Eight classes of water courses are identified. Minimum widths of buffers (riparian management zones) are prescribed and these are extended for steep slopes and erodible soils. Plantations are permitted in drainage lines or depressions, but machinery can not enter these areas. Water quality monitoring as required by the EPA is described in general terms in the Code. There are also provisions in the Code for stopping work during wet weather.

Water quantity is not considered in the Code.

7.3 Comments on Existing Processes

Our visit occurred during very wet conditions. This enabled us to observe how harvesting operations are monitored and regulated when significant risks to soil and water values arise. The supervisor and harvesting contractor were well-aware of the wet weather provisions of the Code and halted operations in accordance with the Code. Plans clearly identified waterways and the required buffers. Drainage of roads was appropriate.

Investments to meet the strict provision for water quality monitoring as described in the Code lapsed due to the doubtful value of such monitoring. Turbidity was monitored monthly for some years, but this has not been continued. Turbidity in some water reserves was monitored after the 2003 bushfire, as ash and soil contamination had seriously degraded water quality to the extent that it could not be used for domestic purposes. This problem passed after a few years due to natural revegetation processes, as well as erosion control measures implemented in the catchments.

Salvage and clearing operations after the 2003 bushfire were conducted with appropriate consideration of erosion risks (see e.g. cover photo).

Water supply for the ACT is provided from three sources, several dams in the Cotter catchment (which are fed mainly from native forest catchments in Namadgi National Park), the Googong dam in NSW (which is fed mainly by an agricultural catchment), and extractions from the Murrumbidgee River. Because plantations make up only a small proportion of the sources areas for these water supplies, it is justified that plantation effects on water yield are not considered in the Code.

7.4 Scope for Improvement

We did not identify any potential improvements required in the water quality provisions of the Code, and the lack of provisions for water quantity is not a concern.

7.5 Conclusion

The Code and other aspects of the forest practices system provide a comprehensive approach to protecting water quality in the ACT.

8. CRITERION 4: PROTECTION OF SOIL RESOURCES

8.1 Relevant National Principles and Questions

National Principles: 1.6 and 1.7, except cultural heritage values are considered in Criterion 5

- | | |
|-----|--|
| 1.6 | Soil stability should be protected by measures, which regulate site disturbance. |
| 1.7 | Soil, water catchment, cultural and landscape values should be protected by the careful location, construction, and maintenance of roads and tracks, and regulation of their use |

- a) Are there measures and processes in place to assess the risks to soil resources? How are differences in soil type, topography and climatic conditions taken into account?
- b) Do the codes of practice provide guidelines for roading, harvesting and site preparation that minimise soil loss or adverse change to soil properties?

8.2 Existing Processes

The importance of soil protection from erosion and other soil degrading processes, including compaction and loss of nutrients, organic matter, or structure, is recognised in the Code. Five soil erodibility classes are defined, and appropriate management guidelines provided, e.g. the use of low-impact machinery and erosion mitigation measures.

Retention of harvesting slash to retain organic matter and nutrients on-site and to protect soil from erosion is an operational principle in the Code. In practice this translates to slash retention on-site, which is not burnt.

8.3 Comments on Existing Processes

Existing processes are adequate for meeting this criterion.

8.4 Scope for Improvement

We identified no specific improvements for improving the Code for this criterion.

8.5 Conclusion

Plantation forestry in the ACT achieves soil protection by having well-defined Code goals and guidelines.

9. CRITERION 5: PROTECTION OF CULTURAL HERITAGE VALUES

9.1 Relevant National Principles and Questions

National Principle: NP 1.7 and 1.8, cultural heritage aspects only.

- 1.7 Soil, water catchment, cultural and landscape values should be protected by the careful location, construction, and maintenance of roads and tracks, and regulation of their use
- 1.8 Values such as intensive recreation, high scenic quality, significant geomorphic, biological, or cultural heritage sites, should be recognised in the planning of plantation forest operations.

- a) In the planning of plantation layout, establishment and maintenance operations, are there measures and processes for managing cultural heritage values?

9.2 Existing Processes

The Code specifies that the heritage of Aboriginal and non-Aboriginal cultures must be considered during preparation of an operational plan. The *Heritage Act 2004* is the primary piece of legislation for this section of the Code. This Act makes it an offence (sections 74 and 75) if the person engages in conduct that causes damage to or disturbs a heritage place or object, or reckless or negligent behaviour diminishes heritage significance.

The Act states that as soon as a place or object is reported, the ACT Heritage Council must arrange consultation with Representative Aboriginal Organisations, of which there are four appointed by the Minister.

The ACT Heritage Register and contact with a relevant officer in the ACT Heritage Council or Department of Environment and Sustainability is used to identify known heritage sites. If sites are identified during preparation of plans, a survey is conducted of the area and exclusion zones identified on maps. Discovery of a feature during operations that might be of heritage value must be notified to ACT Heritage staff within five working days. ACT Heritage then advises on the appropriate course of action. However, the determination of the presence of new Aboriginal objects or places is at the discretion of the officers with delegated authority over the plantation without any input from local Aboriginal representatives. It is then the responsibility of ACT Government and the Heritage Unit to ensure that officers are appropriately trained and informed regarding requirements under the relevant heritage legislation.

9.3 Comments on Existing Processes

The works plan required for forestry activities in the ACT, which needs to be approved before activities commence, requires managers to record in a standard format if there are any cultural heritage sites in the area, and if so, their location and management intent. We were not told of any serious breaches of this criterion.

There is currently no guidance for establishing buffers and exclusion zones around Aboriginal places or objects, but these are being prepared by the ACT Heritage Unit.

9.4 Scope for Improvement

We suggest further advice be provided for plantation managers on the process of identifying heritage sites and complying with the requirements of the *Heritage Act 2004*.

9.5 Conclusion

We conclude that Code guidance and implementation is adequate to protect cultural heritage values on the plantation estate of the ACT.

10. CRITERION 6: PROTECTION FROM FIRE, PESTS AND DISEASES

10.1 Relevant National Principles and Questions

National Principle: 1.9

1.9 Plantations and adjacent native forests should be protected from the adverse effects of fire and from the introduction and spread of plant, insect and animal pests and plant diseases.

- a) Do the codes of practice provide for fire management plans for plantations including containment from adjacent native forest?
- b) Do the codes of practice provide guidelines to deal with outbreaks of pest and diseases?

10.2 Existing Processes

The Code provides general and operational principles that guide the suppression of wildfires, management of controlled fuel reduction burns, and the layout of fire breaks and water sources, which are part of a Strategic Fire Management Plan. Plant and equipment use is also regulated, e.g. excluded from operating on days of very high fire danger or when a total fire ban is declared, and they must be capable of extinguishing a fire on or caused by the machine. There is also regional coordination of fire control or management activities, e.g. with NSW authorities.

The Code contains general and operating principles in relation to pests and diseases, e.g. use of disease-free planting stock, Sirex insect management, baiting programs for feral animals, and other pests and diseases common in the ACT. Trap trees are used for Sirex monitoring, and there is coordination at a national level that includes checks on effectiveness of Sirex control.

Some serious weed problems exist, e.g. blackberry, for which there is inadequate control.

10.3 Comments on Existing Processes

We were not told of any concerns about these measures, which are generally adequate. However, the loss of life and destruction caused by the 2003 bushfire is evidence that fire protection measures might not be adequate in extreme circumstances.

10.4 Scope for Improvement

We have identified no scope for improving the Code to meet this criterion.

10.5 Conclusion

Existing Code content and implementation processes are generally adequate for protection against fire, weeds, and other pests.

11. CRITERION 7: TRAINING FOR ENVIRONMENTAL CARE

11.1 Relevant National Principles and Questions

National Principle: 1.10

1.10 Operators will be trained in the principles of environmental care.

a) Are the processes adequate to meet this criterion?

11.2 Existing Processes

The Code does not explicitly deal with training for environmental care.

Most, if not all, forestry operations are out-sourced to contractors, who are briefed about provisions of the Code. Work plans that include key aspects of environmental management pertinent to the particular operations are discussed by the forest manager with supervisors of contractors. However, operators change regularly, and it is expected that some are probably not initially aware of the Code.

11.3 Comments on existing processes

As a general comment, environmental management is complex, including understanding and implementing a code. Well trained operators are central, because they implement a code operationally and thereby have a large influence on outcomes. In the ACT, managers and supervisors are trained to some extent in these aspects, but Code effectiveness is likely to be further enhanced if all practitioners have at least a basic understanding of environmental management.

11.4 Scope for Improvement

There are several avenues, formal and informal, through which forestry contractors and their operators can receive training. If the plantation forestry business is to continue in the ACT, we suggest that there is a need to develop a more formalised and systematic training program for contractors and operators. To achieve a uniform high standard of environmental training it would be highly desirable that such a training program be delivered by territory or national training organisations.

11.5 Conclusion

Training needs should be more specifically addressed in the Code. Formal, holistic training and refresher courses for contractors and operators would improve confidence in achieving environmental outcomes.

12. OTHER NATIONAL PRINCIPLES

There are a further 23 National Principles (NPs), but many of these overlap extensively with those of Environmental Care dealt with above. In this section, each of these additional NPs is listed, and a *Comment* are added if a principle has not already been fully addressed.

12.1 NP2. SAFETY

2.1 All plantation establishment, management and utilisation activities will be conducted to comply with relevant occupational health and safety legislation and policy. In particular, all operators should be trained to designated standards in the safe and efficient use of equipment and machinery, and be responsible for safe working practices.

Comment: This principle restates a requirement that already exists under federal and state worker safety legislation.

12.2 NP3. PLANNING

3.1 State and Local Governments should, with appropriate public involvement, pursue planning policies that provide secure zoning for commercial planting with the objective that tree planting and subsequent harvesting for commercial wood production should be an “as of right” use.

3.2 State Governments will establish a sound legal basis for separating the forest asset component from the land asset for tree plantings. The Commonwealth Government Will consider similar action re taxation, capital valuation etc.

3.3 Plantation strategic planning should be developed in conjunction with regional development plans.

3.4 The environmental, social and economic effects of all plantation operations envisaged for an area will be considered during the planning process.

3.5 Individual plantation operations will be conducted in accordance with relevant codes of practice.

Comment:

NP 3.2 There is no privately owned commercial plantation in the ACT.

NP 3.4 As far as we could ascertain there is no policy that supports commercial forestry investment in the ACT. Regarding social aspects, the ACT government has a long history of providing recreational opportunities in plantations for community, and liaising with the community about plantation operations.

Other principles on planning have been addressed earlier in this report.

12.3 NP4. ACCESS

4.1 Planning of road systems in plantations will be based on both the economic principle of minimising the combined cost of roading and extraction and on the Principles of Environmental Care.

4.2 Road design will be to standards consistent with the purpose for which the road is to be used, and capable of carrying the anticipated traffic with reasonable safety.

4.3 Construction and maintenance of roads and associated works will be undertaken in a manner, which will ensure compliance with the Principles of Environmental Care.

4.4 Roads will be closed in wet conditions when unacceptable damage would occur or when such other conditions may warrant.

Comment: Without reporting on roads as a separate criterion, these principles have been implicitly addressed earlier in this report. Roads are recognized in the Code as a major potential source of environmental concern, and guidance on their design and management is provided in section 7 of the Code.

12.4 NP5. ESTABLISHMENT AND MAINTENANCE

5.1 Plantation establishment methods should be economically and environmentally appropriate for the particular requirements of the species to be planted and the specific site conditions.

5.2 Establishment of plantations may involve introduction of selected species, provenances or populations to increase productivity or value. However management of these plantations should aim to constrain or prevent the introduction of these species into surrounding areas.

5.3 Intensive management practices, such as site preparation, fertilising, weed control, pest and disease control and other operations will be carried out in accordance with codes of practice, and consistent with the Principles of Environmental Care.

Comment:

NP 5.2 The small area of commercial plantations in the ACT consist of radiata pine, which is an introduced species. As long as this remains the case we have no concerns about or need for managing gene flow between plantations and native forests.

Other principles on establishment and maintenance have been addressed earlier in this report.

12.5 NP6. TIMBER HARVESTING

6.1 Timber harvesting will be planned and carried out under codes of practice to meet the Principles of Environmental Care.

6.2 The harvesting plan will consider factors such as harvesting unit size, slope and location of harvesting units: design and location of landings and snig tracks; harvesting equipment; areas excluded from logging; and areas specified for protection and reforestation.

6.3 Harvesting operations should not be conducted in a manner which compromises the Principles of Environmental Care, or where the safety of workers is at unacceptable risk.

6.4 Soil and water values should be protected by progressive rehabilitation and drainage of snig tracks, temporary roads, log dumps and any other earthworks associated with harvesting operations.

Comment: These principles on timber harvesting have been addressed earlier in this report.

12.6 NP7. FOREST PROTECTION

7.1 Fire protection planning should be undertaken on a regional basis in co-ordination with relevant land management agencies and with local bush fire control organisations.

7.2 Plantation health surveillance should be undertaken on a regular basis.

7.3 Where weeds, pests or diseases cause significant damage, decline, or deaths of trees, prompt specialist advice should be sought to address the problem.

7.4 Use of chemicals, such as herbicides and pesticides, and other pest control methods in plantation operations will be in accordance with State policies, procedures and approved usage.

Comment: These principles on forest protection have been addressed earlier in this report.

12.7 NP8. MONITORING AND REVIEW

8.1 Where practicable, plantation operations should be supervised and monitored by qualified persons and be subject to audit

8.2 The National Principles should be reviewed and evaluated after three years.

Comment: Internal monitoring systems are limited to occasional checks of each forestry operation, but no formal auditing is conducted. The EPA has the right to inspect plantations, but in recent years they apparently have not seen a need to do so, which implies that there are no serious environmental concerns related to plantation forestry. We note that the same ACT department is responsible for the code, its implementation, and plantation operations. This creates a potential perception of lack of independence, but such concerns could be allayed by auditing of Code outcomes and the public release of an audit report.

13. ACKNOWLEDGEMENTS

We thank the staff of the Department of Territory and Municipal Services, especially Neil Cooper, Manager Fire, Forest and Roads, for visit coordination and other assistance.

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APPENDIX A – NATIONAL PRINCIPLES

FOREST PRACTICES RELATED TO WOOD PRODUCTION IN PLANTATIONS: NATIONAL PRINCIPLES

PREAMBLE

Wood production is an accepted major commercial use of Australia's forests and is the primary purpose for establishing and managing plantations. In addition, plantations can provide a range of commercial, environmental and aesthetic benefits to the community. In pursuing a vision of ecologically sustainable management of Australia's forests, Australian Governments, through the National Forest Policy Statement, have enunciated a national goal for plantations:

“to expand Australia's commercial plantations of softwoods and hardwoods so as to provide an additional, economically viable, reliable and high quality wood resource to industry”.

In this context, the establishment of plantations for wood production should be determined on the basis of economic viability and international competitiveness, and market forces should determine the extent of resource use and the nature of industry operations. In essence, plantations established for wood production should be treated in the same way as any agricultural productions.

To achieve greater investment in plantations, it will be necessary to ensure that the impediments to plantation development are minimal, that clear and consistent policies for resource development are established across all levels of government and that there is security of access to established resources. Provided that social and environmental objectives are met, Governments will keep regulations to a minimum. For example, the Commonwealth will remove controls over the export of unprocessed public and private plantation wood subject to the application of codes of practice to protect environmental values. Furthermore, it is not intended that controls be imposed on the plantation industry that would not apply to other agricultural activities.

In accordance with the National Forest Policy Statement, the Ministerial Council on Forestry, Fisheries and Aquaculture, representing the States and the Commonwealth's forestry authorities, has prepared this statement of national principles to be applied in the management of plantations.

These principles et the framework for a consistent and scientific basis for sound plantation management to which all States and Territories subscribe. Codes of practice for plantations, conforming to the national principles, will be developed by the States and Territories taking into account the range of plantation types, conditions and situations applying due to natural and cultural variations. Several States and Territories already have such codes in place.

The principles have been structured into several sections relating to different activities

associated with plantation production: The principles apply to both public and private plantations.

1. PRINCIPLES OF ENVIRONMENTAL CARE

1.1 Native forest should not be cleared for plantation establishment where this would compromise regional conservation and catchment management objectives. In some circumstances it may be appropriate to clear forests that have been severely degraded by impacts such as disease, weed invasion, wind and fire so as to enable rehabilitation through replanting.

1.2 Values such as intensive recreation, high scenic quality, significant geomorphic, biological, or cultural heritage sites, should be recognised in the planning of plantation forest operations.

1.3 Plantation management should comply with State and regional conservation and catchment management objectives, relevant planning schemes and legislation.

1.4 Water quality (physical, chemical, or biological) should be protected by measures controlling change resulting from plantation activities

1.5 Water yield should be managed as required by careful planning of operations.

1.6 Soil stability should be protected by measures, which regulate site disturbance.

1.7 Soil, water catchment, cultural and landscape values should be protected by the careful location, construction, and maintenance of roads and tracks, and regulation of their use.

1.8 Fauna, floristic, and landscape values should be protected by the careful planning of plantation layout establishment operations and the reservation and protection of appropriate areas of native vegetation; such values should be recognised in subsequent plantation management.

1.9 Plantations and adjacent native forests should be protected from the adverse effects of fire and from the introduction and spread of plant, insect and animal pests and plant diseases.

1.10 Operators will be trained in the principles of environmental care.

2. SAFETY

2.1 All plantation establishment, management and utilisation activities will be conducted to comply with relevant occupational health and safety legislation and policy. In particular, all operators should be trained to designated standards in the safe and

efficient use of equipment and machinery, and be responsible for safe working practices.

3. PLANNING

3.1 State and Local Governments should, with appropriate public involvement, pursue planning policies that provide secure zoning for commercial planting with the objective that tree planting and subsequent harvesting for commercial wood production should be an “as of right” use.

3.2 State Governments will establish a sound legal basis for separating the forest asset component from the land asset for tree plantings. The Commonwealth Government will consider similar action re taxation, capital valuation etc.

3.3 Plantation strategic planning should be developed in conjunction with regional development plans.

3.4 The environmental, social and economic effects of all plantation operations envisaged for an area will be considered during the planning process.

3.5 Individual plantation operations will be conducted in accordance with relevant codes of practice.

4. ACCESS

4.1 Planning of road systems in plantations will be based on both the economic principle of minimising the combined cost of roading and extraction and on the Principles of Environmental Care.

4.2 Road design will be to standards consistent with the purpose for which the road is to be used, and capable of carrying the anticipated traffic with reasonable safety.

4.3 Construction and maintenance of roads and associated works will be undertaken in a manner, which will ensure compliance with the Principles of Environmental Care.

4.4 Roads will be closed in wet conditions when unacceptable damage would occur or when such other conditions may warrant.

5. ESTABLISHMENT AND MAINTENANCE

5.1 Plantation establishment methods should be economically and environmentally appropriate for the particular requirements of the species to be planted and the specific site conditions.

5.2 Establishment of plantations may involve introduction of selected species, provenances or populations to increase productivity or value. However management of

these plantations should aim to constrain or prevent the introduction of these species into surrounding areas.

5.3 Intensive management practices, such as site preparation, fertilising, weed control, pest and disease control and other operations will be carried out in accordance with codes of practice, and consistent with the Principles of Environmental Care.

6. TIMBER HARVESTING

6.1 Timber harvesting will be planned and carried out under codes of practice to meet the Principles of Environmental Care.

6.2 The harvesting plan will consider factors such as harvesting unit size, slope and location of harvesting units: design and location of landings and snig tracks; harvesting equipment; areas excluded from logging; and areas specified for protection and reforestation.

6.3 Harvesting operations should not be conducted in a manner which compromises the Principles of Environmental Care, or where the safety of workers is at unacceptable risk.

6.4 Soil and water values should be protected by progressive rehabilitation and drainage of snig tracks, temporary roads, log dumps and any other earthworks associated with harvesting operations.

7. FOREST PROTECTION

7.1 Fire protection planning should be undertaken on a regional basis in co-ordination with relevant land management agencies and with local bush fire control organisations.

7.2 Plantation health surveillance should be undertaken on a regular basis.

7.3 Where weeds, pests or diseases cause significant damage, decline, or deaths of trees, prompt specialist advice should be sought to address the problem.

7.4 Use of chemicals, such as herbicides and pesticides, and other pest control methods in plantation operations will be in accordance With State policies, procedures and approved usage.

8. MONITORING AND REVIEW

8.1 Where practicable, plantation operations should be supervised and monitored by qualified persons and be subject to audit.

8.2 The National Principles should be reviewed and evaluated after three years.

APPENDIX B – ACRONYMS

ACT	Australian Capital Territory
AFS	Australian Forestry Standard
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DAFF	Department of Agriculture, Fisheries and Forestry
EPA	Environment Protection Authority
FSC	Forest Stewardship Council
NP	National Principle
NSW	New South Wales
TOR	Terms of Reference

APPENDIX C – TERMS OF REFERENCE FOR CSIRO

In undertaking a review of Codes of Practice for the states and territories for assessment against “*Forest Practices Related to Wood Production in Plantations: National Principles*”, (National Principles), the CSIRO will:

1. By 30 June 2011, assess codes of practice for measures and processes for the protection of environmental values. This will include:
 - the scientific quality of the measures
 - their method of implementation
 - adequacy of procedures for auditing, monitoring and securing compliance.
2. Provide a statement on the measures and processes that are in place that address each National Principle.
3. Identify if new measures and processes or modifications are required to adequately address the any National Principle.
4. Prepare draft reports for comment by the Commonwealth and the relevant State/Territory following each assessment.
5. Prepare a final report for the Commonwealth and the relevant State/Territory following revision of the draft reports.
6. Provide assessment of areas to be considered for updating the National Principles following completion of all assessments.

APPENDIX D – MEETINGS AND FIELD VISITS

Visit 10th March 2011

Meeting at Stromlo Office of Parks, Conservation and Lands

Field visit to harvesting operations at Kowen Plantation

APPENDIX E – ORGANISATIONS OR INDIVIDUALS CONSULTED

Department of Territory and Municipal Services



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CSIRO and the Flagships program

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