



Review of New South Wales Forest Agreements and Integrated Forestry Operations Approvals

Upper North East, Lower North East, Eden and Southern regions

Cover:

Turpentine ironbark forest, Wallumatta Nature Reserve, Lane Cove (M.Cufur, DECCW)

This report has been coordinated by the Crown Forestry Policy and Regulation Section of the Department of Environment, Climate Change and Water NSW.

Prepared for the NSW Minister for Climate Change and the Environment, Minister for Primary Industries, and Minister for Mineral and Forest Resources.

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Contents

Foreword	v
Acronyms and abbreviations.....	vi
Executive summary	ix
What this report contains	ix
1. Background to the review.....	1
1.1 Introduction.....	1
1.2 Requirement for review of forest agreements and integrated forestry operations approvals	2
1.3 Review terms of reference	2
1.4 Review objectives and scope	3
1.5 Links to other processes	3
2. Review of forest agreement milestones	5
2.1 Environmental Management Systems.....	5
2.2 Management planning.....	7
2.3 CAR reserve system	13
2.4 Crown reserves and assessment of Crown land.....	15
2.5 Threatened species management.....	16
2.6 Pest, weed and feral animal control	20
2.7 Managing for other forest values and uses	23
2.8 Private land	26
2.9 Private native forestry and plantations	30
2.10 World heritage and wilderness	31
2.11 Cultural heritage	33
2.12 Aboriginal interests.....	37
2.13 Aboriginal interests in the Hume and Riverina regions of Forests NSW and the South West Slopes region of DECCW	43
2.14 Supply arrangements	46
2.15 Supplementing timber supply	47
2.16 Forest Resource Assessment and Management Evaluation System (FRAMES) improvement, inventory, sustainable yield, volume review	48
2.17 Forests NSW practices including silviculture.....	55
2.18 External auditing processes and reporting results, review processes.....	60
2.19 Charcoal provisions in NSW Forest Agreements	61
2.20 Staff training, employment and industry initiatives	61
2.21 Community awareness and education	63

2.22 Community consultation – informing the public.....	64
2.23 Reporting and monitoring.....	66
2.24 Research and data management.....	69
3. Review of Integrated Forestry Operations Approvals.....	75
Introduction	75
Integration of IFOA licences.....	75
IFOA amendments	76
Compliance and audit framework.....	76
Other information considered in review.....	83
Forests NSW management.....	84
Progress of undertakings in IFOAs (Eden, UNE, LNE and Southern)	87
Proposed IFOA changes.....	108
4. Criteria and indicator review.....	140
Introduction	140
Background to the ESFM criteria and indicators.....	140
Review process.....	140
Review outcomes.....	141
5. Bibliography.....	142
Appendix 1 Items for the review and review conclusion/recommendations	149
Appendix 2 Current indicators of ESFM	164
Current indicators of ESFM for the Eden region Forest Agreement.....	164
Current indicators of ESFM for the LNE region Forest Agreement.....	165
Current indicators of ESFM for the UNE region	166
Current indicators of ESFM for the Southern region Forest Agreement	168
Appendix 3	170
A. Eden region	170
B. UNE region.....	170
C. LNE region	175
D. Southern region.....	181
Appendix 4: Reference Papers for Eden and Bulls Ground Burn Study Areas	186
Appendix 5: Proposed changes to Schedule 2 (and related revisions to operational map requirements of Schedule 1).....	188

Foreword

Dear Reader

I am pleased to present for public representations the outcomes of the combined five and ten year review of the:

- four NSW Forest Agreements for the Upper North East, Lower North East, Eden and Southern regions of New South Wales including the ESFM criteria and indicators
- four integrated forestry operations approvals for the Upper North East, Lower North East, Eden and Southern regions of New South Wales.

The report shows substantial progress in meeting the requirements contained within agreements and approvals. The report also contains a number of recommendations on, and proposes some modifications to, the agreements and approvals.

The Hon. Frank Sartor

Minister for Climate Change and the Environment

Acronyms and abbreviations

ABARE	Australian Bureau of Agricultural and Resource Economics
AFS	Australian Forestry Standard
AGS	Australian Group Selection
AHC Act	Australian Heritage Council Act 2003 (Australian Government)
AHIMS	Aboriginal Heritage Information Management System
ANZECC	Australian New Zealand Environment Conservation Council
BMAD	Bell miner associated dieback
BNCCA Act	Brigalow and Nandewar Community Conservation Area Act 2005
C&I	Criteria and Indicators
CA	Conservation Agreement
CANRI	Community Access to Natural Resource Information
CAR	Comprehensive, adequate and representative
CCA	Community Conservation Area under the BNCCA Act
CERRA	Central Eastern Rainforest Reserves of Australia
CFPR	Crown Forestry Policy and Regulation Section
CMAs	Catchment Management Authorities
CRA	Comprehensive Regional Assessment
CRAFTI	Comprehensive Regional Assessment aerial photo interpretation
CSIRO	Commonwealth Scientific and Industrial Research Organisation
dbhob	diameter breast height over bark
DCP	Departmental Corporate Plan
DEC	The former Department of Environment and Conservation
DECCW PWG	Department of Environment and Climate Change - Parks and Wildlife Group
DECCW	Department of Environment, Climate Change and Water
DEWHA	Department of the Environment, Water, Heritage and the Arts
DIPNR	The former Department of Infrastructure, Planning and Natural Resources
DLWC	The former Department of Land and Water Conservation
DoP	Department of Planning
DPI	Department of Primary Industries (now encompassed in I&I NSW)
EMS	Environmental management system
EOAM	Environmental Outcomes Assessment Methodology
EP	Endangered Populations
EPA	Environment Protection Authority (now encompassed in DECCW)
EP&A Act	Environmental Planning and Assessment Act 1979
EPL	Environment Protection Licence
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Australian Government)
ESFM	Ecologically Sustainable Forest Management
ESM	Environmentally Sustainable Management

FL	Fisheries Threatened Species Licence
FISAP	Forest Industry Structural Adjustment Package
FMZ	Forest Management Zone
FNPE Act	Forestry and National Park Estate Act 1998
FPF	Financial Policy Framework
FRAMES	Forest Resource and Management Evaluation System
FRIP	Forestry and Rural Industry Policy
FURCON	Lands for further consideration
GIS	geographic information system
HCVOG	high conservation value old growth
HHIMS	Historic Heritage Information Management System
HRM	Hastings River mouse
IFOA	Integrated Forestry Operations Approval granted under the Forestry and National Park Estate Act 1998
I&I NSW	Industry and Investment NSW
ILUA	Indigenous Land Use Agreement
ISO	International Organisation for Standardisation
IUCN	International Union of Conservation of Nature
LALC	Local Aboriginal Land Council
Living Parks	Statewide strategy for sustainable visitation
LMDSS	Landscape Modelling and Decision Support Section of DECCW
LNE	Lower North East region
LPMA	Land and Property Management Authority
MARVL	Methods of Assessing Recoverable Volume by Log types
MER	The NSW Natural Resources Monitoring Evaluation and Reporting (MER) Strategy
MIG	Montreal Process Implementation Group
MOU	Memorandum of Understanding
NCAS	National Carbon Accounting System
NCIR	Non-conformance Improvement Request system
NFI	National Forest Inventory
NGGI	National Greenhouse Gas Inventory
NHL	National Heritage List
NPEP	National Parks Establishment Plan
NPW Act	National Parks and Wildlife Act 1974
NPWS	National Parks and Wildlife Service (now encompassed within DECCW)
NRAC	Natural Resources Advisory Council
NRC	Natural Resources Commission
NRM	Natural Resource Management
NSW	New South Wales
NSW FA	NSW Forest Agreement (Agreements between NSW Ministers made under the Forestry and National Park Estate Act 1998)
NV Act	Native Vegetation Act 2003

NVAT	Native Vegetation Assessment Tools
NVC Act	Native Vegetation Conservation Act 1997
NV Regulation	Native Vegetation Regulation 2005
OECD	Organisation for Economic Cooperation and Development
OSMR	Office of Science and Medical Research in the Department of State and Regional Development
PADACS	PVP Data and Customer Service database as part of the NV Act process
PAS	Priorities Action Statement
PIN	Penalty Infringement Notice
POEO Act	Protection of the Environment Operations Act 1997
PR Act	Plantations and Reforestation Act 1999
PMP	Park Management Program
PNF	Private Native Forest
PVP	property vegetation plan
PVP Developer	Property vegetation plan developer
PWG	Parks and Wildlife Group of DECCW
RACD	The former Resource and Conservation Division
RACU	The former Resource and Conservation Unit of DECCW
REDEN	Regrowth in Eden
RFA	Regional Forest Agreement
RF Act	Rural Fires Act 1997
RFS	Rural Fire Service
RNE	Register of the National Estate
SCA	State conservation area under the NPW Act
SEEDS	Social, Environmental and Economic Database System
Seeing	Social, Environmental and Economic Report of Forests NSW
SMP	Species Management Plans
SFO	Supervising Forest Officer
SMZ	Special management zone under section 21A of the <i>Forestry Act 1916</i>
SOE	State of the Environment
STFFN	Southern Tablelands Farm Forestry Network
TAS	Timber Availability Study
TAFE	Technical and Further Education
TPHG Act	Timber Plantations (Harvest Guarantee) Act 1995
TSAC	Technical and Scientific Advisory Committee
TSC Act	Threatened Species Conservation Act 1995
TSL	Threatened Species Licence
UNE	Upper North East region
VETAB	Vocational Education and Training Accreditation Board
VIS	Vegetation Information System
Wildlife Atlas	Atlas of NSW Wildlife
WSA	Wood supply agreement

Executive summary

The New South Wales (NSW) Forest Agreements were a landmark in social, economic and environmental assessment for the State of NSW. The NSW Forest Agreement process delivered:

- region-by-region assessments of forest resources and forest values
- over 1.2 million hectares of new national parks and reserves, and more than 460,000 hectares of informal reserves created in NSW since 1995
- 20 year security of timber supply to industry, and creation of new jobs
- funding for industry development assistance and restructure
- ecologically sustainable forest management enshrined in legislation.

The *Forestry and National Park Estate Act 1998* requires that the NSW Forest Agreements, and associated IFOAs, be reviewed. This provides an important opportunity to assess the achievement of milestones for forest management, identify areas needing improvement and assist forest managers in achieving continuous improvement.

This report covers all four NSW Forest Agreements and four IFOAs across the Eden, Southern, Upper North East (UNE) and Lower North East regions (LNE) of NSW as identified in the map below (Figure 1). Reporting on all four regions together helps to ensure outcomes are consistent across regions and that duplication for both Government agencies and stakeholders is avoided.

The review is being undertaken to assess:

- the implementation of the provisions of the agreement
- whether integrated forestry operations approvals are effective in achieving the purpose of those approvals.

This report covers the first 5 and 10 years of implementation and provides an opportunity for the public to contribute to the review of the NSW Forest Agreements and associated IFOAs. The Government will consider all public submissions received and may make amendments to the agreements or approvals based on this and other available information. It should be noted that the review is not intended to reopen the Government's timber supply and conservation decisions.

What this report contains

Chapter 1 of this report provides background information about the NSW Forest Agreements and IFOAs and the reasons why a review is taking place. The terms of reference and objectives of the review are given.

Chapter 2 provides detailed information on progress against the milestones contained within the NSW Forest Agreements in the Eden, Southern, UNE and LNE regions. The milestones are grouped under 24 key issue areas.

Chapter 3 provides information on the IFOAs in the Eden, Southern, UNE and LNE regions. Also given are recommendations on proposed amendments to improve their efficiency and effectiveness.

In Chapter 4, consideration of the Ecologically Sustainable Forest Management (ESFM) criteria and indicators is reported. The NSW Forest Agreements require the criteria and indicators to be trialled and assessed during the first five-year period to ensure they are practical, measurable, cost-effective and capable of being implemented at the regional level.

The NSW Forest Agreements, IFOA and ESFM criteria and indicators together represent a significant step forward in promoting ecologically sustainable forest management, sustainable timber supply, community consultation and Aboriginal involvement in forest management in NSW.

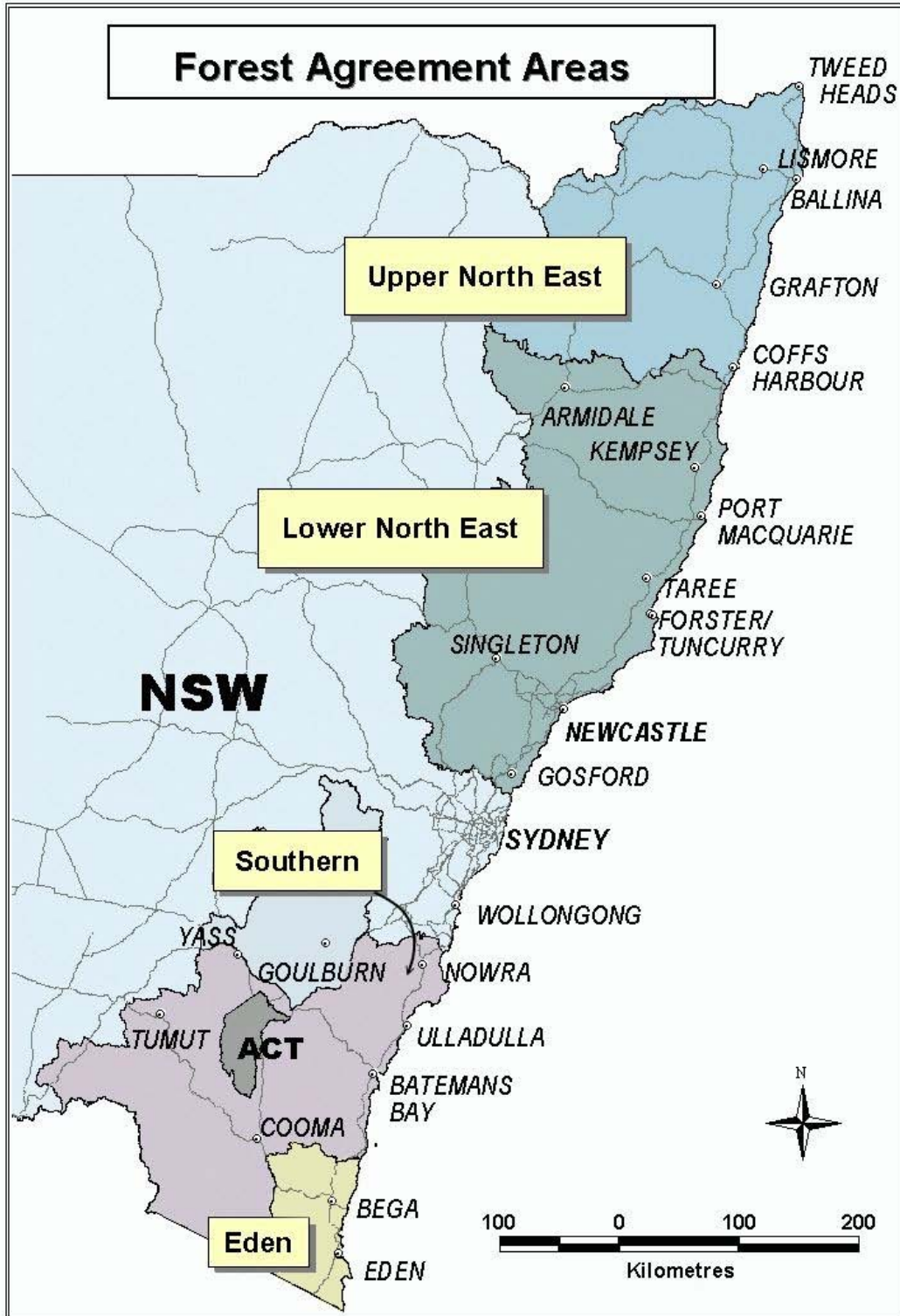


Figure 1: NSW Forest Agreement Areas showing Upper North East, Lower North East, Southern and Eden. The subregion of Goulburn in the Southern region is not included in the review.

This review provides the opportunity to assess the effectiveness of these measures and determine how they might be improved to provide even better outcomes for forest management in this state. All public input will be considered and valued.

1. Background to the review

1.1 Introduction

The *Forestry and National Park Estate Act 1998 (FNPE Act)* provides for forest agreements, which set out the principles and strategic framework for the cooperative management of forests by the Department of Environment, Climate Change and Water (DECCW) and Industry and Investment NSW (I&I NSW) - Forests NSW.

Forest agreements contain provisions for promoting ecologically sustainable forest management, sustainable timber supply, community consultation and Aboriginal involvement in forest management (including Native Title rights). The four NSW Forest Agreements covering the eastern areas of NSW are the Upper North East (UNE), Lower North East (LNE), Southern and Eden regions. The agreements are for 20 years.

The FNPE Act also provides for IFOAs, which integrate the regulatory regimes for environmental planning and assessment, for the protection of the environment and for threatened species conservation.

An IFOA describes the forestry operations covered by the approval, including a description of the area of the state to which it applies. The approval sets out the conditions subject to which forestry operations covered by the approval are to be carried out. The IFOA applies to anyone carrying out forestry operations on state forests and other Crown-timber lands. There are currently four IFOAs, covering the same regions as the four NSW Forest Agreements. IFOAs also last for 20 years.

Table 1.1 shows the dates of signing and expiry of the NSW Forest Agreements and IFOAs.

Table 1.1: NSW Forest Agreements and IFOAs in place

Forest Agreements/IFOA	Signed	Date of expiry
Eden region forest agreement	4 March 1999	4 March 2019
LNE region forest agreement	5 March 1999	4 March 2019
UNE region forest agreement	5 March 1999	4 March 2019
Southern region forest agreement	3 May 2002	3 May 2022
IFOA for the Eden region	21 December 1999	21 December 2019
IFOA for the LNE region	21 December 1999	21 December 2019
IFOA for the UNE region	21 December 1999	21 December 2019
IFOA for the Southern region	3 May 2002	3 May 2022

Total areas protected under the CAR reserve system, including new and pre-existing dedicated reserves, informal reserves and values protected by prescription, include 267,800 hectares of forest in Eden, 2,140,700 hectares of forest in the North East (which includes UNE and LNE), and 1,421,000 hectares of forest in the Southern FA areas. Across these areas more than 30% of forests are in reserves. This exceeds the IUCN reserve target of 10%, widely adopted throughout the world as the minimum threshold for conservation purposes. Almost all wilderness on public land as defined in the JANIS reserve criteria in NSW is included in the dedicated reserve system.

NSW has also made numerous additions to the reserve system since the forest agreements (listed in Table 1.1) were signed. A number of Acts of Parliament have added forested areas to the reserve system in the regions covered by these agreements. Table 1.2 outlines the areas added by each Act.

Table 1.2: Additional area added to the reserve system by each Act since the NSW Forest Agreements were signed.

Act	Reserve additions				
	Date	Area (hectares)			
		UNE	LNE	Southern	Eden
<i>National Park Estate (Reservations) Act 2002</i>	1/01/2003	65,799	54,624	22,292	1,241
<i>National Park Estate (Reservations) Act 2003</i>	1/07/2003	14,573	27,696	-	-
<i>National Park Estate (Reservations) Act 2005</i>	17/11/2005	-	-	6,554	-
<i>Delayed transfer from National Park Estate (Reservations) Act 2003</i>	1/07/2006	60	58	-	-
<i>National Park Estate (Lower Hunter Region Reservations) Act 2006</i>	1/07/2007	-	14,144	-	-
Total		80,432	96,522	28,846	1,241

1.2 Requirement for review of forest agreements and integrated forestry operations approvals

Under the FNPE Act, NSW Forest Agreements and IFOAs must be reviewed every five years. The NSW Government has agreed to consolidate several separate reviews into a combined five and ten year review process. This will align the review dates and thus avoid duplication, ensure outcomes are consistent across regions, maximise use of resources and time, and remove the need to repeat the review process for each agreement or approval. Although the Southern Forest Agreement and IFOA are not currently due for a ten-year review, in the interests of streamlining and completeness this review will include the Southern region review requirements.

The review will cover:

- NSW Forest Agreements for the UNE, LNE, Eden and Southern regions
- ESFM criteria and indicators contained in these NSW Forest Agreements
- IFOAs for the UNE, LNE, Eden and Southern regions.

The review is an important opportunity to assess the achievement of milestones for forest management and identify areas requiring improvement.

1.3 Review terms of reference

In June 2008, public notices were placed in relevant newspapers announcing the upcoming review of the NSW Forest Agreements and IFOAs and inviting feedback on the proposed terms of reference. Once all feedback had been considered, the final terms of reference for the review were released in June 2009:

- a) *Assess the implementation of the provisions in each forest agreement, including the degree to which milestones have been achieved, and make recommendations where these are incomplete or where amendment is warranted.*
- b) *Assess whether the IFOAs are effective in achieving their purpose. The effectiveness of the purpose of IFOAs will be assessed through determining the extent to which the terms of the three licences have been successfully integrated; the extent of compliance with terms and conditions; and*

identification of areas where improvements in administration, enforcement and compliance can be achieved.

Any proposed changes to forest agreements and IFOAs arising from the review will be publicly notified and representations invited and considered. A final report must be made to Parliament. This review is not intended to extend to the consideration of issues such as changes to land tenure, timber volumes or reserve design.

1.4 Review objectives and scope

The review objectives are to:

- assess the implementation of the provisions of the forest agreements, having regard to specified milestones
- assess the effectiveness of the IFOAs in achieving their purpose by examining the extent to which the terms of the three licences (environment protection licence, threatened species licence and fisheries licence) and conditions have been successfully integrated and the extent of compliance with conditions and licences; and identify areas where greater efficacy of, and efficiencies in administration, enforcement and compliance can be achieved
- review the ESFM criteria and indicators to determine if they are practical, measurable, cost effective and capable of being implemented at the regional level
- consider any outcomes from related processes, including the review of the Regional Forest Agreements (RFAs); agency reporting processes; the Montreal Implementation Group (MIG) indicator review; and any additional information that becomes available, including updating the documents in matters of fact (e.g. legislation, agency names).

The milestones in the NSW Forest Agreements covered by this review are listed in Appendix 1 of this report.

The ESFM criteria and indicators covered by the review are in each case those listed in the relevant FA and discussed in an attachment to the agreement. Existing ESFM criteria and indicators are reproduced in Appendix 2 of this report.

The scope of the review is outlined in section 20 (2) of the *Forestry and National Park Estate Act 1998*, which indicates a review is to be undertaken for the purposes only of assessing the implementation of the provisions of the agreement, and whether IFOAs are effective in achieving their purpose.

While the review may result in modifications to the agreements and approvals, it is not an opportunity to renegotiate previous Government decisions, such as the level of timber to be harvested, land tenure and reserve design.

The review will not assess sustainability. Sustainability issues are to be addressed over time by the ESFM criteria and indicators contained in the NSW Forest Agreements (defined as 'sustainability indicators' in the three NSW/Australian Governments' RFAs applicable to NSW).

1.5 Links to other processes

Review of RFAs

RFAs are bilateral agreements between the Commonwealth and state governments outlining Commonwealth and state obligations. The RFAs for NSW are the North East RFA, Eden RFA and Southern RFA.

RFAs are similar to NSW Forest Agreements in that both set out the principles and framework for the cooperative management of forests and play a critical role in the ongoing conservation and sustainable management of NSW public native forests; however, RFAs also deal with Australian Government legislation and obligations.

There is a strong connection between the NSW Forest Agreements and RFAs as the same assessment process delivered both outcomes. Details on the assessment process (termed the comprehensive regional assessment in the RFA process and regional forest assessment in the NSW FA process) are available at:

www.environment.nsw.gov.au/forestagreements/assessments.htm

and www.daff.gov.au/rfa/publications/cra-state

Concurrently with this review, a review of the NSW/Commonwealth RFAs is also taking place. These RFAs are in place for 20 years and must be reviewed every five years.

Findings from the RFAs review will be incorporated into the NSW Forest Agreement review process where appropriate. This will avoid duplication of effort and ensure consistent outcomes, as there is some overlap between the two sets of reviews (for example, the monitoring and review of ESFM criteria and indicators). Information about the review of RFAs can be found at:

www.environment.nsw.gov.au/forestagreements/RFAreviews.htm

Some information on the achievement of milestones in the NSW Forest Agreements is contained in the RFAs, so these RFAs may be mentioned in this report.

2. Review of forest agreement milestones

This chapter reports on the progress of milestones specified in the NSW Forest Agreements) for the UNE, LNE, Eden and Southern regions, including identifying further work needed and any recommendations resulting from this review. The milestones are grouped under 24 key issue areas.

The proposed progress of milestones, as listed in Appendix 1, is reported for each of the four NSW Forest Agreements.

Progress has been reported using one of three descriptors shown in Table 2.1 below.

Table 2.1: Descriptors of progress for forest agreement milestones

Descriptor	Meaning
Complete	Where a process/system or document has been completed. This will no longer be discussed in future reviews or annual reporting.
Not applicable	Where a process or document has been determined to be no longer required or is being delivered through an alternative mechanism. Reasons why milestones have been determined as such are explained in each case. These milestones will no longer be discussed in future reviews or annual reporting.
Ongoing	This relates to processes or documents that have commenced but are yet to be completed. This descriptor may also be applied to requirements that are to be produced on an annual or ongoing basis. Further progress on these milestones will be discussed in future reviews or annual reporting.

2.1 Environmental Management Systems

Milestone 1.1

Complete and implement Forests NSW Environmental Management System (EMS)

Refer to UNE, LNE and Eden Forest Agreements section 2.1.1, Att 3, Att 4; Southern Forest Agreement - section 2.1.1, Att 2, Att 3, Att 6 (2) (c)

Progress of milestone: complete

The Forests NSW Environmental Management System (EMS) provides for continuous improvement in environmental management in native and planted forests. The EMS is a comprehensive planning, assessment, implementation, monitoring, auditing and reporting system.

This milestone was completed via the following key steps:

- September 2000 - draft Native Forest EMS (previously called the Native Forest Management System Strategic Framework) and draft Ecologically Sustainable Forest Management (ESFM) plans put on public display.
- Gap analysis performed on Native Forest EMS by external ISO 14001:2004 (EMS) certification company.
- Forests NSW identified areas of business needing further improvement, including a corporate document control system, better training records, standardised road and harvest maps, and better consistency in regional standards of environmental controls.
- Corporate non-conformance reporting and tracking system developed to comply with ISO 14001:2004 (EMS) to assist in the delivery of ESFM.

- ESFM plans and associated supplementary plans, a component of Forests NSW EMS, developed.
- 2003–04 - draft procedures EMS manual developed, specifically addressing native forest issues but with options for also considering its appropriateness for planted forests.
- 2004–05 - senior management of Forests NSW approved audit program for native forest regions, to assess the workings of its EMS. Internal audits were completed and recommendations implemented in 2005-06.
- June 2006 - external certification by NCS International obtained in ISO 14001:2004 (EMS), covering both native and plantation operations.
- December 2006 - Forests NSW certified as compliant with the Australian Forestry Standard (AFS) (AS 4708 (int) 2003) by NCS International. The AFS complements the pre-existing regulatory structure and EMS with an independent perspective.
- Both the EMS and AFS requirements are audited by independent assessors on an annual basis.

Supporting documentation

Forests NSW (2008d) *Australian Forestry Standard and Environmental Management System Manual*, Forests NSW, Sydney at:

www.dpi.nsw.gov.au/_data/assets/pdf_file/0005/268052/005-forests-nsw-afs-ems-manual.pdf

Milestone 1.2

Preparation of Parks and Wildlife Group (PWG) EMS

Refer to UNE, LNE and Eden Forest Agreements section 2.1.2, Att 3; Southern Forest Agreement section 2.1.2, Att 6 (2) (b)

Progress of milestone: ongoing

Considerable progress has been made towards developing an EMS for Department of Environment, Climate Change and Water's (DECCW's) Parks and Wildlife Group (PWG; formerly NPWS.) EMSs already exist for some parts of the agency, e.g. an award-winning EMS for operations in the Perisher Range resorts, but these documents only form part of a broader EMS as required by the forest agreements.

An EMS for park management to cover all areas of DECCW on-park operations is predominantly being delivered through the Park Management Program (PMP). The PMP covers all areas of DECCW on-park operations, and encompasses all work areas of PWG as well as many sections of DECCW. The program:

- defines DECCW values and objectives for park management
- integrates park policy, planning, operations, monitoring, evaluation, reporting and feedback
- makes it easier for staff to access information to guide their park management decisions
- promotes a consistent 'whole-of-NSW' approach to park management
- strengthens communication across DECCW park branches and regions

The complexity and scale of the project has meant that some PMP components are still being developed. Particular guides and manuals are being produced and are continually being reviewed in light of monitoring, evaluation and other feedback processes. Guides and manuals under development include the State of the Parks program; asset maintenance system; park management policy manual; park facilities manual; park management policy operating procedures manual; plan of management manual; and fire management manual.

The key elements of DECCW's PMP – and broader departmental initiatives that address the principles of an EMS as outlined in the forest agreements – are as follows:

- Environmental policy - PWG's environmental responsibilities are stated in documents such as the park management policy manual
- Environmental planning and assessment processes - the current system in place ensures the environmental assessment of activities that occur within the national parks system, is in accordance with the *Environmental Planning and Assessment Act 1979* (EP&A Act). Features of the system include guidelines and a standard template for undertaking reviews of environmental factors. Further action to refine on-park project assessment is underway
- Identification of relevant legislative and regulatory arrangements - legislation relevant to DECCW is detailed on the agency's public website
- Environmental objectives and targets, and implementation measures to achieve them - the park management policy manual, NSW National Parks Establishment Plan (NPEP) and Departmental Corporate Plan (DCP) address relevant goals and strategies
- A structure and program(s) to implement the policy and achieve objectives and targets - this is predominantly established by the PMP, to which most of the initiatives mentioned under this milestone are linked e.g. park management policy and operating procedures manuals and monitoring and evaluation guide.
- Processes for monitoring, evaluation performance and for adaptive management - the PMP is the key component of the EMS and represents an adaptive management system. State of the Parks information is used in regional planning, and measures the effectiveness of PWG at meeting environmental objectives. Many of the aforementioned plans/programs already have monitoring and review components.
- Management guidelines for ESFM - Ecologically Sustainable Management (ESM) is one of PWG's management aims for all ecosystem types. However, after recognising its commitments under the forest agreements, PWG is aligning its State of the Parks and ESFM reporting as far as possible (e.g. the State of the Parks database has been designed so that data can be sorted by forest agreement region).

2.2 Management planning

Milestone 2.1

Plans of management for the NPWS estate

Refer to UNE, LNE and Eden Forest Agreements section 2.3.2, Att 8; Southern Forest Agreement section 2.3.2

Progress of milestone: ongoing

Completion of management plans for areas dedicated under the *National Park and Wildlife Act 1974* (NPW Act) continues. Some management plans are yet to be prepared and, accordingly, did not meet the due date. Appendix 3 provides lists of parks within each of the four forest agreement regions and an indication of the stage of preparation of management plans for those parks. At February 2010, some 517 reserves¹, covering over 5.6 million ha and representing 83% of the reserve system by area, were covered by an adopted or draft plan of management.

In retrospect, the deadline for completion of all management plans was optimistic given the large number of reserves gazetted as a result of the NSW Forest Agreements. Before

¹ Over the entire DECCW reserves — not just NSW Forest Agreement regions.

management plans are prepared, staff have to familiarise themselves with a new park and liaise with the community, including inviting the public to comment on a draft plan before its adoption by the Minister for Climate Change and the Environment. Subsequent additions of many disparate parks, particularly in the north east, have added to the preparation workload; however, plans are now being completed at a faster rate.

Parks are prioritised for plan of management preparation according to factors such as the degree of threat to natural and cultural values, levels of public access, and major weed, pest or fire-related concerns. Where management plans are not in place, parks are managed in accordance with the NPW Act, and DECCW statewide policies. Only limited activities can take place in these parks until a plan is prepared. Although plans of management are not yet prepared for all parks, DECCW has ensured that all parks – with the exception of very recent additions – are covered by fire, pest and visitation management strategies/plans.

Comprehensive, adequate and representative (CAR) values (such as old growth and rare or threatened flora and fauna species and ecological communities) are identified within plans. Plans of management also provide details of national estate values (such as wilderness, catchments, disjunct populations, centres of endemism, and aesthetic, cultural and geological values) where relevant. Matters of national environmental significance, such as areas on the National Heritage List and any World Heritage or RAMSAR sites, are also identified within the plans. Management actions to conserve all identified values are contained within the management plans and any plans containing nationally significant sites are referred to the Australian Government for comment before finalisation.

Supporting documentation

Details on the development of individual Plans of Management can be found at:
www.environment.nsw.gov.au/parkmanagement/ParkManagementPlans.htm

Milestone 2.2

Release and adoption of NSW Biodiversity Strategy

Refer to UNE, LNE and Eden Forest Agreements section 2.4.1 and Att 8; Southern Forest Agreement section 2.4.1, Att 6 (2) (d)

Progress of milestone: complete

The first NSW Biodiversity Strategy was released in March 1999 and has since been implemented. It was an important initiative that advanced both knowledge and capacity, and led to many conservation achievements. It included education components, such as student and teacher resource kits, and the establishment of a Biodiversity Research Network to facilitate communication and cooperation in biodiversity related research.

There continue to be significant challenges to conserving biodiversity in NSW, including newly emerging threats such as climate change. Furthermore, since the Strategy was published there have been a broad range of NRM reforms including the introduction of the *Native Vegetation Act 2003* (NV Act) and the establishment of Catchment Management Authorities (CMAs) and amendments to the TSC Act that provide for the biocertification of environmental planning instruments and biobanking. In view of this there is a need to update the Strategy, and developing a new Biodiversity Strategy is a priority in the NSW State Plan. A public discussion paper on a revised strategy was released for comment in 2008. Submissions will be considered in finalising the strategy.

Although a new NSW Biodiversity Strategy is currently being developed, the completion of the original Biodiversity Strategy was achieved in 1999; therefore this milestone is considered complete.

Supporting documentation

Details on the NSW Biodiversity Strategy can be found at:
www.environment.nsw.gov.au/biodiversity/nswbiostrategy.htm

Milestone 2.3

Forests NSW to produce ESFM plans

Refer to UNE, LNE, Eden Forest Agreements section 2.1.1; Southern Forest Agreement sections 2.2.1, 4.3, Att 6 (1), Att 2 (a)

Progress of milestone: complete

The Forests NSW ESFM plans incorporate the blueprint for achieving the principles of ESFM for state forests. They set out the broad strategies, performance indicators and measurement outcomes for management of state forests in each region over a five-year period.

Draft ESFM plans were displayed for public comment in September 2000 for the Eden, LNE and UNE regions. Feedback received during the public exhibition and discussion with regulatory agencies resulted in further refinement of the plans. The plans for Eden, LNE and UNE were finalised in August 2005. Plans for the South Coast and Tumut subregions of the Southern region were also finalised in August 2005, following a public consultation process in early 2005.

ESFM plans highlight areas of significant environmental risk that require the development of supplementary plans. These supplementary plans are currently being developed or have been completed. For example, regional plans to manage pests and weeds are complete, whilst draft plans are being prepared for grazing and management of dedicated and informal reserves. These draft plans will be used for consultation purposes.

Although some supplementary plans are currently being developed, the requirement to finalise broad ESFM plans was achieved in 2005; therefore this milestone is considered complete.

Supporting documentation

Final ESFM plans can be found at: www.dpi.nsw.gov.au/forests/management/esfm

Milestone 2.4

Report on meeting targets in ESFM plans

Refer to UNE, LNE, Eden, Southern Forest Agreements section 2.2.6

Progress of milestone: ongoing

As noted in milestone 2.3, ESFM plans were published in 2005. A process for reporting on the indicators in the ESFM plans is being developed. A draft report template has been prepared, which is being discussed with Forests NSW regions and will be finalised once the ESFM criteria and indicators are finalised (see discussion on the review of ESFM criteria and indicators in Chapter 4).

It is worth noting that the ESFM criteria and indicator component of the annual forest agreement implementation reports capture most of the indicators in the ESFM plans. Much of the data that is used in ESFM criteria and indicator reporting may also be used to report on meeting targets in ESFM Plans.

Forests NSW also publishes an annual sustainability report at a state level through the Social, Environmental and Economic (Seeing) Report. Many of the indicators in the Seeing Report mirror those in the ESFM Plans and forest agreements.

Supporting documentation

Forest agreement implementation reports can be found at:
www.environment.nsw.gov.au/forestagreements/monitoring.htm

Forests NSW' Seeing Reports can be found at:
www.dpi.nsw.gov.au/aboutus/resources/corporate-publications

Milestone 2.5

Formation of a working group in Southern region to make recommendations on the management and tenure of areas of state forests that are isolated from the productive state forests

Refer to Southern Forest Agreement section 6.16

Progress of milestone: not applicable

There has been no formal agreement or working group; however, arrangements are in place between Hume, Monaro and Southern regions of Forests NSW to discuss forest management issues in isolated state forest areas such as Tallaganda, Mossvale and parts of Eden. Forests NSW Southern region also collaborates with DECCW on feral management control, among other appropriate forest management issues. These arrangements will continue to be strengthened. Due to the cooperative working relationship between NSW agencies it is not envisaged that the formation of a working group is now required. This milestone is therefore considered to be no longer applicable.

Milestone 2.6

Large or significant areas of rainforest, HCVOG and other areas protected by exclusion - identification and management.

Refer to UNE, LNE and Eden Forest Agreements section 2.4.4.5; Southern Forest Agreement 2.4.5.6

Progress of milestone: complete

The *National Park Estate (Reservations) Act 2002* resulted in the revocation of large areas of state forests zoned FMZ 2 and 3A and transfer of the land to the DECCW estate. It included areas as small as 3 ha that were contiguous with existing national parks and nature reserves and larger, more significant areas isolated from the national park estate.

Additionally a large proportion of other exclusion areas (i.e. HCVOG, rainforest and rare and non-commercial forest types) that were zoned FMZ 2 or 3A were also subsequently gazetted as Special Management Zones (SMZ) under section 21A of the *Forestry Act 1916*.

The *Forestry and National Park Estate Act 2003* (as discussed in milestone 3.3) resulted in declaration of additional SMZ over areas of old growth. As a result of the SMZ declaration, these areas have been excluded from harvesting and roading consistent with the IFOAs. A proposed supplementary plan, *Working Plan for Informal Reserves*, will cover these areas and prescribe management guidelines and this plan is discussed in milestone 2.8.

This milestone is considered complete as any 'large/significant exclusion areas of rainforest, HCVOG and other prescriptive exclusion areas' are now included in the informal reserve network, as part of the SMZ under section 21A of the *Forestry Act 1916* and/or are classified as either FMZ 2 or 3a. For the aspect of this milestone relating to the development of management plans, refer to Milestone 2.8.

Milestone 2.7

Working plans for flora reserves to be incorporated into ESFM plans

Refer to UNE, LNE and Forest Agreements section 2.2.2; Eden Forest Agreement section 2.2.2; Southern Forest Agreement sections 2.2.2, 2.3.2

Progress of milestone: ongoing

Forests NSW ESFM plans (see milestone 2.3) for the UNE, LNE, Eden and Southern regions provide details of the flora reserves in each region. ESFM plans also provide information on the status of each flora reserve working plan (i.e. draft or current) at the time of publication.

The working plans prescribe how the flora reserve will be managed. Current working plans for flora reserves are publicly available upon request. Remaining working plans, such as those for new flora reserves, are progressively being completed.

Milestone 2.8

Working plans for informal reserves to be incorporated into ESFM plans

Refer to UNE, LNE and Eden Forest Agreements section 2.3.3; Southern Forest Agreement section 2.3.3

Progress of milestone: ongoing

A model plan for the management of informal reserves that includes FMZ 2 and FMZ 3a and areas dedicated as SMZ, is being developed as an ESFM supplementary plan and will be called *Working Plan for Informal Reserves*. Forests NSW will consult regulatory agencies on the model plan with a view to developing supplementary plans for each region, based on the approved model plan.

The *Working Plan for Informal Reserves* will prescribe management guidelines. In the interim, management occurs consistent with FMZ and IFOA requirements and the area being classified as SMZ under section 21A of the *Forestry Act 1916*.

Milestone 2.9

Guidelines for areas managed by prescription to be incorporated into ESFM plans

Refer to UNE, LNE, Eden and Southern Forest Agreement section 2.3.3

Progress of milestone: complete

Forests NSW has in place the *Managing our Forests Sustainably: Forest Management Zoning in NSW State Forests*, Operational Circular 99/10 (State forests of NSW (1999a)), which provides detail on areas that are managed by prescriptions (ie Forest Management Zones (FMZs) 3B and 4). The document outlines management guidelines and activities permissible in each zone. This document is referred to in regional ESFM plans.

This milestone is considered complete as the *Managing our Forests Sustainably: Forest Management Zoning in NSW State Forests* document outlines management guidelines and is linked to regional ESFM plans.

Supporting documentation

State Forests of NSW (1999a), *Managing our Forests Sustainably: Forest Management Zoning in NSW State Forests*, Operational Circular 99/10, can be found at:

www.dpi.nsw.gov.au/_data/assets/pdf_file/0007/268063/managing-our-forests-sustainably-forest-mgt-zoning-in-nsw-state-forests.pdf

Milestone 2.10

Implement the FMZ system and provision of maps

Refer to UNE and LNE Forest Agreements section 2.2.2; Eden Forest Agreement section 2.2.2, Southern Forest Agreement section 2.2.2, UNE, LNE, Eden Forest Agreement Att 5

Progress of milestone: complete

Public announcement of FMZs occurred in March 1999 with the release of State Forests of NSW (1999a), *Managing our Forests Sustainably: Forest Management Zoning in NSW State Forests*, Operational Circular 99/10.

A geographic information system (GIS) operational layer was agreed at the time of the signing of the NSW Forest Agreements for the UNE and LNE regions in 1999. These areas were illustrated on maps attached to Forests NSW' draft ESFM plans, publicly exhibited in 2000. A FMZ layer was publicly displayed with the final ESFM plans in 2005 (see milestone 2.3).

The maps illustrate the areas of state forest to be principally managed for conservation purposes and those to be principally managed for timber production by applying the FMZ system. The FMZs have been progressively implemented across state forests in the region. Minor changes have been made to some FMZs, such as areas classified as FMZ 8 (lands for further assessment).

Supporting documentation

State Forests of NSW (1999a), *Managing our Forests Sustainably: Forest Management Zoning in NSW State Forests*, Operational Circular 99/10, can be found at: www.dpi.nsw.gov.au/data/assets/pdf_file/0007/268063/managing-our-forests-sustainably-forest-mgt-zoning-in-nsw-state-forests.pdf

Maps showing FMZ allocation can be found at the back of each ESFM Plan and at: www.dpi.nsw.gov.au/forests/management/esfm

Milestone 2.11

Creation of special management zones under section 21A of the *Forestry Act 1916*

Refer to UNE, LNE, Eden Forest Agreements section 2.3.1; Southern Forest Agreement section 2.3.1

Progress of milestone: complete

The *National Park Estate (Reservations) Act 2002* declared special management zones in the UNE region (136,224 ha) and LNE region (126,366 ha), under section 21A of the *Forestry Act 1916*.

The *National Park Estate (Reservations) Act 2003* declared special management zones in the UNE region (12,753 ha) and LNE region (8,101 ha), under section 21A of the *Forestry Act 1916*.

In the Eden region, the *National Park Estate (Reservations) Act 2005* provided for approximately 2,620 ha to be dedicated as SMZ, while in the Southern region the *National Park Estate (Reservation) Act 2005* provided for around 7,550 ha in the Tumut subregion as SMZ and 13,670 ha in the South Coast subregion to be dedicated as SMZ.

The *National Park Estate (Reservations) Act 2002* also provided for miscellaneous amendments to the *Forestry Act 1916* including requiring an Act of Parliament to revoke (either wholly or in part) a special management zone declared under section 21A of the *Forestry Act 1916*.

2.3 CAR reserve system

Milestone 3.1

Procedures for purchasing leases and purchasing of leases through dedicated funding under the NSW Forest Agreement process

Refer to UNE and LNE Forest Agreements section 6.16.2; Eden Forest Agreement section 6.16.1

Progress of milestone: complete

Standard DECCW procedures for the purchase of leases apply to all purchases and involve referral to other government agencies, such as I&I NSW and the Land and Property Management Authority (LPMA). Procedures for an approach to purchasing leases in the UNE and LNE regions have not been developed with NSW Farmers as lessees make voluntary approaches to DECCW. Also, the information DECCW can provide to third parties may often be constrained in such cases, due to confidentiality provisions. This part of the milestone has therefore been discontinued.

DECCW received a Treasury commitment of \$1.5 million/year for four years (2001–02 to 2005–06) to purchase leasehold and freehold lands as required by the forest agreements for the UNE and LNE regions. Approximately 30 leases totalling over 30,000 ha were purchased and over 40 purchased lease areas totalling around 50,000 ha (some of which were purchased before 2001–02) were gazetted. Not all of these leases apply to Forests NSW land and, in some cases, may be other Crown leases.

As of 2008, about 27,500 ha of Crown leases over state forest in the UNE/LNE regions remained for possible transfer to DECCW estate, as agreed by I&I NSW (Forests NSW and Mineral Resources), if the leases become voluntarily available for purchase. These lands will be considered as part of DECCW normal acquisition funding and procedures.

In the absence of dedicated funding for the Eden and Southern regions, no leases were purchased during the first five years of the NSW Forest Agreements for Eden and Southern regions. However, purchases are likely after the review period and will continue as part of DECCW normal acquisition funding and procedures.

As funding allocated to the purchase of 'forest agreement leases' has now been expended, no further reporting will occur and the milestone is considered completed. Lease purchases will continue but will be considered as part of DECCW normal acquisition program.

Milestone 3.2

Aquatic reserves

Refer to LNE, UNE, Eden, Southern Forest Agreements section 2.3.4

Progress of milestone: ongoing

No aquatic reserves were declared under the *Fisheries Management Act 1994* that affect forestry operations in the UNE, LNE, Eden or Southern regions.

Milestone 3.3

Upgrading of FMZs, reviewing mineral objections and lands for further consideration (FURCONS)

Refer to UNE and LNE Forest Agreements sections 2.3.1, 2.3.3, 6.16.2; Eden Forest Agreement section 6.16.1; Southern Forest Agreement section 2.3.3

Progress of milestone: ongoing

Upgrading of FMZs/classifying conservation areas with leases/mineral areas FMZ 2/3

Areas of FMZ 2/3a were considered in the UNE/LNE regions as part of the process called the FMZ Assessment (which took place as part of the NSW Government's (2001b) *Action for the Environment Statement 2001*). The FMZ Assessment was completed in 2002 and, with the agreement of I&I NSW, resulted in the transfer of up to 121,000 ha of FMZ 2 and FMZ 3 lands to the formal reserve system through the *National Park Estate (Reservations) Act 2002* (gazetted in January 2003).

Additionally, most FMZ 2 and 3a areas were also declared as SMZs under Section 21A of the *Forestry Act 1916*, including the balance of the area from the assessment of FMZ areas that was identified for reservation but could not be transferred.

DECCW and Forests NSW, in cooperation with I&I NSW (Mineral Resources), reviews FMZ areas as required and are concentrating on those FMZ 2 and FMZ 3 lands previously agreed to be transferred by Forests NSW. Additional areas declared SMZ in the *National Park Estate (Reservations) Act 2003* will also be assessed in future reviews.

Reviewing mineral objections

A five-year review of mineral objections over some FMZ areas in UNE/LNE occurred as part of the 2002 assessment mentioned above and discussed below under the heading FMZ assessment/Northern additions. The review in 2002 involved I&I NSW (Forests NSW and Mineral Resources) and was limited to some FMZ 1, 2 and 3a areas that met certain criteria (e.g. size, adjoining a national park). In the UNE/LNE regions there were 34,059 ha of FMZ 1, 2 and 3a that were not transferred because they were agreed to be transferred by Forests NSW, but not agreed to by I&I NSW (Mineral Resources). Of this, 10,411 ha are covered by leases.

Additional consideration of mineral objections was also involved in the processes that transferred areas in the *National Park Estate (Reservations) Act 2003*, *National Park Estate (Reservations) Act 2005* and *National Park Estate (Lower Hunter Region Reservations) Act 2006*.

Discussions between DECCW and I&I NSW regarding the second review of I&I NSW (Mineral Resources) objections over FMZs and upgrading of FMZs in the UNE and LNE regions, and the first review of the Southern region, took place in 2009 but no further progress on this milestone had been made at the time of this report.

FURCONS

FURCONS were lands identified in the NSW Forest Agreements for the UNE and LNE regions to be transferred to the DECCW estate, but for which the transfer was delayed as they had either mineral interests or leases. They were identified on Map 2 and in section 6.16.2 of the NSW Forest Agreements for the UNE and LNE regions.

Some of the FURCONS were part of the transfers in the *National Park Estate (Reservations) Act 2002*, *National Park Estate (Reservations) Act 2003* (and part of the process called FMZ Assessment/Northern additions), *National Park Estate (Lower Hunter Region Reservations) Act 2006* and other gazettals.

In the UNE region around 36,000 ha of land was further considered and 17,445 ha has been transferred to DECCW estate. Of the area remaining, 10,452 ha has been agreed between DECCW, Forests NSW and I&I NSW (Mineral Resources) for transfer to DECCW – subject to

the purchase of leases – and another 2,045 ha of leases has been purchased and vested in the Minister for Climate Change and the Environment, but the land is still dedicated state forest. There is ongoing interest from DECCW in another 3,133 ha of land in which I&I NSW still has mineral interests. The remainder of the lands (around 3,000 ha) will remain as state forest.

In the LNE region around 42,000 ha of land was further considered and 19,117 ha has been transferred to DECCW estate. Of the area remaining, 4,644 ha has been agreed between DECCW, Forests NSW and I&I NSW (Mineral Resources) for transfer to DECCW, subject to the purchase of leases. Another 962 ha of leasehold over state forests is to be vested in the Minister for Climate Change and the Environment. There is ongoing interest from DECCW in another 3,770 ha of land in which I&I NSW still has mineral interests. The remainder of the lands (around 13,000 ha) will remain as state forest.

Necessary lease purchases will be considered as part of DECCW's normal acquisition funding and procedures. Interagency negotiations will continue as necessary over the FURCON lands that are yet to be transferred and discussion on this land will be part of the discussions mentioned above about reviewing mineral interests.

FMZ assessment/Northern additions

In June 2001, the NSW Government released the *Environment Statement: Action for the Environment 2001* (NSW Government 2001b), which summarised some of the Government's main achievements in, and plans for, the State's most important environmental issues. It included a number of commitments identified in the forest agreements for the UNE and LNE regions, whereby opportunities to improve conservation outcomes in the regions could be made by assessing areas set aside for further consideration at the end of the comprehensive regional assessment/regional forest assessments (CRA/RFAs) in 1998, and other areas of state forest managed for conservation.

The assessment became known as the 'FMZ Assessment' or 'Northern Additions' and began at the end of 2001. Its outcome was the declaration of about 142,000 ha of new national parks, nature reserves or state conservation areas (SCAs) or as additions to existing ones in the *National Park Estate (Reservation) Act 2002*. This land was transferred from state forest (including areas of unproductive state forest classified as Forest Management Zone (FMZ) 1, 2 and 3a, lands identified in the process called FURCONs and other lands, such as Crown reserves and freehold/Crown leasehold land voluntarily purchased by the DECCW.

The Premier also asked for the consideration of certain 'icon' areas of high conservation value in state forests without impacting on timber supply. These special areas were investigated during 2002–03 and included about 40,000 ha of state forest land being transferred to the DECCW estate or vested in the Minister responsible for the National Parks and Wildlife (covered by Crown leases, land required by the Roads and Traffic Authority, quarries and other uses) and another about 19,000 ha declared as special management zones. These outcomes were contained in the *National Park Estate (Reservations) Act 2003*. Some of these icon areas were also FURCON areas.

2.4 Crown reserves and assessment of Crown land

Milestone 4.1

Management and five-year review of Crown reserves/state conservation areas

Refer to UNE, LNE and Eden Forest Agreements section 2.3.3; UNE and LNE Forest Agreement section 2.3.3; Eden Forest Agreement section 2.2.3; Southern Forest Agreement section 2.3.3

Progress of milestone: ongoing

A Memorandum of Understanding (MOU) regarding the management of Crown reserves was signed on 26 March 2001 between the Director's General of NPWS (now part of DECCW) and the then Department of Mineral Resources (now part of I&I NSW).

The Crown reserve land use category (under the *Crown Lands Act 1989*) was used through the NSW Forest Agreement process. This is similar in intent to the SCA reserve category (established in 2002 under the NPW Act), which makes provision for mining and exploration activities, subject to these having regard to the conservation of the natural and cultural values of the area.

Preparation of management plans for Crown reserves began but was deferred pending the completion of negotiations between NSW state agencies over the potential transfer of all Crown reserves to SCAs. The Crown reserves created by the NSW Forest Agreement process are now effectively obsolete, with all but two having been converted to SCAs and the conversion of the remaining two to SCAs has been agreed between agencies once road issues are resolved. This milestone is therefore considered no longer applicable. Reporting on the completion of plans of management for SCAs occurs under milestone 2.1.

It is a legislative requirement to review SCAs every five years and give reasons as to why each area of land within a state conservation area should or should not be reserved as a national park or nature reserve. The review is to be undertaken in consultation with the Minister administering the *Mining Act 1992*.

The first five year review of SCAs was completed in 2008. The review found that ten parcels of land – six SCAs and parts of four others – should be reclassified as national park (8) or nature reserve (2). The report can be found at www.environment.nsw.gov.au/parktypes/scareview.htm.

Milestone 4.2

Assessment of Crown land

Refer to UNE and LNE Forest Agreements section 6.16.2

Progress of milestone: ongoing

The assessment of Crown land was completed by DECCW during the first five-year review period, in consultation with I&I NSW (Forests NSW and Mineral Resources) and other relevant stakeholders. By 2008, close to 94,000 ha of high conservation value Crown land had been transferred to DECCW estate in UNE/LNE as a result of the assessment. Negotiations between DECCW, the LPMA and I&I NSW (Mineral Resources) over the remaining areas proposed for reservation are ongoing. To date, 2,400 ha have been agreed for transfer by LPMA and 21,000 ha require further negotiations with I&I NSW (Mineral Resources) or determination by LPMA of current Aboriginal land claims.

2.5 Threatened species management

Milestone 5.1

Implementation of an assessment process for new information on species and undertaking reviews and process when an important new record is found (on a species already in IFOAs)

Refer to UNE, LNE and Eden Forest Agreements sections 2.4.4.2, 2.4.4.3; Southern Forest Agreement section 2.4.5.4

Progress of milestone: complete

DECCW has put in place a process for species requiring site-specific conditions that are listed in the IFOAs (condition 1.2 of Appendix B in the IFOAs for the UNE, LNE and Eden regions, and condition 1.2 of Appendices B and C of the IFOA for the Southern region). IFOAs also have a non-licence condition that provides for taking new information into account (clause 49 of the IFOAs for the UNE, LNE and Eden regions and clause 64 for the Southern region).

A process is in place for the review of certain flora and fauna conditions of the threatened species licence (TSL). The TSL in the IFOA indicates that where the application of TSL

conditions results in 20% or more of the net logging area of a compartment made unavailable because of exclusion zones, Forests NSW may request that DECCW review the conditions. Alternatively, certain species-specific conditions may also require a review if more than a certain number of exclusion zones occur. This process includes the exchange and assessment of new information by DECCW, Forests NSW and, where appropriate, independent experts. Recommendations arising from such reviews are provided to the relevant Ministers for approval as amendments to the IFOA.

A review of the prescriptions for certain species resulted in an amendment of the TSL in the IFOAs for:

- UNE - Hastings River mouse (HRM) in compartment 23 in Gibraltar Range state forest and in 31 compartments within six other state forests
- LNE - Brush-tailed phascogale (*Phascogale tapoatafa*)
- Eden - Giant burrowing frog (*Heleioporus australiacus*), southern brown bandicoot (*Isodon obesulus*) and smoky mouse (*Pseudomys fumeus*)
- Southern - none.

Supporting documentation

Amendments to IFOAs can be found at:

www.environment.nsw.gov.au/forestagreements/agreementsIFOAs.htm

Milestone 5.2

Notification about listing or delisting of items on schedules in *Threatened Species Conservation Act 1995*

Refer to UNE, LNE, Eden Forest Agreements sections 2.4.3, 2.4.4.1; Southern Forest Agreement sections 2.4.4, 2.4.5.1

Progress of milestone: complete

DECCW notification about new listings occurs as required, or Forests NSW relies on determination advice directly from the Scientific Committee in regard to new listings. DECCW routinely notifies Forests NSW of preliminary and final determinations made by the Scientific Committee for the listing of species in schedules of the *Threatened Species Conservation Act 1995*, where a listing is of particular concern due to its occurrence on state forests or vulnerability to timber harvesting activities.

Milestone 5.3

Development of a process for (a) assessment of new records of threatened species, populations and ecological communities not already covered by licences, whereby the conservation requirements of the species are assessed and (b) process for species new to science.

Refer to UNE, LNE, Eden Forest Agreements sections 2.4.4.1, 2.4.4.2; Southern Forest Agreement sections 2.4.5.1, 2.4.5.2, 2.4.5.3

Progress of milestone: complete

The IFOAs provide a process to deal with new listings (condition 1.3 of Appendix B in the Eden, UNE, LNE and condition 1.3 in Appendices B and C in the Southern IFOA) and develop site-specific conditions for new records or species new to science (condition 1.2 of Appendix B in the IFOAs for the UNE, LNE and Eden regions and condition 1.2 of Appendices B and C of the IFOA for the Southern region).

Whenever the Scientific Committee makes a final determination to list a threatened species not already covered by licences and considered likely to occur on state forests and be affected by logging activities, DECCW advises Forests NSW of the determination and need to

apply condition 1.2 of the threatened species licence, which requires the development of a site-specific condition for the new listing.

Forests NSW is provided with regular updates of all threatened species in the wildlife atlas under its data licence with the DECCW. This information assists Forests NSW in planning its logging operations.

The threatened species licence in the coastal IFOAs does not cover endangered populations and endangered ecological communities; therefore Forests NSW is not authorised to engage in activities that may affect endangered populations and endangered ecological communities.

Milestone 5.4

Cooperation on management of threatened species, e.g. nomination process, cooperative approaches for management, recovery planning, key threatening processes, critical habitat

Refer to UNE, LNE, Eden Forest Agreements section 2.4.3; Southern Forest Agreement section 2.4.4

Progress of milestone: complete

Cooperation on management of threatened species continues as necessary. For instance, various Priorities Action Statement (PAS) actions, recovery plans and threat abatement plans DECCW prepares also involve Forests NSW through Forests NSW expertise, implementation of specific actions by Forests NSW and consultation during the drafting and public exhibition of plans. The IFOA also has cooperative processes involved with the development and implementation of species management plans and species monitoring programs.

Both DECCW and Forests NSW is represented on the NSW Scientific Committees and both participate in preparing nominations for listing, delisting and so forth.

Other forms of cooperation in the management of threatened species include:

- preparation of recovery plans for species listed in RFAs, including 21 recovery plans at various stages of finalisation in the Eden RFA, 69 in the North East RFA, and 57 in the Southern RFA (refer to Appendix 3 of the publication: A Draft Report on Progress with Implementation of the New South Wales Regional Forest Agreements (RFAs), North East RFA, Eden RFA, Southern RFA, available at www.environment.nsw.gov.au/resources/forestagreements/09200draftrfa.pdf)
- replacement in 2005 of the requirement for species recovery plans, with PAS actions setting out the recovery and threat abatement strategies to be adopted to promote the recovery of each threatened species, population and ecological community to a position of viability in nature. Recovery plans will only be developed for species which are iconic, have complex conservation issues and require agreement from multiple stakeholders
- provision of a conservation advice to the Australian Government for all species listed in the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) for which no recovery plan is in place or preparation. Changes to the EPBC Act in 2006 omitted the requirement for a recovery plan for every listed species.

Due to the development of routine cooperative processes and activities including those listed above and required by the IFOA (such as species management plans and species monitoring programs) this milestone is considered complete.

Milestone 5.5

Refinement of models to identify Hastings River Mouse habitat

Refer to UNE and LNE Forest Agreements section 2.4.3

Progress of milestone: not applicable

A NSW and National recovery plan for the Hastings River Mouse was finalised and published in April 2005. The final recovery plan states: 'A habitat quality model for public lands was derived for the CRA for the UNE and LNE regions of NSW' (S3.2).

There are a range of actions within the plan, including: 'Action 2.5: Undertake research that refines the macro and microhabitat models' (S6.2).

This milestone is therefore considered no longer applicable because it is covered by the NSW and National Recovery Plan for the Hastings River Mouse.

It is acknowledged that many records of the species fall outside of modelled habitat. Therefore the Hasting River Mouse survey requirements and exclusion zones approach is proposed to change in the current review (see TSL 4 in table 4.11).

Supporting documentation

The NSW and National recovery plan can be found at:

www.environment.nsw.gov.au/resources/nature/recoveryplanHastingsrivmouseDec04.pdf

Milestone 5.6

Continued implementation of joint management plans, such as Pine Creek koala management plan

Refer to UNE, LNE, Forest Agreements 2.4.3

Progress of milestone: not applicable

Forests NSW continues to implement the Pine Creek koala management plan in Pine Creek state forest; however, under proposed changes to the UNE and LNE TSLs, the Pine Creek koala management plan will no longer apply (Table 4.11: Proposed changes to Threatened Species Licences, item number TSL 11 Pine Creek koala management plan). This is because, subsequent to the adoption of the Pine Creek koala management plan, Bongil Bongil National Park was expanded to incorporate those areas of Pine Creek state forest that contained key koala habitat.

Additionally, cooperation and implementation of management actions routinely occur in the management of threatened species during processes such as IFOAs and PAS, as indicated by the discussion in milestone 5.4.

This milestone is considered no longer applicable as other processes are implementing management actions and have their own reporting mechanisms, thus the Pine Creek koala management plan is now proposed to no longer apply.

2.6 Pest, weed and feral animal control

Milestone 6.1

Wild dog control on land transferred to NPWS estate

Refer to UNE and LNE Forest Agreements section 6.16.3; Eden Forest Agreement section 6.16.2

Progress of milestone: complete

From 1999, baiting was underway on lands transferred to the DECCW estate where Forests NSW had provided approval. On land managed under the NPW Act, baiting continues in accordance with DECCW regional pest management strategies.

Milestone 6.2

Preparation of grazing management plans, feral and introduced predator control plans and threatened flora species management plans on state forests

Refer to UNE, LNE and Eden Forest Agreements section 2.4.2; Southern Forest Agreement section 2.4.3

Progress of milestone: ongoing

The preparation of a grazing management plan is a requirement of the IFOA and the Forests NSW' ESFM Plans. A draft model grazing management plan has been finalised by Forests NSW for internal use. This draft model plan is currently being considered by regulators. Once approved by regulators, regional plans will be developed consistent with the approved model plan.

The aspect of this milestone relating to feral and introduced predator control plans is completed; refer to milestone 6.4.

For information on threatened flora species management plans, see discussion on cooperative approaches to management of species in milestone 5.4.

Milestone 6.3

Cooperation on weed control, including incorporating into regional ESFM plans and plans of management

Refer to UNE and LNE Forest Agreements section 2.12; Eden Forest Agreement section 2.11; Southern Forest Agreement section 2.12, Att 6 (2) (m)

Progress of milestone: complete

Forests NSW

Weed management was integrated into the Forests NSW ESFM plans published in 2005. Supplementary weed management plans have been produced for each region covering the period 2006–11. These contain the details of the objectives, strategies, actions and cooperative arrangements with other government agencies, land managers and neighbouring land owners, for the control of priority weeds.

Forests NSW regions produce annual weed management programs in close cooperation with stakeholders, to maximise program delivery across the landscape. Development of the programs, and their integration with the programs of other parties, takes place through meetings and correspondence. In excess of \$500,000 is spent annually on weed control on state forests throughout NSW.

DECCW

Weed management programs are identified and prioritised in DECCW regional pest management strategies (which include weeds and pest animals) and integrated into the NSW Threatened Species PAS, threat abatement plans, recovery plans and reserve management plans. Regional pest management strategies outline how DECCW will cooperatively manage weed issues across the landscape with other state and local government agencies, landowners and community groups. Weed control programs are also integrated with other park management programs, such as fire management. DECCW reserve management plans identify priority weed problems and the need for actions that are, in turn, addressed by statewide threat abatement plans or regional pest management strategies.

DECCW supports long-running cooperative programs with a variety of landholders, land management agencies and interest groups for the management of weeds (e.g. bitou bush, lantana, scotch broom). For example, in the Southern region there is also a cooperative program covering bitou bush management on private land.

Regional pest management strategies were in place for all DECCW regions by June 2006. New strategies were drafted for the period 2008–11, put on public display from late 2007 to early 2008, and subsequently published.

As Forests NSW weed management plans and DECCW regional pest management strategies provide information on cooperative arrangements, this milestone is considered complete.

Supporting documentation

Forests NSW regional weed management plans can be found at:
www.dpi.nsw.gov.au/forests/management/esfm/supplementary

DECCW regional pest management strategies can be found at:
www.environment.nsw.gov.au/pestsweeds/RegionPestManagement.htm

Milestone 6.4

Cooperation on feral animal control, including incorporating into regional ESFM plans and plans of management

Refer to UNE and LNE Forest Agreements section 2.12; Eden Forest Agreement section 2.11; Southern Forest Agreement section 2.12, Att 6 (2) (m)

Progress of milestone: complete

Forests NSW

Pest animal management was integrated into Forests NSW ESFM plans, published in 2005. Supplementary pest animal management plans have been produced for each region and cover the period for 2006–11. These contain details of the objectives, strategies, actions and cooperative arrangements with other government agencies, land managers and neighbouring landowners, for the control of priority pest animals.

Forests NSW regions produce annual pest animal management programs, in close cooperation with stakeholders, to maximise program delivery across the landscape. The programs are developed and integrated with the programs of other parties through meetings and correspondence.

DECCW

DECCW's main pest animal management priorities for the conservation of biodiversity are focused on threatened species and endangered ecological communities. Pest animal management programs are identified and prioritised in DECCW regional pest management strategies (which include weeds and pest animals) and integrated into the NSW Threatened Species PAS, threat abatement plans, recovery plans and reserve management plans. Regional pest management strategies outline how DECCW will cooperatively manage pest issues across the landscape with other state and local government agencies, rural lands

protection boards, landowners and community groups. Pest animal programs are also integrated with other park management programs, such as fire management.

DECCW supports long-running cooperative programs with a variety of landholders, land management agencies and interest groups for the management of pest animals (e.g. foxes, wild dogs, feral horses, pigs and deer) and forest health (e.g. bell miner associated dieback). Regional pest management strategies were in place for all DECCW regions by June 2006. New strategies were drafted for 2008–11, put on public display from late 2007 to early 2008, and have subsequently been published.

As Forests NSW pest animal management plans and DECCW regional pest management strategies provide information on cooperative arrangements, this milestone is considered complete.

Supporting documentation

Forests NSW regional pest management plans can be found at:

www.dpi.nsw.gov.au/forests/management/esfm/supplementary

DECCW regional pest management strategies can be found at:

www.environment.nsw.gov.au/pestsweeds/RegionPestManagement.htm

Milestone 6.5

Cooperation between agencies on other forest health issues, such as bell miner associated dieback

Refer to UNE, LNE, Southern Forest Agreements section 2.12; Eden Forest Agreement section 2.11

Progress of milestone: complete

As indicated by the milestones on pests and weeds (milestones 6.3 and 6.4) and fire (milestone 7.1), agencies actively participate in cooperative programs. A good example of such cooperation is in the management of bell miner associated dieback (BMAD), which is a major forest health issue affecting forests in the NSW FA regions.

BMAD is a complex phenomenon in which native forest species, particularly mature eucalypts, develop an unexplained proliferation of sap-sucking insects called psyllids. The proliferation is usually associated with declining tree health and a proliferation of bell miners or bellbirds (*Manorina melanophrys*). This is of prime concern in the northern forest regions of the state.

The resultant cycle of tree stress commonly causes the eventual death of forest stands, as well as serious ecosystem decline. In NSW the potential impact of BMAD-induced native vegetation dieback represents a serious threat to sclerophyll forest communities, particularly wet sclerophyll forests, from Queensland to the Victorian border. Current estimates place the potential risk areas at a minimum of approximately two and a half million hectares across both public and private land tenures in NSW.

The BMAD Working Group has developed a BMAD Strategy to provide a coordinated approach to the management of BMAD in north eastern NSW. It is being carried out in a partnership between DECCW, Forests NSW, other government agencies and stakeholders. Additionally, the BMAD Working group has utilised airborne and remote sensing techniques have been utilised in the Jilliby Valley (LNE) and in the Toonumbar/Richmond area (UNE) to map eucalypt tree canopy health.

Research by the Bushfire Cooperative Research Centre is improving knowledge on both forest type and site combinations that are predisposed to decline, in the absence of frequent fire and other management.

Mechanisms to ensure cooperation on forest health issues occurs have been implemented as highlighted above; therefore this milestone is considered complete.

Supporting documentation

Information on BMAD and the BMAD Working Group is available at: www.bmad.com.au

2.7 Managing for other forest values and uses

Milestone 7.1

Participation of agencies in district fire committees (fire management)

Refer to UNE, LNE and Eden Forest Agreements section 2.10; Eden Forest Agreement section 2.9; Southern Forest Agreement section 2.10; Southern Forest Agreement Att (6) (2) (1)

Progress of milestone: complete

DECCW and Forests NSW ensure that an integrated approach to fire management (including prevention, mitigation and suppression) is achieved at a state level through their participation in the NSW Bushfire Coordinating Committee, which was established by the *NSW Rural Fires Act 1997* (RF Act). The committee is responsible for statewide planning in relation to bushfire prevention and coordinated bushfire fighting, and for advising the NSW Rural Fire Service Commissioner on bushfire prevention, mitigation and coordinated bushfire suppression.

District bushfire management committees are responsible for implementing Bushfire Coordinating Committee policy at a local level in a collaborative way with other constituent members. The committees provide a forum for cooperative and coordinated fire and fuel management, as well as community involvement. They are responsible for the completion of bushfire risk management plans and an operations coordination plan. These plans are approved by the Commissioner for the NSW Rural Fire Service following consideration of a variety of landscape values. Forests NSW, DECCW and other land managers are represented on the committees and have statutory obligations for fire management under the RF Act.

A bushfire risk management plan is a strategic plan that encompasses all land tenures (including private lands, DECCW reserves and state forest areas) on a local government basis. The plan identifies community, environmental, cultural and economic assets at risk from fire, provides strategies to mitigate the risk at the landscape level, and sets out a five-year program to mitigate these risks. It is implemented via an annual works program.

Full integration of fire suppression activities is achieved during fires that are declared as fire emergencies pursuant to section 44 of the RF Act. Following a declaration, fires are managed at the landscape level across all tenures with the RFS Commissioner taking charge of all fire operations and the resources of all government agencies involved in the suppression effort.

Milestone 7.2

Forests NSW/NPWS to develop cooperative arrangements such as joint regional recreation and tourism plans

Refer to UNE and LNE Forest Agreements section 2.13.1; Eden Forest Agreement section 2.12.1; Southern Forest Agreement section 2.13.1

Progress of milestone: not applicable

DECCW has developed a statewide strategy for sustainable visitation (Living Parks), which was completed in 2005 and publicly launched in early 2006.

A key action specified within Living Parks is the development of branch visitation management plans, which will guide regional recreation and tourism planning on DECCW estate. A framework for the development of these plans was completed in 2005–06. Completed in 2008, the plans outline the internal arrangements within DECCW for visitation management.

A statewide plan for Forests NSW has been developed. Forests NSW recognises that native and planted state forests provide a wide range of opportunities for responsible recreation, sport, tourism and training and that these can be provided within the context of sustainable multiple use forest management and government forest policy. During 2003 and 2004, Forests NSW developed a strategy for managing state forests for sustainable recreation, sport, tourism and training. In cooperation with peak groups representing forest users, as well as relevant government agencies such as DECCW, a new policy and strategy for meeting the needs of the people who use state forests for these activities has been developed. The resulting strategic plan (Forests NSW 2008a), *Living, working, playing...forests 2005–2009*, continues to guide recreational use of state forests.

The Far South Coast Nature Tourism and Recreation Plan, a multi-agency cooperative plan, was completed in May 2004 and is now being implemented. The plan's development involved representatives from Forests NSW, the DECCW, Eurobodalla Tourism, Sapphire Coast Tourism, Umurra Aboriginal Cultural Heritage Tours and former Department of Lands (now LPMA). It includes areas within the Eden region and some of the forests within the Southern region.

Joint recreation and tourism plans have not been developed for the UNE/LNE and Southern regions. These are no longer considered necessary since individual agency actions are taking place.

Supporting documentation

Forests NSW' *Living, working, playing...Forests 2005–2009* can be found at:

www.dpi.nsw.gov.au/aboutus/resources/corporate-publications/living

DECCW's *Living Parks* is available at:

www.environment.nsw.gov.au/parkmanagement/LivingParks.htm

The *Far South Coast Nature Tourism and Recreation Plan* is available at:

www.environment.nsw.gov.au/parkmanagement/farsouthcoastnaturetourismrecreationplan.htm

Milestone 7.3

Carbon sequestration opportunities associated with revegetating sites within reserves in the UNE region

Refer to UNE Forest Agreement section 2.13.2

Progress of milestone: not applicable

In July 2000, an MOU was entered into by the Minister for the Environment and the Minister for Forestry. The agreement provides for the sharing of expertise and information to expand carbon sequestration rights and environmental markets. Preliminary work in relation to the proposed revegetation project took place. However, legal constraints have been identified that will require legislative change to enable carbon sequestration opportunities on reserves to be realised.

The proposed UNE project has been overtaken by the consideration of broader legal impediments and the investigation of carbon sequestration opportunities across all of the national park estate, not just the UNE. This milestone is therefore considered no longer applicable.

DECCW continues to monitor the progression of the Carbon Pollution Reduction Scheme being developed by the Australian Government, in order to identify any possible future opportunities to participate through the ecological restoration of degraded land in the national parks system.

Milestone 7.4

Occupation permits on state forests - formation of committee and phasing out of permits

Refer to UNE, LNE, Eden Forest Agreements section 2.3.3; Southern Forest Agreement section 2.3.3

Progress of milestone: ongoing

In November 2000, an Occupation Permit Taskforce of representatives from DECCW, Forests NSW and NSW Farmers was formed to consider issues in UNE, LNE and Southern regions. There were no occupational permits in the Eden region requiring consideration.

In the UNE and LNE regions, the Occupation Permit Taskforce considered occupation permits in state forest areas zoned FMZ 1 and FMZ 2. Finalisation of exclusion or management arrangements to deal with phasing out of occupation permits in state forest areas zoned FMZ 1 and FMZ 2 was deferred until the completion of the FMZ assessment (see milestone 3.3). Discussions between agencies are continuing to seek a resolution.

In the Southern region, a steering group of representatives from former DLWC, NSW Farmers and Forests NSW, chaired by DECCW, met several times in 2001–02 to oversee the phase-out of occupation permits and permissive occupancies.

The phasing out of occupational permits on land transferred to DECCW in the Southern region, which affected about 120 people, was completed over 18 months ending in June 2003. Phasing out occupational permits from informal reserves in the Southern region is still under consideration.

Milestone 7.5

Plantation areas within national parks to be rehabilitated by harvesting, prepare works programs and rehabilitation plans

Refer to UNE and LNE Forest Agreements sections 3.3, 6.16.1, Att 11 - 30 June 2001, within six months of harvesting, ongoing

Progress of milestone: not applicable

No harvesting of former Forests NSW hardwood plantations areas within national parks has occurred. Two areas within national parks were identified where harvesting might have taken place to rehabilitate the sites and harvesting/rehabilitation plans were prepared. However, Forests NSW decided not to proceed. DECCW has decided that rehabilitation of those and other plantations would now occur as part of normal reserve management operations. This milestone is therefore considered no longer applicable.

Milestone 7.6

NPWS and Forests NSW to prepare an MOU on joint usage of roads and trails

Refer to UNE Forest Agreement section 2.13.5 - 1 January 2000; LNE Forest Agreement section 2.13.4 - 1 January 2000; Eden Forest Agreement section 2.12.4 - 1 January 2000; Southern Forest Agreement section 2.13.4 - 31 December 2002

Progress of milestone: not applicable

Dedication of national parks and nature reserves over lands that were previously state forest highlighted the need for a cooperative approach to maintain roads and trails of mutual interest to both DECCW and Forests NSW.

MOUs for the Eden, Southern and UNE/LNE regions are at various stages of development; however as cooperation between the two agencies at the local/operational level has been

very successful on a case-by-case basis, finalisation of the proposed MOUs is no longer a priority. This milestone is therefore considered no longer applicable.

2.8 Private land

Milestone 8.1

Identification of private land of conservation priority

Refer to UNE and LNE Forest Agreements section 2.9.1 - 1 January 2000; Southern Forest Agreement section 2.9 - 30 June 2002

Progress of milestone: ongoing

A number of processes are already complete or are underway for identifying lands of conservation priority on private land:

- Comprehensive Regional Assessment aerial photo interpretation (CRAFTI) data for the UNE region has been completed and incorporated into regional databases
- updating of CRAFTI for the LNE region has been discontinued in favour of other more accurate methods of vegetation mapping. These methods have already been implemented
- the joint Commonwealth/NSW North East RFA lists priority forest ecosystems on private land
- the pre-application site inspection for every proposed plantation requires identification of all vegetation and forest types so that those with conservation priority can be retained
- a test of significance under the *Threatened Species Conservation Act 1995* assesses proposed plantations for their potential impact on any endangered ecological communities present
- the Private Native Forestry Code contains formal identification protocols for old growth and rainforest, based on mapping prepared under the CRAFTI component of the CRA process. Under the Code, forestry operations are not permitted in old growth forest and rainforest
- the biodiversity assessment component of the gazetted Environmental Outcomes Assessment Methodology (EOAM) is informed by the biometric tool; refer to milestone 24.8
- DECCW is progressively mapping native vegetation across NSW in accordance with the draft Native Vegetation Type and Mapping Strategy and the Native Vegetation Standard, with the long term goal of high-quality floristic mapping of the entire state. Mapping aims to classify and illustrate all important vegetation communities.

Milestone 8.2

Regional vegetation management committees/plans under the *Native Vegetation Conservation Act 1997*

Refer to UNE and LNE Forest Agreements section 2.9.1; Southern Att 6 (2) (e), Att 6 (3 point 4)

Progress of milestone: not applicable

Two regional vegetation management plans were finalised under the *Native Vegetation Conservation Act 1997*: the Mid Lachlan Regional Vegetation Management Plan and the Riverina Highlands Regional Vegetation Management Plan. A number of other regional

vegetation management plans were in final draft form when the *Native Vegetation Act 2003* (NV Act) was assented to in December 2003.

The NV Act establishes a different regime that does not include regional vegetation management plans. The focus of the native vegetation reforms is on catchment action plans prepared by Catchment Management Authorities (CMAs) and individual property vegetation plans (PVPs); therefore this milestone is considered no longer applicable.

Milestone 8.3

Establish a committee to promote conservation on private lands

Refer to UNE and LNE Forest Agreements section 2.9.1; Eden Forest Agreement section 2.8.1; Southern Forest Agreement section 2.9

Progress of milestone: complete

A Regional Native Vegetation Committee was formed in 2000, its inaugural meeting being held in October of the same year. Current conservation mechanisms and financial incentives available to promote conservation on private land were discussed; representatives at the meeting included those from DECCW, Forests NSW and former DLWC.

No further committee meetings were required, as agencies are individually encouraging conservation on private land (see milestone 8.4) and coordination of natural resource management is occurring through new government initiatives such as the State Plan including monitoring through NSW Natural Resources Monitoring Evaluation and Reporting (MER) (milestone 24.3). This milestone is therefore considered complete.

Milestone 8.4

Conservation mechanisms including voluntary mechanisms

Refer to UNE, LNE FAs section 2.9.1, Att 7; Eden FA section 2.8.1, Att 7; Southern FA section 2.9, Att 5

Progress of milestone: Complete

Conservation Agreements

Voluntary mechanisms assist conservation measures on private and non-reserved public lands. A Conservation Agreement (CA) is an agreement between a landholder and the Minister for Climate Change and the Environment under the NPW Act. The Agreement provides permanent protection and is registered on the title of the land ensuring that if the land is sold, the Agreement and management requirements remain in place. More than 80 CAs have been established on private lands in the southern forests area of the state. There are more than 260 CA state-wide protecting more than 53,000 hectares of high conservation value private and non-reserved public land.

Registered property agreements and management contracts under the Native Vegetation Conservation Act 1997 and continued under the Native Vegetation Act 2003

Under the repealed *Native Vegetation Conservation Act 1997*, more than 350 Registered Property Agreements and more than 450 Management Contracts have been voluntarily signed to protect over 81,000 ha of high conservation value native vegetation. These agreements assist landholders to manage native vegetation on their land and continue as either in-perpetuity or term based arrangements but no new ones can be signed.

Under the NV Act, private native forestry (PNF) PVPs can be agreed between landholders and DECCW and others types of PVPs (e.g. clearing or incentives) can be agreed between landholders and CMAs for conservation works on private land.

As of 24 March 2010 there have been 1,152 PNF PVPs covering 272, 508 hectares of native forest since the PNF Code of Practice was introduced in August 2007. There have also been

1,223 Conservation and Incentive PVPs established to conserve or improve 438,570 hectares of native vegetation within NSW since the NV Act was introduced in December 2005.

Biobanking

Biobanking is a market-based mechanism designed to protect and enhance biodiversity on private land. The main purpose of biobanking is to offset the impacts of development by enabling a market to exist for people to buy biodiversity credits. Biodiversity credits are generated on offset lands that will protect and enhance biodiversity values in perpetuity through a covenant on the land. Biobanking complements existing schemes, such as the *Native Vegetation Act 2003* and Conservation Agreement covenants

Plantation process

The *Plantations and Reafforestation Act 1999* does not include any voluntary conservation mechanisms; however, the Plantations Code requires the retention of certain types of native vegetation within plantations as part of the authorisation process, and these retained areas are to be managed to conserve their biodiversity and ecological integrity.

As the above mechanisms have been put into place this milestone is considered complete.

Milestone 8.5

Improve administrative arrangements and cooperation and coordination by state agencies to facilitate the timber industry utilising private forest resources including marketing and pricing

Refer to Southern Forest Agreement Att 6 (3)

Progress of milestone: ongoing

A range of programs and arrangements by state agencies and non-government organisations, including marketing and pricing, have been facilitating the timber industry through the use of private forest resources.

Forests NSW is assisting landowners explore market opportunities through timber purchase agreements to realise the true value of its timber assets. This has and will continue to result in significant benefits to the landholders, and will continue into the future.

The Southern Tablelands Farm Forestry Network working in the Southern Tablelands region of NSW has been working with DECCW to assist landholders in obtaining PVPs. Information on the Southern Tablelands Farm Forestry Network (STFFN) is available at: www.stffn.org.au/

The Private Forestry Development Committees, industry and farmer groups have been facilitating the timber industry using private forest resources through seminars, field days and workshops. These have involved looking at products, marketing, silviculture and other aspects of forest management, mainly in the UNE and LNE regions. Information on Private Forestry Development Committees can be found at: www.daff.gov.au/brs/forest-veg/nfi/plantation-inventory

Milestone 8.6

Arrangements to ensure ESFM on private forests involving the provision of technical advice, extension services, research and assistance in the estimation of sustainable yield

Refer to Southern Forest Agreement Att 6 (3 point 1)

Progress of milestone: ongoing

DECCW/CMA

Arrangements are in place to ensure ESFM on private forests is taking place, including the provision of technical advice, extension services and research.

DECCW responds to approaches from private landholders on a broad range of conservation, wildlife and environmental protection matters, while staff members from the CMA also provide advice to landholders and inspect sites. Technical advice in relation to the preparation of PVPs, relies on the methodology and data provided in the EOAM gazetted under the Native Vegetation Methodology. Factors considered include water quality, salinity, biodiversity and land degradation. The EOAM is informed by a range of databases, including the threatened species profile database, vegetation benchmarks, over-cleared landscapes, over-cleared vegetation types, major rivers, important wetlands, soil subregions and invasive native scrub species database (see milestone 24.8).

CMAs use the PVP Developer decision support tool to help farmers prepare PVPs. This software assists CMA staff in making assessments and creating maps for PVP scenarios, through the negotiation process of developing a PVP.

The Native Vegetation Regulation, including the PNF Code of Practice, is based on the ESFM. In the PNF process technical advice is given on vegetation types, silvicultural options, tools to help management and other information to assist the owner in managing biodiversity and timber values. DECCW assists the landowner in obtaining a PVP and provides forest operation plan templates and a guide on how to prepare such plans and many other supporting guidelines and publication for private native forest owners and their contract harvesters. DECCW has jointly developed training courses (soil and water, forest planning, silviculture, biodiversity management) and these are being delivered by TAFE NSW and I&I NSW through Tocal College (www.tocal.nsw.edu.au). A monitoring project on the effectiveness of the Code of Practice is being developed in conjunction with I&I NSW, NRAC and various universities.

Plantation process

The provisions of the Plantations Code reflect the principles of ESFM. As part of the plantation authorisation process, departmental officers make a pre-application inspection where they often provide technical advice to plantation proponents, for example, in relation to establishment methods for different soil types or the location of roads. A plantation map identifying areas to be planted, areas of native vegetation to be retained, drainage features and buffer zones, forms part of the authorisation.

Private forests

Southern Tablelands Farm Forestry Network provides technical advice to private native forest owners on harvesting methods and vegetation types, and assists preparing Forest Operating Plans. Over the years, Southern Tablelands Farm Forestry Network has provided scholarships for honours projects at the Australian National University, to aid with research into managing private native forests, including estimating sustainable yield.

Milestone 8.7

Private forest inventory to be undertaken to determine the basis of wood product yield from private land.

Refer to Southern Forest Agreement Att 6 (4)

Progress of milestone: not applicable

A number of inventories have been completed or are under way in the UNE and LNE regions, for example:

- Southern New England Private Native Forest (PNF) Inventory which was undertaken for Northern Inland Regional Development Board
- A report on Private Native Forestry and Plantation Resource of the NSW North Coast undertaken for the Northern Rivers Private Forestry Development Committee

STFFN has provided information to the Bureau of Rural Sciences on plantation age and area as part of the national plantation inventory, and in 2005 provided a wood flow analysis for the *Pinus radiata* resource in the Southern Tablelands.

STFFN has a set of maps outlying the PNF resource by forest type, but does not have detailed inventory data on these PNF areas.

In relation to plantations, I&I NSW does not collect yield data as part of the authorisation or the subsequent regulatory requirements under the *Plantations and Reafforestation Act 1999*. The Plantations Public Register (discussed in milestone 18.1) shows the areas authorised for plantation establishment under the *Plantations and Reafforestation Act 1999*; however, this does not indicate the expected yield. Information may be available from individual plantation companies, such as Forest Enterprises Australia and Forests NSW.

In 2005 the Native Vegetation Regulation commenced. The regulation provides for the policy and regulatory framework for managing timber harvesting on private land. The requirements established under this framework deliver against the aims of forest agreement commitments. Due to this framework being implemented this milestone is no longer applicable.

2.9 Private native forestry and plantations

Milestone 9.1

Code for private native forestry to be put into place

Refer to Southern Forest Agreement Att 6 (3, points 2 and 3)

Progress of milestone: complete

In 2005 the Native Vegetation Regulation commenced. The regulation provides for the policy and regulatory framework for managing timber harvesting on private land. The requirements established under this framework deliver against the aims of forest agreement commitments. The Private Native Forestry Code of Practice is part of the Native Vegetation Regulation 2005 and subsequently the code was introduced on 1 August 2007. The code has four parts covering the different forests of the state: northern NSW north of the Sydney CBD, southern NSW south of the Sydney CBD, river red gum forests, and cypress and western hardwood forests.

The Government also introduced a \$10.1 million package to assist industry and forest workers develop a training and education program, and to expedite the implementation of the code of practice.

Supporting documentation

The Private Native Forestry Code of Practice can be found at:

www.environment.nsw.gov.au/pnf/index.htm

Milestone 9.2

Code of practice for plantations to be put into place

Refer to Southern Forest Agreement Att 6 (3 point 3); Southern Forest Agreement Att 6 (3 point 5); Southern Forest Agreement section 2.2.3

Progress of milestone: complete

This milestone was achieved through the implementation of the *Plantations and Reafforestation (Code) Regulation 2001* in December 2001.

The *Plantations and Reafforestation Act 1999* (PR Act) and code provide certainty for harvesting, which was previously provided under the *Timber Plantations (Harvest Guarantee) Act 1995* (TPHG Act). Plantations certified under the TPHG Act are deemed to be authorised under the PR Act. The Plantations Code contains detailed prescriptions for plantation operations, including establishment, management and harvesting. These provisions ensure that environmental values are safeguarded during plantation operations. A review of the PR Act and Code commenced in 2005 and is now nearing completion.

Supporting documentation

Details on the Plantation Code can be found at:

www.dpi.nsw.gov.au/agriculture/resources/private-forestry

2.10 World heritage and wilderness

Milestone 10.1

Review of CERRA World Heritage Areas to identify any additional rainforest to be included

Refer to UNE and LNE Forest Agreements section 2.7

Progress of milestone: ongoing

During 2003–04, work started on the proposed expansion of the Central Eastern Rainforest Reserves of Australia (CERRA) World Heritage Area, based on its current rainforest theme. Objective criteria to identify and score protected areas for inclusion were developed by the CERRA Technical and Scientific Advisory Committee (TSAC) and have been applied by staff in DECCW (for the NSW areas) and Queensland Parks and Wildlife Service (for the Queensland areas).

In 2005, TSAC provided a ranked list of potential sites to the CERRA Ministerial Council as the recommended starting point to expand CERRA on its current rainforest theme. These sites will more than double the existing area and include those that form part of existing parks in CERRA, those that have been previously recommended by the International Union of Conservation of Nature (IUCN) and those that scored highly when assessed against criteria linked to CERRA's World Heritage values. DECCW provided assistance in refining and applying these criteria to potential reserves.

The Commonwealth Minister has declined to coordinate a process to develop a nomination to extend CERRA, until he receives a formal approach from both relevant NSW and Queensland State Ministers. As at the end of the five-year review period, DECCW was reviewing the TSAC list (to ensure that regional issues and management implications were considered) and working with the NSW Department of Premier and Cabinet in determining statewide priorities consistent with Government priorities.

Although the process of nomination is taking much longer than expected, work is continuing.

Milestone 10.2

Studies of the dedicated reserve system to identify World Heritage values, including eucalypt dominant vegetation and religious beliefs embedded in the landscape

Refer to UNE and LNE Forest Agreements section 2.7; Eden Forest Agreement section 2.6; Southern Forest Agreement section 2.7

Progress of milestone: ongoing

Current effort for World Heritage nominations in NSW is focused on extensions to the Gondwana Rainforest World Heritage Area and the separate nomination of the Australian Alps.

Other themes, such as eucalypt dominant vegetation or cultural-related issues, may be considered after the current nominations are finalised over the next few years. Any future sites or new criteria for existing sites proposed for World Heritage listing would require considerable research and data collection, including the development of a comprehensive nomination document describing how the sites meet World Heritage criteria.

In the UNE and LNE regions, a consultant's report commissioned by the then Commonwealth Department of Environment and Heritage (DEH) and completed in mid-2005, identified potential sites of national significance in the broader CERRA region based on the following themes: Aboriginal earthen ceremonial initiation sites ('bora rings'), stone arrangements, Dreaming/creation places, working together and resistance. The report was reviewed by DEH and finalised. Work continues to seek National Heritage Listing for some or all of the sites and, potentially, a World Heritage nomination based on indigenous cultural values.

No further studies are currently planned in the Eden region.

In the Southern region, an assessment of the Australian Alps (including Kosciuszko National Park) was completed during the five-year review period and NSW Cabinet was considering a joint nomination of the Australian Alps for National Heritage Listing. National Heritage Listing is a prerequisite before consideration can be given to World Heritage nomination.

Milestone 10.3

Placing a wilderness assessment report on public exhibition, providing advice and Minister considering areas in the UNE/LNE regions and in Southern region providing advice and Minister considering areas

Refer to UNE and LNE Forest Agreements section 2.5, Att 8 (point 4); Southern Forest Agreement section 2.5

Progress of milestone: complete

For the UNE/LNE regions, the Northern Wilderness Assessment Report was publicly exhibited in mid-2001. On 19 February 2003, 151,000 ha of wilderness were declared in northern New South Wales. Seven new wilderness areas were created: the Levers, Bundjalung, Banyabba, Cathedral Rock, Carrai, Mount Seaview and Limeburners Creek. The declarations also included additions to the Washpool, Bindery/Mann, Guy Fawkes, New England, Macleay Gorges, Kunderang, Willi Willi and Barrington wilderness areas. These declarations were formally gazetted on 21 March 2003.

Two new wilderness areas were declared in the north east in 2005–06. The Chaelundi Wilderness (11,000 ha) within Chaelundi National Park was declared on 2 December 2005 and the Mummel Gulf Wilderness (10,790 ha) within Mummel Gulf National Park was declared on 28 February 2006. These areas were assessed during the CRA but were previously too small for declaration. However, substantial Crown land acquisitions that adjoin these areas have since enabled their declaration.

For the Southern region, DECCW provided advice to the Minister for the Environment about the 27,500 submissions received during the public exhibition of the Southern Wilderness Assessment Report. On 19 February 2003, 122,000 ha of wilderness were declared in

Southern New South Wales. Seven new wilderness areas were created: West Ettrema, Buckenbowra, Woila, Deua, Tuross, Bramina, Indi and Western Fall wilderness areas. The declarations also included additions to the Ettrema, Bogong Peaks, Goobarragandra, Bimberi, Jagungal, Pilot and Byadbo wilderness areas. These declarations were formally gazetted on 21 March 2003.

Milestone 10.4

Altering the NSW Forest Agreements and IFOA to provide for the protection of wild rivers

Refer to UNE, LNE and Southern Forest Agreements sections 2.6; Eden Forest Agreement sections 2.5

Progress of milestone: not applicable

Sections 61 and 61A of the NPW Act provide for the declaration and management of wild rivers. These are rivers in near pristine condition for animal and plant life and water flow, and are free from the unnatural rates of siltation or bank erosion that affect many waterways in Australia. The first wild rivers declared under the Act on 2 December 2005 were the Upper Brogo, Forbes, Upper Hastings and Kowmung Rivers and Washpool Creek. As at June 2005, other rivers such as the Colo and Grose are being investigated for declaration.

The NPW Act makes provision for statutory authorities, such as local councils, CMAs and government departments, to consult with the Minister administering the Act where they propose development in relation to a wild river.

The existing provisions of the NSW Forest Agreements and IFOAs require no alteration to provide protection for wild rivers; therefore this milestone is considered no longer applicable.

2.11 Cultural heritage

Milestone 11.1

Cultural heritage guidelines for state forests and manage cultural values

Refer to UNE and LNE Forest Agreements section 2.8, Att 8 (point 6); Eden Forest Agreement section 2.7 Att 8 (point 5); Southern Forest Agreement section 2.8

Progress of milestone: complete

Cultural heritage guidelines have been attached to the LNE, UNE, Eden and Southern IFOAs. These cover both Aboriginal and non-Aboriginal cultural heritage.

Forests NSW (2006b) has also completed its *Operational Guidelines for Aboriginal Cultural Heritage Management* on state forests, to help develop and maintain a systematic approach to consultation with Aboriginal communities on forest operations and to manage Aboriginal values in state forests. This document was approved in May 2006.

The management of non-Aboriginal cultural heritage is not a significant issue within state forests as its location is known and is protected through the FMZ System (i.e. FMZ 7). Identification and protection of sites are captured as part of the planning process; local consultation also occurs as appropriate, e.g. Historic Society.

Supporting documentation

Forests NSW' *Operational Guidelines for Aboriginal Cultural Heritage Management* is available at: www.dpi.nsw.gov.au/forests/management/reporting/rfa-review-report

Milestone 11.2

Finalisation of Forests NSW policy on indigenous and non-indigenous cultural heritage

Refer to UNE and LNE Forest Agreements section 2.8; Eden Forest Agreement section 2.7; Southern Forest Agreement section 2.8

Progress of milestone: complete

Forests NSW has completed policies on both Aboriginal and non-Aboriginal cultural heritage, which are included in the ESFM plans. It states that: 'Forests NSW will protect and manage Aboriginal and non-Aboriginal cultural heritage values on state forests in cooperation with the community'.

Supporting documentation

Forests NSW ESFM Plans are located at: www.dpi.nsw.gov.au/forests/management/esfm

Milestone 11.3

Managing cultural values including NPWS reviewing its cultural heritage guidelines

Refer to UNE, LNE section 2.8 and Att 8; Eden Forest Agreement section 2.7 and Att 8; Southern Forest Agreement section 2.8

Progress of milestone: complete

Cultural values on the DECCW estate are managed according to DECCW legislative responsibilities and existing statewide policies and guidelines. These include a Cultural Heritage Strategic Policy, Aboriginal Community Engagement Framework, and Guidelines for the Assessment of Impact on Heritage Places. Draft Cultural Landscape Management Guidelines have also been prepared and an Aboriginal Heritage Conservation Policy is in preparation. These policies are periodically reviewed and are consistent with the principles contained in the CRA/RFA project reports: Protective Mechanisms for Cultural Heritage — Generic Version (Cultural Heritage Working Group, 2000a) and Protective Mechanisms for Cultural Heritage — Lower North East region (Cultural Heritage Working Group, 2000b).

In the plantation process, a cultural heritage assessment is made as part of every plantation authorisation. This involves a search of the Aboriginal Sites Register managed by DECCW to identify recorded sites, in addition to field checking of landscape features likely to contain Aboriginal cultural heritage sites. In situations where it is likely the property could contain other sites, the proponent may be asked to engage an archaeologist or members of the local Aboriginal community to make a more thorough survey of the development site.

The Plantations Code contains requirements for buffer zones around places and relics of cultural heritage. Plantation operations and clearing of native vegetation are prohibited within these buffer zones.

Supporting documentation

Details on DECCW's cultural heritage management can be found at: www.environment.nsw.gov.au/nswcultureheritage

Milestone 11.4

Report on cultural heritage performance

Refer to UNE, LNE, Southern Forest Agreements section 2.8; Eden Forest Agreement section 2.7

Progress of milestone: complete

DECCW and Forests NSW contribute significant information to the ESFM criteria and indicators section of the annual forest agreement implementation report, which includes cultural heritage indicators. The data and information on the ESFM criteria and indicators has been summarised in the *Draft report on progress with implementation of the New South Wales Regional Forest Agreements (RFAs)*, and NSW Forest Agreement implementation reports.

Cultural heritage performance and achievements are also outlined in the DECCW annual report. More detailed performance indicators for cultural heritage are also included in State of the Parks reporting.

Forests NSW reports on an annual basis on cultural heritage performance on state forests in its annual Seeing Reports.

The indicators that are reported include the number of surveys done, the total sites managed, co-management agreements, number of partnerships, number of staff employed and number completing cultural heritage training, and the area of land with Native Title rights.

Supporting documentation

The Draft report on progress with implementation of the NSW Regional Forest Agreements (RFAs) is available at: www.environment.nsw.gov.au/forestagreements/RFAreviews.htm

NSW Forest Agreement Implementation reports are available at: www.environment.nsw.gov.au/forestagreements/monitoring.htm

DECCW's Annual report is available at: www.environment.nsw.gov.au/whoweare/reports.htm

DECCW's State of the Parks reports can be found at: www.environment.nsw.gov.au/sop/index.htm

Forests NSW Seeing reports are available at: www.dpi.nsw.gov.au/aboutus/resources/corporate-publications

Milestone 11.5

Updating section 170 register including sites of state significance

Refer to UNE, LNE and Southern Forest Agreements section 2.8; Eden Forest Agreement section 2.7

Progress of milestone: complete

DECCW first began using a Historic Heritage Information Management System (HHIMS) in August 2002. HHIMS allows field staff and consultants to add or amend information related to heritage items they manage and also incorporates necessary technology, such as GIS, into the database. The system is regularly updated to include items required to be on the DECCW 170 register, including items of State significance.

Forests NSW regions maintain a Section 170 Heritage and Conservation Register. The register identifies sites and objects of heritage significance for internal reference. Site details are also submitted to the NSW Heritage Office for inclusion on the State Heritage Register when required. All sites of non-indigenous exploration and settlement assessed and recognised to be of local or regional historical significance are also incorporated within the Forests NSW GIS system. Potential buffers around significant sites are incorporated into the

FMZ system. This is an ongoing commitment as part of Forests NSW' requirement to consider heritage sites in the planning process.

This milestone is considered complete, as agencies pursue activities in accordance with state heritage legislation.

Milestone 11.6

NPWS to review indigenous cultural heritage management processes to provide a landscape-based system

Refer to UNE and LNE Forest Agreements section 2.8; Eden Forest Agreement section 2.7; Southern Forest Agreement section 2.8

Progress of milestone: complete

The integration of natural and cultural values in the landscape is a DECCW goal, and the identification and assessment of a landscape's cultural heritage values is vital to its effective management. Strategic information, community consultation and other policies form part of a broader package aimed at better integrating cultural heritage into conservation objectives and operations to assist DECCW staff, and the consultants and contractors DECCW employs, in managing its cultural heritage responsibilities. For example, DECCW is preparing an Aboriginal Heritage Conservation Policy that will inform and guide DECCW staff, and consultants and contractors employed by DECCW, in the conservation of Aboriginal cultural heritage in NSW.

DECCW management processes for both natural and cultural heritage, through management planning and impact assessment, are aiming towards a landscape approach. Draft Cultural Landscape Management Guidelines have been prepared that will assist PWG staff and others within DECCW in adopting this approach. Additionally, DECCW has produced a document, *Aboriginal Cultural Heritage regional studies: an illustrative approach*, and manages a whole of government initiative, the Aboriginal Heritage Mapping and Assessment Priorities. The latter program is intended to integrate government data and foster a uniform approach to regional assessment and mapping of Aboriginal heritage values. DECCW is also introducing Aboriginal regional assessment techniques and approaches; these include Value Interest Priority mapping that can involve the Aboriginal community in broadscale, multi-value assessment.

Aboriginal cultural heritage processes for consents and permits are being reviewed in part to ensure that, like management processes for both natural and cultural heritage, more of a landscape approach is adopted. The review is ongoing and is considering planning processes that take the emphasis away from individual consents and permits, which would result in area-based permits. Legislative improvements are being investigated that will underpin the administrative improvements, that have already been made.

Milestone 11.7

NPWS to develop its information management system for indigenous heritage in consultation with Aboriginal communities and other stakeholders

Refer to UNE, LNE, Eden, Southern Forest Agreements section 2.8 - ongoing

Progress of milestone: complete

Following two rounds of statewide consultation in December 2000 and June 2001, DECCW started to use a new Aboriginal Heritage Information Management System (AHIMS) in June 2001. Newly discovered Aboriginal sites/artefacts are regularly registered on AHIMS.

2.12 Aboriginal interests

Milestone 12.1

Assessment of all parks to determine if any could be added to Schedule 14 of the NPW Act

Refer to UNE and LNE Forest Agreements section 5.1.1; Southern Forest Agreement section 5.1.1

Progress of milestone: not applicable

Part 4A ('Aboriginal Land') of the NPW Act provides for the return of DECCW lands to Aboriginal ownership. These lands are then leased back as park to the Government for joint management by the Aboriginal owners and DECCW. DECCW lands that can be returned to Aboriginal ownership are listed in Schedule 14 of the NPW Act. Seven areas of land are already listed and, under the provisions of the Act, further parks can be nominated for addition to the schedule.

There has been no widespread assessment of parks to date to see if they could be added to Schedule 14 of the NPW Act and resource constraints mean this is unlikely to occur in the foreseeable future. However, DECCW continues to proceed with the return to Aboriginal ownership of those reserves already listed on Schedule 14. Consideration of DECCW lands to be put onto Schedule 14 is handled by DECCW when it responds to nominations as they occur. One such nomination has been received for Tooloom, Toonumbar and Yabbra National Parks in the UNE region. A cultural significance assessment report of the lands commissioned by DECCW was completed in May 2006. A NSW Government decision on the nomination is pending.

Of those parks in forest agreement regions already listed on Schedule 14, lease negotiations for the return of Biamanga (in the Eden region) and Gulaga (in the Southern region) National Parks to their Aboriginal owners have been completed and the lease signed in May 2006.

Given that no widespread assessment will occur, this milestone is considered no longer applicable. However, DECCW will continue to respond to Schedule 14 nominations as they occur.

Milestone 12.2

Forests NSW and NPWS to prepare strategies for Aboriginal involvement in forest management

Refer to UNE, LNE and Eden Forest Agreements section 5.1.3; Southern Forest Agreement section 5.1.3

Progress of milestone: ongoing

DECCW

Aboriginal communities are involved in park management. For example, draft plans of management for reserve are generally referred to relevant Aboriginal organisations and National Parks and Wildlife Regional Advisory Committees, which include Aboriginal representatives, for comment. DECCW also continues to consult with Aboriginal communities on the preparation of threatened species recovery plans.

DECCW is developing a policy for Aboriginal partnerships in park management, which is expected to be completed by 2011. Together with other initiatives, such as the *Aboriginal People, the Environment and Conservation Principles* (completed in 2006) and the *DECCW Aboriginal Community Engagement Framework* (completed in 2007), the policy will form a key part of the DECCW's strategy for providing Aboriginal communities and stakeholders with further opportunities to participate in park management.

DECCW constituted the Aboriginal Cultural Heritage Advisory Committee in 2006 under Section 27 of the NPW Act. This committee provides advice to the Minister for Climate Change and the Environment and the Director General of DECCW on any matter relating to identification, assessment and management of Aboriginal cultural heritage in NSW.

Forests NSW

The UNE, LNE, Eden and Southern ESFM plans highlight Forests NSW commitment to ensuring the involvement of Aboriginal communities in the management of state forests. To achieve this, Forests NSW makes a commitment with Aboriginal people to ensure:

- appropriate Aboriginal Cultural Heritage Awareness training for Forests NSW staff
- involvement in any further development of policy concerning the management of Aboriginal values and interests in state forests
- identification and management of Aboriginal cultural heritage sites, places and resources
- access to land for cultural purposes which may include hunting and gathering
- identification of culturally appropriate co-management and commercial joint venture opportunities
- identification of Aboriginal employment opportunities in cultural and natural resource management activities.

Forests NSW (2006b) has also developed *Operational Guidelines for Aboriginal Cultural Heritage Management*. These guidelines include consultative arrangements Forests NSW regions will undertake with local Aboriginal communities on forest activities and when communication with the community could be expected.

Milestone 12.3

Forests NSW to involve Aboriginal committees in the development and finalisation of its policy on Aboriginal involvement in forest management and form part of the EMS

Refer to UNE, LNE and Eden Forest Agreements section 5.1.3; Southern Forest Agreement section 5.1.3

Progress of milestone: complete

The draft ESFM plans, which included policy on Aboriginal involvement in forest management, were available for public comment in 2000 (see milestone 2.3). Specific comments from Aboriginal groups were sought via liaison with local Aboriginal land councils. Comments were addressed in the final ESFM Plans, which includes policy on Aboriginal involvement in forest management (see discussion in milestone 11.2).

One of the commitments in the ESFM Plan is 'involvement in any further development of policy concerning the management of Aboriginal values and interests in state forests'. Therefore Forests NSW will continue to involve the Aboriginal Community in any reviews, such as the ESFM Plan.

Forests NSW (2006b) has developed the corporate document *Operational Guidelines for Aboriginal Cultural Heritage Management*. The operational guidelines provide policy for due diligence and documentation of minimum standards to assess impacts, locate and manage Aboriginal sites and places, and processes to address issues relevant to Aboriginal people. This was a result of consultation between Forests NSW and I&I NSW Aboriginal Liaison and Cultural Heritage Unit in March 2006. These guidelines include consultative arrangements that will be undertaken by Forests NSW regions with local Aboriginal communities on forest activities (when communication with the community could be expected), site protection and a review of how well these consultative arrangements worked over the previous period.

Milestone 12.4

NPWS and Forests NSW to undertake joint management arrangements with local Aboriginal communities and examination of state forests for co-management arrangements

Refer to UNE, LNE and Eden Forest Agreements section 5.1.1; UNE and LNE Forest Agreements section 5.1.1; Southern Forest Agreement section 5.1.1

Progress of milestone: ongoing

DECCW

DECCW has numerous joint management, access or hunting and gathering arrangements in place, including involvement in the first Indigenous Land Use Agreement (ILUA) in the state in 2001, with the Arakwal people.

Following the registration of the Arakwal ILUA in August 2001, Arakwal ILUAs (Byron Bay ILUA and Ti Tree Lake ILUA) and the Githabul ILUA (UNE) were finalised in December 2006 and February 2007 respectively. In February 2007, lands at Stockton Bight near Newcastle (LNE) were returned to the traditional owners – the Worimi people – and three new parks were created, known as the Worimi Conservation Lands. These lands are jointly managed between the Worimi people and DECCW. Negotiations are ongoing for joint management of new reserves at Warrell Creek near Nambucca Heads (LNE).

Leases associated with the return of Biamanga and Gulaga National Parks (in the Eden and Southern regions respectively) to the Aboriginal owners were signed in May 2006. These lands were leased back to the NSW Government for joint management by the Aboriginal owners and DECCW as national parks. Joint management boards have been established for both parks and the boards have received governance training before the drafting of plans of management for parks.

DECCW has established two permanent culture camps with basic infrastructure on park, under joint management arrangements with local Aboriginal communities. In addition, DECCW has negotiated a Statement of Joint Intent with the Eden Local Aboriginal Land Council to facilitate support for informal culture camping and cultural activities in other areas. Relevant amendments have been drafted to plans of management for Wadbilliga, Mimosa Rocks and Ben Boyd National Parks to accommodate these culture camps and cultural activities.

In April 2006, 140 people from Byron Bay to Narooma to Broken Hill met in Wentworth and Mungo National Park to share their experiences and learn from each other about park management. Aboriginal people share the management of 10 national parks across NSW, and representatives from 19 Aboriginal communities were present, as well as DECCW staff from NSW. This was the second time that people had met under similar circumstances, the first statewide meeting being held in May 2003.

Forests NSW

As part of the ESFM Plan commitments, Forests NSW undertakes to review forest areas, at the request of the local Aboriginal community, to identify those with potential for co-management. This review ensures that Aboriginal cultural heritage values are maintained in the landscape. Forests NSW will progressively negotiate with local Aboriginal communities, cooperative arrangements that ensure access and enable Aboriginal people to be involved in the strategic management of these areas. Forests NSW will also explore potential opportunities with Aboriginal communities, for joint ventures.

In pursuit of this, Forests NSW has been partnering with local Aboriginal communities to increase their involvement in the management of their heritage and to provide for cultural resource use. Forests contain plant material that continues to be used as medicines and as bush tucker. Some animals are also hunted as part of cultural practice and to pass on knowledge of hunting techniques.

Following the signing of forest agreements, Forests NSW has worked with communities to provide for their interests. The ESFM plans set out the commitment to Aboriginal people concerning cultural heritage and Aboriginal interests.

In the Southern and Eden regions, agreements are in place for local Aboriginal councils to carry out routine cultural heritage surveys. An MOU was signed with Eden Local Aboriginal Land Council (LALC) to confirm arrangements and this template has then been used in discussion with other land councils on the South Coast. In Tumut, Aboriginal people were employed to remove pest plants in the Micalong Swamp flora Reserve.

In the UNE region the NSW Government and the Githabul people entered into an Indigenous Land Use Agreement in February 2007 over a total of 53 279 ha of land across 13 State forests. Under the agreement, State Forests remains land manager while Aboriginal elders will have input to land management practices, and access to cultural teaching as well as a place where all people can come together to share cultural and historical information.

Supporting documentation

Detail on DECCW co-management agreements can be found at:

www.environment.nsw.gov.au/comanagement/WhichParksAreCo-managedInNSW.htm

Milestone 12.5

Joint ventures with local Aboriginal communities and development of project plans

Refer to UNE, LNE and Eden Forest Agreements section 5.1.1; Southern Forest Agreement section 5.1.1

Progress of milestone: ongoing

DECCW

DECCW is engaged in numerous joint ventures with Aboriginal communities. These occur across the landscape and all areas of the agency (including the Culture and Heritage Division), although most ventures related specifically to forest management will be led by PWG. Joint ventures also occur through DECCW's engagement with CMAs. Joint management arrangements (see milestone 12.4) are usually complemented by employment and economic development ventures. DECCW also conducts research and heritage projects in collaboration with Aboriginal community groups. Other examples of statewide ventures include the Aboriginal *Discovery* Ranger Program, associated Aboriginal *Discovery* activities and National Aboriginal and Islander Day Observance Committee week events. Other examples of local joint ventures that took place during the five-year review period, follow.

Joint ventures within the NSW FA regions include:

- cultural heritage surveys in the UNE and LNE areas enabling the Aboriginal community to make recommendations and provide valuable input into the planning and development of facilities and interpretation/education. Also emphasised was increasing awareness in the broader community of the cultural context of park areas
- restoration projects involving the Pandanus People in Arakoon SCA and Hat Head National Park
- mapping of Aboriginal Pathways on the Far South Coast
- Bega Oral History project
- Eurobodalla Oral History project focussing on Aboriginal Cultural Heritage
- *Indigenous links to the potoroo* project in the Southern region
- *Indigenous links to the koala* project in the Far South Coast region.

Forests NSW

As part of the ESFM Plan commitments, Forests NSW will explore with Aboriginal communities, potential opportunities for joint ventures.

One such example of a partnership between Forests NSW and the Aboriginal community is the building of an amphitheatre in the Tumut area in 2005, for a local Aboriginal youth dance group to use as a performance venue.

Milestone 12.6

NPWS and Forests NSW prepare a joint strategy to gain access for traditional and cultural purposes

Refer to UNE, LNE and Eden Forest Agreements section 5.1.1; Southern Forest Agreement section 5.1.1

Progress of milestone: complete

To contribute to the key objectives of the NSW Government's 10-year (2003–12) Department of Aboriginal Affairs Policy plan, *Two Ways Together*, DECCW led the development of a Cultural Resource Use Framework, which was signed off by government agency CEOs in November 2006.

Two Ways Together aims to improve the social, economic, cultural and emotional wellbeing of Aboriginal people and their communities by developing committed partnerships between Aboriginal people and the NSW Government.

In the UNE region, an ILUA has been signed with the Githabul people that recognises traditional laws and customs to access forests and camp, to fish, hunt and gather for personal, domestic and shared, non-commercial consumption; and to access spiritual sites and protect places of importance to the Githabul people from physical harm.

In the Southern and Eden region, Biamanga and Gulaga national parks were returned to Aboriginal ownership on 6 May 2006. A board of management with a majority of Aboriginal owners is working on the parks' plan of management.

DECCW facilitates Aboriginal access to forest resources for traditional purposes on an 'as needs' basis at the regional level, and includes informal arrangements for Aboriginal people to participate in cultural activities. DECCW operational guidelines will be encapsulated in its policy for Aboriginal partnerships in park management.

ESFM plans identify Forests NSW commitment to allow local Aboriginal communities access to forest resources for traditional and cultural purposes. In the LNE region, MOUs and permits have been signed with the Anaiwan and Guiwan Elders that provide access for a cultural camping and education program at Nowendoc. Agreements are also in place with the Bhartoo Elders concerning plant material, with the Mirring Women concerning bush tucker and assistance to propagate plants of interest, and with Darkinjung LALC in relation to the management of Warren Warren Aboriginal Place. At Heaton state forest, Forests NSW worked with the Keepa Keepa Elders to identify culturally rich areas that will be used for cultural education.

The NV Act (s.22) provides for clearing in connection with 'routine agricultural management activities', which is defined as a range of activities including 'traditional Aboriginal cultural activities (except commercial activities)' (s.11g).

Supporting documentation

The whole of government Cultural Resource Use Framework is available at:

www.environment.nsw.gov.au/resources/cultureheritage/09160cultresusefwork.pdf

Information on *Two Ways Together* is available at: www.daa.nsw.gov.au/policies/policy.html

Milestone 12.7

NPWS and Forests NSW must prepare an employment and economic opportunities program with Aboriginal people, partnerships to create employment and training opportunities, employment in NPWS and Forests NSW

Refer to UNE and LNE Forest Agreements section 5.1.2; Southern Forest Agreement section 5.1.2

Progress of milestone: not applicable

A joint DECCW and Forests NSW strategy has not been developed. However, DECCW and Forests NSW have each continued to implement related initiatives.

DECCW initiatives include:

- an Aboriginal Employment Strategy to facilitate employment and development opportunities for Aboriginal people; in 2006–07, 7.5% of the DECCW workforce identified as Aboriginal or Torres Strait Islander
- contract and casual Aboriginal staff for work that includes the *Discovery Ranger* program, research projects and land management activities (e.g. weed control), amongst others
- the Aboriginal cadetship program, whereby cadets study full-time and have 12 weeks of practical work experience each year to complete their undergraduate degree. Employment is guaranteed on successful completion
- a partnership with the Western Institute of TAFE to provide Aboriginal traineeships that will lead to the nationally recognised qualification of Certificate II in conservation and land management
- the creation of seven permanent Aboriginal positions in 2005–06 in the UNE and LNE regions: two field officers, two clerical officers, two rangers and one senior field officer
- further positions created after finalisation of agreements with the Githabul and Worimi peoples
- employment of five Aboriginal staff as at 2006–07 in the Eden region with funding provided for management of additions to the reserve system: one trainee field officer, two Aboriginal Sites Officers, one project officer to manage the return of Biamanga and Gulaga National Parks to Aboriginal ownership and a cadet trainee field officer subsequently appointed as a ranger
- as of 2006–07, in DECCW PWG Southern Branch, a permanent full-time Aboriginal Education and Liaison Officer and one year employment of an Aboriginal Trainee Interpretive Assistant (Snowy Mountains region); cadet rangers (Nowra and Snowy Mountains areas); a full-time ranger (Ulladulla area) and casual Aboriginal Discovery Rangers and full-time field staff.

Forests NSW initiatives include:

- as stipulated in the ESFM Plan, Forests NSW will employ Aboriginal Cultural Heritage Officers to ensure identification of Aboriginal cultural heritage sites, places and values and to liaise with the Aboriginal community
- where desired by the Aboriginal community, Forests NSW will consult and explore opportunities to develop mutually beneficial land management training and work experience programs
- a Forests NSW Aboriginal Liaison Officer was appointed to the working group overseeing the development of the Australian Government's National Indigenous Forestry Strategy

- two Aboriginal staff are employed in the Southern region: one in the Aboriginal Affairs coordination role, the other as a field worker in the silviculture field crew gangs
- Aboriginal staff are employed as Aboriginal Affairs Coordinators in Central and North East region
- between 19 and 26 Aboriginal and Torres Strait Islanders were employed by Forests NSW between 1999 and 2008
- Aboriginal representatives are engaged in the process of locating cultural heritage sites and assisting to identify appropriate measures to protect sites.

This milestone is considered no longer applicable, as a joint DECCW and Forests NSW strategy is not required because DECCW and Forests NSW pursue agency-specific initiatives.

2.13 Aboriginal interests in the Hume and Riverina regions of Forests NSW and the South West Slopes region of DECCW

Milestone 13.1

Cooperative management arrangements - Forests NSW and NPWS to negotiate separate cooperative management agreements to be involved in management and joint ventures; an Aboriginal Management Committee will be established for both state forests and national parks to represent and manage Aboriginal cultural heritage on state forests and national parks respectively; The committee will be involved in the development of terms of reference and a plan of management

Refer to Southern Forest Agreement section 5.1.4.1

Progress of milestone: complete

DECCW (Parks and Wildlife Group) South West Slopes region established an Aboriginal Management Committee in 2004–05, and held its first meeting and drafted terms of reference during that reporting year. A plan of management for Kosciuszko National Park was completed in June 2006 in consultation with the Aboriginal Management Committee. The plan includes management objectives, policies and actions that address cultural heritage issues and foster connection to country Australia.

DECCW (Parks and Wildlife Group) Snowy Mountains region has engaged a consultant to meet with traditional Aboriginal owners and provide recommendations on options for co-management of Kosciuszko National Park. DECCW (Parks and Wildlife Group) South West Slopes region has organised, participated in and assisted with funding for a boys' camp at Camp Hudson, as well as a women's camp and a family camp.

This milestone is considered completed in terms of the DECCW actions required.

Regarding Forests NSW, a management committee was established in the Hume region in 2002 and meetings continued until late 2004. Terms of reference were developed during the term of the committee. Since then, Hume and Southern regions have met formally once a year to discuss issues with the Brungle Tumut LALC and the Snowy Mountains Aboriginal Elders Corp. There are MOUs for consultation between Forests NSW Southern region and the various individual LALC or elder groups, and for carrying out pre-operational surveys for Aboriginal heritage.

Forests NSW considers this arrangement effective, because the Aboriginal communities are being engaged at the local level. The consultative process and framework is contained within the *Operational guidelines for Aboriginal Cultural Heritage Management* established in 2006 and Forests NSW maintains contact via a Cultural Heritage Coordinator based in Batemans Bay. The objectives of this milestone are considered achieved and the milestone is therefore considered complete.

Milestone 13.2

Specified enterprise development on state forests within Hume and Riverina regions of Forests NSW.

Refer to Southern Forest Agreement section 5.1.4.2

Progress of milestone: ongoing

In 2006, Forests NSW Southern region issued one commercial firewood licence to an Aboriginal applicant.

The Southern region also entered into discussions with a local Aboriginal land council to use the Wagonga picnic area for an ecotourism project (now closed by Southern region). This area has some Aboriginal sites as well as some non-Aboriginal history. There is some potential for co-management arrangements in this project.

Discussions also occurred with the LALC on the potential for Forests NSW to provide operational and merchandising services associated with logging Aboriginal-owned land under an agreement.

Milestone 13.3

Areas of state forests to be set aside for Aboriginal education and specific community activities within Hume and Riverina regions

Refer to Southern Forest Agreement section 5.1.4.3 - 31 December 2006

Progress of milestone: complete

A partnership between Forests NSW and the local Aboriginal community resulted in the construction of an amphitheatre in 2005 in Tumut as a performance venue for a local Aboriginal youth dance group. Forests NSW provided the land within a state forest recreation area. This project also created employment for Aboriginal people. The centre is used for education and community activities.

Other than areas where cultural heritage is protected, Forests NSW is not actively setting aside areas of state forests for Aboriginal purposes but will consider opportunities when they arise. This milestone is considered complete.

Milestone 13.4

Zone to be created to protect Aboriginal cultural heritage within Hume and Riverina regions

Refer to Southern Forest Agreement section 5.1.4.3

Progress of milestone: complete

Forests NSW protects Aboriginal cultural heritage in accordance with legislative requirements, ESFM plans, and triggers within Forests NSW GIS system (based on records obtained from the AHIMS database and Forests NSW site database) and *Operational Guidelines for Aboriginal Cultural Heritage Management* (Forests NSW 2006b).

Scattered artefacts are afforded a 10 m buffer. Protection of others, such as a grinding stone site, is determined by the LALC or local elders. In all cases, these are in areas excluded from harvesting and roading and therefore protected. The NPW Act also provides protection for Aboriginal objects. This part of the milestone is considered complete.

Milestone 13.5

Forests NSW to initiate specific employment opportunities in the Hume and Riverina regions of Forests NSW subject to external funding

Refer to Southern Forest Agreement section 5.1.4.4

Progress of milestone: ongoing

Forests NSW Southern region initially employed one person to work with its silviculture team; however, the member has now been appointed on merit to work with the operations team.

A Cultural Heritage Officer was appointed in 2003 and has continued to hold this position to date.

In the Hume region a full-time Aboriginal Coordinator was appointed in 2002 for six years. She was responsible for developing customer relations with Aboriginal communities. For two fire seasons, two identified Aboriginal positions were provided on the casual fire crew. An individual who obtained one of these casual positions was later successful in obtaining a position as a permanent field worker.

There were employment opportunities created by Forests NSW in weed control, track construction and so on, during the construction of the amphitheatre in Tumut.

Milestone 13.6

Management of Aboriginal cultural heritage on NPWS estate, subject to funding: cooperative management agreement to ensure the effective protection and management of Aboriginal cultural heritage; access policy; provision for two Aboriginal representatives to sit on the National Parks and Wildlife South West Slopes Regional Advisory Committee; provide cultural awareness training

Refer to Southern Forest Agreement section 5.1.4.5

Progress of milestone: complete

For discussion of cooperative management arrangements, see milestone 13.1. For discussion of DECCW access arrangements, see milestone 12.6.

Three Aboriginal representatives were appointed to the DECCW National Parks and Wildlife South West Slopes Regional Advisory Committee in 2003–04.

Aboriginal cultural awareness training continues to be a corporate priority to ensure all DECCW staff understand, and are familiar with the needs of, Aboriginal staff, individuals and communities. A new cultural awareness training package began in 2007, and all DECCW staff are required to attend as courses become available to them. It is considered a core training requirement and a comprehensive statewide distribution of courses has been occurring statewide. Feedback from participants indicates that Aboriginal cultural awareness training is highly valued throughout DECCW.

Milestone 13.7

Specified employment and training opportunities with NPWS

Refer to Southern Forest Agreement section 5.1.4.6

Progress of milestone: ongoing

Two Aboriginal field officer positions were established and filled in 2003–04. An Aboriginal trainee interpretive assistant (jointly funded by DECCW and Tumut Shire) was established in the Tumut region Visitor Centre. During 2006–07, an Aboriginal *Discovery* Ranger position and an Aboriginal liaison officer (administrative grade) position were created and recruited.

The liaison officer facilitates Aboriginal working group meetings and community involvement. A full-time Aboriginal ranger is employed in DECCW's Southern Branch Highlands area.

2.14 Supply arrangements

Milestone 14.1

Consultation on timber arrangements through the development of plans of operation

Refer to UNE, LNE and Eden Forest Agreements section 3.4; Southern Forest Agreement section 4.3

Progress of milestone: ongoing

Forests NSW regions consult with stakeholders, such as industry and neighbours, in the development of an annual plan of operations.

Milestone 14.2

Additional volumes supplied under a transitional 'top-up' arrangement over two years to assist industry adjustments to terminate by 31 December 2000

Refer to UNE and LNE Forest Agreements section 3.2

Progress of milestone: complete

Forests NSW made arrangements for additional wood supply volumes over a two-year period. These arrangements were terminated on 31 December 2000.

Milestone 14.3

Amendment of existing wood supply agreement with Harris Daishowa Australia and Boral and wood supply agreement arrangements for processing thinnings

Refer to UNE, LNE and Eden Forest Agreements section 3.2

Progress of milestone: complete

A wood supply agreement with Harris Daishowa Australia was signed on 5 March 1999 and amended on 29 September 1999. The company changed its trading name to South East Forest Exports in late 2003.

An amended wood supply agreement with Boral was signed on 5 March 1999. An extension under the provisions of the wood supply agreement was agreed until 31 December 2012.

Short-term sales (up to 12 months) of hardwood plantation thinnings have been made to Australian Hardboards Pty Ltd since September 2003.

Midway Pty Ltd holds a wood supply agreement for up to 20,000 tonnes per annum of thinnings from the hardwood regrowth forests in the Tumut/Tumbarumba subregion of the Southern region until 1 September 2010.

A wood supply agreement with Weathertex Pty Ltd for thinnings from hardwood regrowth forests in Forests NSW Central region operates until 2023.

Milestone 14.4

Review legislation and policies relevant to the allocation and pricing of hardwood logs from state forests

Refer to UNE, LNE and Eden Forest Agreements Att 8

Progress of milestone: not applicable

In June 2001, the NSW Government made its fifth annual report to the National Competition Council on NSW progress in implementing the National Competition Policy called the *NSW Annual Report on Application of the National Competition Policy for year ending Dec 2000*. This report outlines NSW progress in reviewing and reforming legislation that potentially restricts competition over the twelve months to December 2000. Based on this report, the National Competition Council's assessment was that NSW has fulfilled its third tranche obligations for implementing national competition reforms. Note: the review of legislation in the report was about forestry generally and not specifically about allocation and pricing of hardwood logs.

There has been no review of specific legislation relevant to the allocation and pricing of hardwood logs, however the above report does outline NSW progress in reviewing and reforming legislation generally. The *Competition Policy Reform (New South Wales) Act 1995* gives effect to part IV of the *Trade Practices Act 1974*, which aims to ensure that allocation and pricing of goods and services provided by state agencies is fair and consistent with trading in a free and open market.

Like other parties to the Competition Principles Agreement, the NSW Government agreed, where appropriate, to adopt the Financial Policy Framework (FPF), which provides a model to mimic a private sector competitive market.

This milestone is considered no longer applicable, as Forests NSW is operating under the conditions of the FPF, and is complying with National Competition Policy principles. Forests NSW also developed a log pricing system which sets log prices consistent with market factors.

Supporting documentation

State Forests of NSW (2000a), The Price System, is at:

www.dpi.nsw.gov.au/_data/assets/pdf_file/0004/268060/forests-nsw-price-system.pdf

2.15 Supplementing timber supply

Milestone 15.1

Supplementary timber supply by actions such as purchasing private lands and/or timber rights to supply high quality large sawlogs and large veneer logs

Refer to UNE and LNE Forest Agreements sections 2.9.2, 3.3, 3.6, 6.16.2, Att 10; Eden 2.8.2; Southern Forest Agreement section 3.3.3, 3.6

Progress of milestone: ongoing

Forests NSW has purchased 11 properties across the UNE and LNE regions (three in the UNE region and eight in the LNE region) under the Private Property Timber Supplementation Program. These cover an area of more than 13,000 ha of native forest with an estimated standing volume of 141,439 m³ of high quality large quota sawlogs.

As of June 2005, three timber sale agreements for purchase of private property timber rights have been implemented across the LNE region with a further 10,962 m³ of high quality large sawlogs estimated to be produced.

In sourcing 152,401 m³ of supplementary high quality large sawlog, Forests NSW has made substantial progress in achieving the targeted outcome of 180,000 m³. While the purchase of

additional properties may be considered, it is more likely that timber rights will be purchased as suitable areas become available.

From June 2005 onward, Forests NSW has achieved timber supplementation through the purchase of timber rights from private property. All logging operations conducted are authorised under the NV Act.

Milestone 15.2

Development of a process to consider unmet targets prior to land purchases

Refer to UNE and LNE Forest Agreements section 6.16.2; Southern Forest Agreement section 3.3.3

Progress of milestone: ongoing

As required by the NSW Forest Agreements, Forests NSW has been working with DECCW to meet this milestone. It should be noted that the approach Forests NSW has taken has evolved as properties have been identified for purchase.

The process to consider unmet targets before land purchases is unlikely to be needed in the future; additional purchase of land is not likely to occur because additional timber will continue to be sourced through purchase of timber rights.

Milestone 15.3

Establishment of plantations

Refer to UNE Forest Agreement section 3.2; LNE sections 3.1, 3.3, 3.6; Southern section 3.6, Att8

Progress of milestone: ongoing

Forests NSW successfully established 7,543 ha of hardwood plantation in the UNE and LNE regions between 1999 and 2004.

Subsequent strong real estate prices and competition for land have made it difficult for Forests NSW to secure appropriate land to establish additional hardwood plantations.

2.16 Forest Resource Assessment and Management Evaluation System (FRAMES) improvement, inventory, sustainable yield, volume review

Milestone 16.1

Continuous FRAMES development program for the UNE, LNE, Eden and Southern regions

Refer to UNE, LNE, Eden FAs section 3.5; Southern FA section 3.5 and Att 6 (7)

Progress of milestone: ongoing

Forest Resource Assessment and Management Evaluation System (FRAMES) is a statewide (excluding Eden region) toolkit of applications developed by Forests NSW to calculate long-term wood supply volumes from areas of native forest where timber harvesting is permitted. It was developed to support the CRA/RFA process between the NSW and the Commonwealth governments and is designed to be both transparent and practicable in its operation.

FRAMES was developed under a Resource and Conservation Assessment Council technical committee of representatives of NSW and Australian government agencies, industry,

conservation groups and unions. It employed an external expert to guide its development, and an independent external expert to review it before RFA negotiations.

FRAMES comprises modules that address:

- inventory (a detailed sample of what trees are currently present in the forest) — see next milestone
- growth modelling (how the forest will look in the future)
- yield simulation (integration of inventory, growth and harvest simulation)
- area calculation (the area of the forest actually harvested)
- long-term timber supply calculation (what can be harvested each year to meet long-term supply intentions).

FRAMES development and enhancements

In 2002, Professor Jerome Vanclay of Southern Cross University undertook an independent review of the FRAMES system and processes on the North Coast — *Review of Projected Timber Yields for the NSW North Coast (2002)*. This included some early enhancements to FRAMES and set the direction for future work priorities that have now been completed.

Forests NSW had completed a broad series of improvements to its statewide (excluding Eden region) FRAMES modelling, including:

(a) Biometrics:

- growth models have been updated for all areas using recent permanent growth plot measure data
- models have also been simplified to make them more suited to implementation and testing
- further data were collected and analysed to improve the recovery factors, volume functions, taper functions, height/diameter functions and tree product prediction model.

(b) Growth and yield simulation:

- FRAMES has been adapted to report species level yield trends
- changes have been made to the modelled product mix to provide more realistic and flexible product categories
- the simulation tool has been integrated with the inventory and forest estate modelling tool to improve efficiency and user friendliness
- new reports have been developed that include the profiles of average pre- and post-harvest stand states for plots that meet the harvest criteria. This report can be used by regional staff to ground truth the modelled harvest specifications
- silvicultural and harvesting assumptions have been updated as a result of silviculture studies on the North Coast
- new and more detailed log level reports have been incorporated into the growth and yield simulation process, enabling precise log level data to be incorporated into FRAMES yield tables.

Due to the complex nature of net area management and the large number of spatial inputs in area modelling, Forests NSW has restructured its strategic net area management toolkit. This has resulted in the development of a grid-based area prediction tool for North Coast regions. The new modelling environment permits layers that contribute to area availability to be easily extracted and updated as new data becomes available.

Developments in forest estate models include:

- changes from Spectrum and StandSim² (which were used in the CRAs/RFAs) to the Woodstock³ forest estate modelling system, to facilitate more reliable and efficient yield scheduling and reporting at a range of spatial levels
- inclusion of resource growth and yield estimates defined at a subregional level to support planning and monitoring activities
- modification of the model to ensure that only appropriate silvicultural intensities are applied to defined management areas.

In the Eden region an organisational shift was noted for yield scheduling, from Spectrum and StandSim to Woodstock. The outputs from Regrowth in Eden (REDEN), an inventory-plot management and yield simulation tool, have therefore been formatted so they can be incorporated into the Woodstock package. Further discussion on models in REDEN is at Milestone 16.2.

The initial analysis from REDEN and Woodstock focused on short-to medium-term timber availability issues, notably the current 20-year planning horizon, corresponding with the RFA and Wood Supply Agreement (WSA) periods. Following evaluation and refinement of the preliminary results, the system was then expanded to incorporate longer term modelling of the resource, bringing it in line with other FRAMES models to consider a full 200-year strategic planning horizon. This work is still in progress with the current focus being on sensitivity analysis of the outputs.

Forests NSW will continue to review the use of these and other tools for informing future management decisions.

Milestone 16.2

Inventory system for regrowth forests for Eden; improvement to inventory in UNE, LNE and Southern

Refer to UNE, LNE and Eden Forest Agreements section 3.5, Att 8; Southern Forest Agreement section 3.5, Att 6 (6) (e)

Progress of milestone: ongoing

Statewide

Forest inventory improvements have also occurred on a statewide basis. The Forests NSW Forest Inventory Policy was released in 2004. A key feature of this policy is the systematic remeasurement of plots in areas where harvesting has occurred. It also includes programs to improve the biometrics used in FRAMES estimations of current and future yields.

The permanent growth plot system was redesigned in 2000–01 to reflect changes in silvicultural practices. This involved changing the plot size from 0.1, 0.3 and 0.6 ha to 0.2 and 0.4 ha to better capture the variability in the forests and improve data for modelling mortality and recruitment. Plot coverage has also been increased through the establishment of 270 new plots across the NSW Forest Agreement regions.

The MARVL (Methods of Assessing Recoverable Volume by Log types) inventory system licensed to Forests NSW by New Zealand Forest Research was upgraded and given the new name Atlas Cruiser, with the inventory data converted to the Atlas Cruiser format and tree quality sampling methodology.

² STANDSIM was used as the Scheduling Tool in the Eden RFA.

³ Woodstock is a linear programming tool used for estate modelling. Woodstock draws together area and yield estimates using specific silvicultural prescriptions and conservation protocols. It applies objectives and constraints within this framework in order to evaluate supply options. The output from the Woodstock tool is the maximum volume that can be harvested each year over time from the total area available for harvesting.

Although Forests NSW has converted the inventory data from the MARVL format for North and South Coasts, the complex nature of the Cruiser data model; the long modelling horizons; and inventory formats for the Eden regrowth resource have delayed using this system for Eden.

Forests NSW will continue to review the usefulness of these and other tools for informing future management decisions.

Eden region

In 2002–03, Forests NSW designed and implemented an inventory plot management and simulation system, called REDEN, for modelling the Eden even-aged, regrowth resource. The system is designed to predict individual tree and stand growth and yield, for the even-aged, regrowth forests. It includes biometrics specific to the regrowth forests of south-east NSW. The yield tables generated by REDEN are designed to be used in yield scheduling tools for operational, tactical and forest estate level modelling.

The major drivers of the models in REDEN are stand age, site quality and the number of retained mature trees. Local taper and volume functions have also been developed that allow the input of product specifications and determination of theoretical product (high quality sawlog and pulpwood) volumes by size. The outputs of the REDEN system are yield tables for the regrowth forest that predict the removable and retained product volumes, piece size and future growth. These results are then combined with net harvestable area estimates and used to schedule thinning and regeneration harvest operations using Woodstock.

UNE and LNE regions

From 1997 to 2003 there were 127 new plots established. In 2003, a full update and restructure of the sampling scheme was implemented, with additional plots measured to provide an even intensity of plots across the forest estate (one plot each 250 ha).

A total of remeasurements for all tree attributes (e.g. diameter at breast height, height, new recruits, and potential products) have been completed since 1998, with 96 being converted to the new plot size. Approximately half of these plots fell into the new DECCW reserves and only received the one remeasurement before being removed from the schedule.

The region has remeasured all plots where harvesting had occurred as at 30 December 2007.

Southern region

Some planning for additional inventory plots began in the Tumut subregion, but actual establishment of new inventory plots in areas harvested around Batemans Bay was completed in late 2006. Forty-one new plots were established.

There has been a FRAMES strategic inventory plot update program completed in accordance with Forests NSW Forest Inventory Policy. Additional plots have been measured to provide an even intensity (one plot each 200 ha) of plots across the forest estate.

The region has remeasured all plots where harvesting had occurred as at 30 December 2007.

Milestone 16.3

Commission and publish an independent review of the FRAMES system, including improvements applying to South Coast and Tumut subregions

Refer to Southern Forest Agreement Att 6 (8 point 1)

Progress of milestone: complete

As previously mentioned, in 2002 Professor Vanclay of Southern Cross University undertook an independent review of the FRAMES system and processes on the North Coast and reported its findings in Review of Projected Timber Yields for the NSW North Coast (2002). The review covered the enhancements from 1999 to 2002, excluding the updated inventory. The review was a desk study that sought to establish whether the FRAMES procedures were appropriate and likely to provide a reliable and repeatable estimate of timber volumes for the

whole north coast region. The review focused on elements such as stratification systems, net area prediction, product volume prediction, yield simulator and scheduler tools. The review confirmed that the outputs from FRAMES were similar to estimates from previous north coast timber supply monitoring studies.

More recently, the NSW State Parliament commissioned the Audit Office to undertake a performance audit aimed at assessing whether Forests NSW successfully manages the supply of hardwood to meet wood supply commitments and sustain the native forests. The audit placed significant emphasis on scrutiny of the FRAMES system.

Because FRAMES is a state-wide system used by all regions, and the most recent performance audit extended to all native forest regions, the requirements of this milestone are considered complete. It is noted in attachment 6 (6c) of the Southern FA that site-specific silvicultural regimes occur the South Coast and Tumut subregions, and that the FRAMES models will reflect these site-specific silvicultural regimes. A review of sustainable yield and associated appropriate FRAMES models specific to the Southern region has occurred and will be subject to an independent assessment. See Milestones 16.5 and 16.6.

Supporting documentation

Professor Vanclay's report can be found at:

www.dpi.nsw.gov.au/forests/management/reporting/rfa-review-report

Milestone 16.4

Monitoring FRAMES through comparison of actual versus predicted volumes

Refer to UNE, LNE, Eden section 3.5; Southern Forest Agreement section 3.5, Att 6 (6) (f), Att 6 (7 point 12)

Progress of milestone: ongoing

The FRAMES project has been managed under a program of continuous improvement designed to refine and monitor estimates of timber sustainability over the term of the NSW Forest Agreements and longer-term planning horizons. However, tracking the performance of FRAMES is a difficult task. Early comparisons of actual and predicted yield were completed for the North Coast. These comparisons were incorporated in the extensive review of FRAMES completed by Professor Vanclay in 2002.

The actual versus predicted comparisons illustrated a range of technical issues (e.g. sampling intensity) that have hindered meaningful analysis of predicted yield below the whole-of-forest-estate level, which defines the RFA outcomes. Fundamentally these relate to FRAMES being a strategic planning tool designed to predict the potential wood supply at a regional level. It is not appropriate to compare actual yields versus predicted yields at a level lower than the prediction level (i.e. the region level). The NSW Forest Agreement requirement to monitor timber offtake and compare it against FRAMES predictions was addressed in the Vanclay review.

Although the comparisons of actual and predicted yield may be able to identify whether yields are close to or different from predicted cut, they do not identify whether detected variation is significant with respect to sustainability or timber supply agreements. To address this limitation, Forests NSW has carried out more comprehensive studies and reviews that can inform both FRAMES models and management of variation in predictions or assumptions and enable these to inform future estimates.

The Timber Availability Study (TAS) commissioned in 2002 by the then Resource and Conservation Division (RACD) of Planning NSW/Department of Infrastructure, Planning and Natural Resources was also incorporated into the review by Vanclay. The TAS study focused on the buffer on buffer effect on timber availability on the North Coast.

Plans are in place, subject to cost-benefit analysis, to predict wood supply at a subregional level. This subregional planning would allow significantly more meaningful analysis of actual versus predicted yields. Until the subregional planning project is successfully completed, the only information that is available is allowable cut (based on whole of region predicted yield

from FRAMES) versus actual yield. Actual yield versus allowable cut is reported in annual forest agreement implementation reports.

To improve monitoring performance, Forests NSW is integrating FRAMES into Forests NSW forest management information processes. The Social, Economic and Environmental Database (SEEDS) was developed by Forests NSW as a central repository of information for monitoring and reporting on sustainability indicators and ESFM values, including timber products by various log categories and volumes. The same data source is used for providing sustainability monitoring for other state (State of the Environment), national (State of the Forests) and international reporting (Montreal Reporting).

Monitoring actual versus predicted yields will be developed once FRAMES predictions are established at the subregional level. Forests NSW also undertakes sustainability monitoring against social, environmental and economic criteria as outlined in the Seeing Reports.

Milestone 16.5

Strategic and operational requirements of sustainable yield systems and processes, review sustainable yield every five years using enhanced FRAMES and publish methods

Refer to UNE, LNE and Eden Forest Agreements section 3.1; Southern Forest Agreement Att 6 (8)

Progress of milestone: ongoing

UNE and LNE regions

TAS was commissioned in 2002 by the then RACD of Planning NSW/DIPNR focusing on the 'buffer on buffer' effect on timber availability on the North Coast.

Forests NSW (2004b) released a report titled *Review of Wood Resources on the North Coast* in September 2004. The report outlines the outcomes of a review of sustainable yield to determine new North Coast supply estimates. It considered changes in area and incorporated other significant improvements in the strategic wood supply modelling system, including net harvest area estimation, forest inventory and yield estimation. The improvements are a result of more robust inventory information, new analytical techniques, improved biometrics, and a wood supply structure more attuned to Forests NSW operational requirements.

The revised estimates that resulted from the review are incorporated in the Indicative Schedule of Modelled Sawlog Availability, which is contained in part 6 of the publicly available ESFM Plan for UNE and LNE regions.

Southern region

Following the NSW Forest Agreement for the Southern region, the NSW Government identified some minor additions to DECCW reserves in 2005. Before finalising the new formal reserves, negotiations were completed on revisions of IFOA provisions, specifically the TSL and environment protection licence (EPL) conditions, to ensure timber availability was not compromised and environmental values were still protected. Internal scenario analysis and review was completed before the tenure change and this work confirmed that timber availability gains balanced the volumes transferred to permanent reserve.

A review of the sustainable yield and associated appropriate FRAMES models has occurred and at the time of this review a report was being compiled. The outcomes of the review of sustainable yield will be subject to an independent assessment, the result of which will be published (see milestone 16.6).

Eden region

Following the implementation of the REDEN inventory plot management and yield simulation system, and Woodstock yield scheduling tool in Eden in 2002–03, resource analysis work focused on short-to medium-term timber availability issues, notably the current 20-year planning horizon of the wood supply agreements (WSA). Evaluation and refinement of the

preliminary results in 2004 confirmed the WSA yields could be maintained. The system has now been expanded to incorporate longer-term modelling of the resource, bringing it in line with other FRAMES models to consider a full 200-year strategic planning horizon. A review of the sustainable yield and associated appropriate FRAMES models has occurred and at the time of this review a report was being compiled. The outcomes of the review of sustainable yield will be subject to an independent assessment, the result of which will be published (see milestone 16.6).

Supporting documentation

The *Review of Wood Resources on the North Coast* document is available at:
www.dpi.nsw.gov.au/forests/management/reporting/rfa-review-report

Milestone 16.6

Complete and publish independent audits of sustainable yield

Refer to Southern Forest Agreement Att 6 (8 point 3)

Progress of milestone: ongoing

The sustainable yield review and review of associated FRAMES models for the Southern region (referred to in milestone 16.5) will be subject to an independent review.

Milestone 16.7

Review of wood supply/timber volumes

Refer to UNE and LNE Forest Agreements sections 3.2, 3.5

Progress of milestone: complete

Changes to contracted volumes in the UNE and LNE regions were made following the transfer of lands facilitated by the *National Park Estate (Reservations) Act 2003*.

Subsequent changes to the wood supply agreements were negotiated and finalised with industry in 2005 and have extended the commitment period from 2018 to 2023. The new agreements were provided with a new term of 20 years (expiring in 23 years), without a review clause over the term.

To compensate for reduced volumes (and other changes) the following initiatives were put in place:

- allowing limited access of machinery into buffers in order to access more volume, while ensuring good environmental outcomes – enacted through an amendment to the integrated forestry operations approval
- purchase of private property or timber rights to supplement contracted supply
- buying back of allocations from customers where supply constraints existed
- changes to management zones to allow for transport subsidies.

2.17 Forests NSW practices including silviculture

Milestone 17.1

Report on annual production of timber products and non-timber/forest products such as non-quota material, firewood, fencing materials, seed, beekeeping products, cut wildflowers, commercial bush tucker, tea tree oil and road construction material may also be supplied on a sustainable basis

Refer to UNE, LNE and Eden Forest Agreements sections 3.2, 3.5; Southern Forest Agreement section 3.2, 3.5, Att 6 (6) (d)

Progress of milestone: complete

Information on production of all timber and non-timber products is reported each year in the annual NSW Forest Agreements implementation reports:

Supporting documentation

www.environment.nsw.gov.au/forestagreements/monitoring.htm

Milestone 17.2

Preparation of eco field guides

Refer to UNE and LNE Forest Agreements section 2.2.4; Southern Forest Agreement sections 2.2.4, 4.3

Progress of milestone: complete

This milestone has been completed for the UNE and LNE regions, with eco field guides published in 2000: *Field Guide to Forest Management in North East NSW*, Forests NSW (2000b).

The guide for the South Coast subregion, *Field Guide to Flora, Fauna and Heritage Features of Forest Management on the South Coast of NSW*, Forests NSW (2005g) was printed in late 2005. A separate guide for the Tumut subregion was considered but deemed unnecessary. The South Coast field guide will be used where appropriate. This milestone is considered complete.

Milestone 17.3

Forest Practices Code: Part 5 - Wildlife Management in Native Forests

Refer to UNE, LNE, Eden and Southern Forest Agreements section 2.2.4, Att 6

Progress of milestone: not applicable

A draft document was prepared in 1999–2000 but was not finalised because it represented a duplication of the all-encompassing conditions of the IFOA, including TSL, FL and the Forests NSW Silviculture Manual. A separate Wildlife Management Code of Forest Practice would not have any additional benefits for forest management, hence this milestone is deemed no longer applicable.

Milestone 17.4

Establishing demonstration areas in the UNE and LNE regions and establishing a register of locations where different silvicultural practices/silvicultural regimes can be examined in Southern region, as an aid for field supervisor training

Refer to UNE and LNE Forest Agreements section 2.2.8; Southern Forest Agreement sections 2.2.8, 4.2, Att 6 (2) (o)

Progress of milestone: ongoing

Forests NSW has established three sites as silvicultural demonstration areas in the UNE region, including Divines and Wedding Bells state forests and two in the LNE region, including Queens Lake and Kiwarrak state forests. These sites are used to help train forest operators, covering a range of forest types and silvicultural regimes permissible under the IFOAs. Therefore this milestone is considered complete for the UNE and LNE regions.

Southern region has identified a number of areas across the Southern and Eden IFOAs areas suitable for silviculture demonstration areas. Australian Group Selection and thinning is relatively new to the South Coast subregion and Forests NSW is still monitoring the suitability of the identified sites for demonstration. It is anticipated that silviculture demonstration areas will be confirmed soon. These would complement demonstration sites in the northern part of the state.

Milestone 17.5

Implementing silvicultural regimes (including publishing Native Forest Silviculture Manual) that will outline the scientific basis for site-specific silvicultural regimes and silvicultural decisions and guidelines to where such regimes are applied, a peer review to form part of consultation on the manual

Refer to UNE, LNE and Eden Forest Agreements section 2.2.8; Southern Forest Agreement section 2.2.8, Att 6 (2) (p)

Progress of milestone: complete

State Forests of NSW published a Native Forest Silviculture Manual in September 2000 (2000c). The manual complements its field guides and training programs, documents the basis for Forests NSW silvicultural practices, and contains silvicultural specifications and guidelines. The manual was reviewed by the Australian National University and the Institute of Foresters of Australia.

To complement this manual, two documents were produced in 2002 that provide guidance on the silviculture permitted by the IFOAs for the UNE, LNE and Southern regions:

- Forest Practices Circular 2002/2 *Implementing Silviculture in LNE and UNE*, State Forests of NSW, Sydney (2002b)
- Forest Practices Circular 2002/3 *Implementation of IFOA Silviculture in the Southern FA region*, State Forests of NSW, Sydney (2002c).

Additionally a Rainforest Protocol provides procedures to be used in mapping and field identification of forest types with rainforest elements (Forests NSW (2005h) – Forest Practices Circular 2005/02 *Rainforest Protocol*). It provides guidance on where exclusion boundaries should be identified to protect them from specified forestry activities. It applies to the Eden and North Coast regions and the South Coast part of Southern region.

Supporting documentation

Forests NSW' *Native Forest Silviculture Manual* can be found at:

www.dpi.nsw.gov.au/_data/assets/pdf_file/0008/268055/forests-nsw-native-forest-silviculture-manual.pdf

Forests NSW' Forest Practices Circular 2002/2 *Implementing Silviculture in LNE and UNE*, is available at: www.dpi.nsw.gov.au/_data/assets/pdf_file/0011/268049/forest-practices-circular-implementing-silviculture-in-lne-une.pdf

Forests NSW' Forest Practices Circular 2002/3 *Implementation of IFOA Silviculture in the Southern FA region*, is available at: www.dpi.nsw.gov.au/_data/assets/pdf_file/0010/268048/forest-practices-circular-implementation-ifo-a-silviculture-southern-forest-agreement-region.pdf

Forests NSW' Forest Practices Circular 2005/02 *'Rainforest Protocol*, is available at: www.dpi.nsw.gov.au/_data/assets/pdf_file/0004/268051/forest-practices-circular-rainforest-protocol.pdf).

Milestone 17.6

Determine, based on review, field-based sampling and principles of sustainability to determine the range of silvicultural regimes and prescriptions that can be appropriately applied to each strata of forest type; use in Southern region Australian Group Selection light, medium, heavy and Single Tree Selection light, medium and heavy; Forest Resource Assessment and Management Evaluation System to be based on regimes

Refer to Southern Forest Agreement Att 6 (6) (c)

Progress of milestone: complete

South Coast and Tumut subregions divide the forest (compartments) into resource units during the planning process. This is based on wood resource information, forest type and structure. Resource units are refined during planning and silviculture regimes are applied to each unit. Resource units are also refined post-harvest to reflect actual harvesting techniques and silviculture outcomes.

South Coast has mapped areas where Australian Group Selection (AGS) heavy can be applied (result of IFOA). AGS medium is generally applied across the South Coast and Tumut subregions where forest structure meets the IFOA and silviculture guidelines. Regrowth and thinning areas are also mapped as indicative areas within the ArcGIS system. Single Tree Selection (STS) is applied in all areas not covered by thinning and AGS.

Furthermore, modelling of various silviculture regimes takes place within the FRAMES process to determine the impacts and benefits of applying the different regimes on sustainability and volume flows across the various management areas.

Eden region has two strata: multi-aged and even aged. Shelter wood silviculture is applied to multi-aged forests, and thinning is applied to even age stands. Shelter wood silviculture is a management technique where only habitat and seed trees are retained per hectare at varying levels, depending on stand habitat class, to maximise regeneration.

These strata are constantly changing as the forest is converted to predominately even age. Inventory plots and FRAMES are again used to monitor and model the two silviculture systems.

Milestone 17.7

Internal audit system to ensure consistent standards and reporting on results, review processes

Refer to UNE, LNE, Eden, Southern Forest Agreements section 2.2.5 - ongoing; Southern Forest Agreement Att 6 (2) (n)

Progress of milestone: complete

All forestry operations are audited consistent with Forests NSW four-tier system, which is defined in Forest Practices Circular 2003/01 *Monitoring and Measuring Compliance of Operations*.

The four tiers comprise the following:

- Tier 1 (T1) – regular inspection, supervision, control and reporting by field supervisors
- Tier 2 (T2) – regular checks and documentation by Foresters and Forest Assistants to confirm field supervisors are implementing T1, and assess the supervisors' application of specifications
- Tier 3 (T3) – audits by appropriately qualified regional and divisional (including Head Office branches such as the Forest Practices Directorate) staff to confirm that T2 supervision, monitoring and non-compliance follow up is in place and that planning and operational systems are working consistently and effectively
- Tier 4 (T4) – independent audits of operations in regions by the Management Audit and Review Branch.

The four-tiered audit system is one of the cornerstones of the Forests NSW EMS (see milestone 1.1 about the EMS). The EMS monitors and assesses trends in non-conformance through the Non-Conformance Improvement Request system (NCIR). The incidents are recorded throughout all tiers. NCIRs are monitored at both a regional and corporate level to ensure each issue is resolved and is built into a continuous improvement cycle and that any emerging trends are addressed appropriately, such as inclusion in the relevant environmental management program.

In addition to internal audits, external EMS/AFS requirements are externally audited every nine months. Regulating authorities also carry out regular audits to ensure compliance with the IFOA in milestone 18.1.

Results of both internal and external regulators auditing outcomes are reported annually in Forests NSW Seeing Report. The compliance summary lists infringement notices issued by external regulators and lists the compliance checks made by Forests NSW as part of the internal monitoring and auditing strategy, and associated compliance expressed as a percentage.

Public reporting of the results of monitoring and auditing compliance with the NSW Forest Agreements and the integrated forestry operations approvals is provided in the NSW Forest Agreement implementation reports each year.

As part of the implementation of Forests NSW EMS, all operational control documents are regularly reviewed and updated in accordance with the timeframes specified within the documents or document control procedures, which describe the process of reviewing documents for consistency (including internal forest practices circulars) with current standards.

Supporting documentation

Forests NSW' Forest Practices Circular 2003/01 *Monitoring and Measuring Compliance of Operations*, is available at: www.dpi.nsw.gov.au/_data/assets/pdf_file/0003/268050/050-Forest-Practices-Circular-2003_01.pdf

Milestone 17.8

Harvest plans to be prepared

Refer to UNE, LNE, Eden, Southern Forest Agreements section 2.2.3

Progress of milestone: complete

Harvesting plans are prepared for all logging operations under a timber licence. The plans are prepared in accordance with the conditions of the IFOAs and other Forests NSW requirements (e.g. safety) to ensure they meet the environmental outcomes.

A harvest planning manual detailing the requirements to ensure consistency and standards has been developed, and is being reviewed consistent with good management practices.

Milestone 17.9

Notification about forestry operations

Refer to UNE, LNE and Eden Forest Agreements section 2.2.7; Southern Forest Agreement section 2.2.6

Progress of milestone: complete

The IFOA contains various provisions for notifying DECCW about the location and nature of forestry operations, including:

- annual plan of logging and thinning operations (and culling in Southern only)
- monthly notice/report on harvesting and thinning operations (and culling in Southern only)
- annual report on logging operations
- annual plan on forest products in UNE, LNE and Eden regions and annual report on forest products in the Southern region.

Forests NSW complies with these provisions. Forests NSW also prepares an annual plan in relation to proposed burning for the purposes of bushfire hazard reduction or regeneration.

Milestone 17.10

Liaison by Forests NSW with PlanningNSW, National Parks and Wildlife Service and Environmental Protection Authority on proposed forestry operations not covered by a forest agreement or Integrated Forestry Operations Approval including environmental assessment and evaluation

Refer to UNE, LNE, Eden Forest Agreements, Southern Forest Agreement section 2.2.7

Progress of milestone: ongoing

There has been no liaison with other departments on proposed forestry operations not covered by the NSW Forest Agreements or IFOA, nor has it been proposed at present. If such operations were proposed, they would be carried out in accordance with the *Environmental Planning and Assessment Act 1979*. This milestone is considered to be ongoing as liaison will occur when relevant situations arise.

2.18 External auditing processes and reporting results, review processes

Milestone 18.1

External auditing processes and reporting results, review processes

Refer to Southern Forest Agreement Att 6 (2) (n)

Progress of milestone: complete

Auditing processes are in place as follows:

- in relation to state forests and other Crown-timbered land - non-licence terms, EPLs and TSLs within IFOAs are proactively and reactively audited by DECCW. Fisheries licences (FLs) within IFOAs are audited by I&I NSW (Fisheries).
- in relation to plantations - under the *Plantations and Reafforestation Code 2001*, qualified officers from I&I NSW perform audits based on the provisions in the Code and any conditions attached to the authorisation
- in relation to private lands – native vegetation is regulated by DECCW in accordance with its Native Vegetation Compliance and Enforcement Strategy. Regulatory requirements for private native forestry are specified in the *Native Vegetation Regulation 2005*
www.legislation.nsw.gov.au/viewtop/inforce/subordleg+729+2005+first+0+N
- Forests NSW carry out internal auditing to assess compliance with IFOAs and other requirements such as their Codes of Forest Practice. Forests NSW is also externally audited to maintain AFS and EMS (International Organisation for Standardisation (ISO) 144001:2004) certification.

Reporting processes include:

- in relation to state forests and other Crown-timbered land - information on compliance with the non-licence conditions, TSL, FL and EPL within the IFOAs are provided in the annual NSW Forest Agreement implementation reports.
- information on compliance with FL within the IFOA is provided in the annual NSW Forest Agreement implementations reports.
- in relation to plantations – under the PR Act, a public register is kept of all plantation authorisations. The register, maintained by I&I NSW, contains information on location, CMA regions, local government authorities, date of authorisation, authorised plantation area, area of native vegetation authorised to be cleared, and area of native vegetation that must be retained
- in relation to private lands – the NV Act requires the Minister for Climate Change and the Environment to make specified information about PVPs and Development Consents approved by CMAs, publicly available. These public registers are available at: www.environment.nsw.gov.au/vegetation/publicregister.htm

Forests NSW report on their internal and external (EMS and AFS) audits within the annual Seeing report.

Review processes are as follows:

- in relation to state forests and other Crown-timbered land – the FNPE Act provides for periodic review of IFOAs. The outcomes of the current review of the IFOAs are discussed in Chapter 3
- in relation to plantations – procedures and documents are reviewed on an ad hoc basis by I&I NSW.

- in relation to plantations – a statutory review of the PR Act and Code which commenced in January 2005 is now nearing completion.
- in relation to private lands – the NV Act is undergoing a five-year review that may result in legislative changes if deficiencies are identified. Also under periodic review are the *Catchment Management Authorities Act 2003* and *Natural Resources Commission Act 2003*.

2.19 Charcoal provisions in NSW Forest Agreements

Milestone 19.1

Charcoal provisions

Refer to Southern Forest Agreement section 3.3.2

Progress of milestone: not applicable

The Protection of the Environment Operations (General) Regulation 1998 (Chapter 3B Burning of biomaterial in electricity generating works) prohibits the burning of native biomaterial; hence this milestone is no longer applicable.

2.20 Staff training, employment and industry initiatives

Milestone 20.1

Staff and contractors of Forests NSW and National Parks and Wildlife Service to receive competency-based training (including maintaining and enhancing processes); specifically for Forests NSW field staff and forest operators to receive competency-based training in forest values including flora/fauna identification and management, heritage management, soil/water protection, silvicultural training, inventory and management information systems, product segregation and harvest planning

Refer to UNE and LNE Forest Agreements section 2.1.1, 2.1.2; Eden Forest Agreement sections 2.1.1, 2.1.2, 3.6; Southern Forest Agreement section 2.1.1, 2.1.2, Att 6 (2) (k)

Progress of milestone: complete

Both Forests NSW and DECCW have systems in place to ensure that staff and contractors receive appropriate competency-based training. Staff and contractors attend a range of courses relating to forest values that are run internally, or by external registered training organisations.

For example, appropriate Forests NSW staff and contractors are required to be accredited in Forest Soil and Water Protection through courses run by the TAFE NSW Riverina Institute Forest Industry Training Centre, based at Tumut. Accreditation in this course is a requirement in obtaining a Forest Operator's Licence.

This milestone is considered complete as competency-based training for field staff and forest operators in forest values routinely occurs in both agencies.

Milestone 20.2

Enhance opportunities for industry development and employment in forest-based industries

Refer to UNE, LNE and Eden Forest Agreements - section 3.6 and Att 10, Southern Forest Agreement - section 3.6, Att 8

Progress of milestone: complete

The following employment initiatives have been implemented:

- as a result of the NSW Forest Agreements, 105 positions were filled to manage the additions to DECCW estate in the UNE and LNE regions
- an additional 21 positions were created in 2005–06 to manage the estate in UNE and LNE regions
- 38 new permanent positions have been established in the Eden region since the south-east forest reform program began in 1994, including 14 required for managing additions to the DECCW estate referred to in the forest agreement, of which five were Aboriginal staff.
- as identified in the NSW Forest Agreement for the Southern region, 91 positions for conservation and Aboriginal heritage management within DECCW were funded, including four Aboriginal Cultural Heritage Officers (of which one is a female position).

Implemented Park Management and Industry development initiatives include:

- \$9.1 million allocated per year for 2002–03 and 2003–04 to establish the new reserves in UNE and LNE regions; establishment activities included pest species management, fire management, asset maintenance, preparation of management plans, Aboriginal heritage management and neighbour relations
- capital works in the UNE, LNE and Southern regions such as lookouts and walking tracks, camping areas and interpretation facilities
- DECCW initiatives in the Southern region including pest species management, fire management, asset maintenance, preparation of management plans, Aboriginal heritage management and neighbour relations

Expenditure under FISAP timber industry development and employment initiatives has included:

- UNE and LNE regions
 - \$7.5 million in Forest Industry Structural Adjustment Package (FISAP) funds expended to purchase property to increase native timber resources
 - \$4.97 million in FISAP funds expended to assist native forest sawmilling companies to meet log haulage costs to obtain quota sawlog supplies from outside their usual areas of supply
- Eden region
 - \$1 million in FISAP funds allocated during 2003–04 to contractors in the Eden area to purchase mechanised harvesting equipment and conduct training to enable the transfer of crews from mature stands harvesting to commercial regrowth thinning
- Southern region
 - \$2.5 million in FISAP funds and \$0.6 million contributed by the NSW Government expended under the Sawlog Productivity Program - Silvicultural Program with the aim of improving the sawlog productivity of South Coast forests by culling unmerchantable trees in degraded timber stands, thereby releasing potentially merchantable young trees. This initiative employed 16 staff at its peak.

This milestone is completed for DECCW as employment and park management occurred and dedicated funding under the NSW Forest Agreement process for structural adjustment has been expended.

Additionally the milestone is considered complete for Forests NSW as initiatives have concluded where applicable and implementation of investment/employment initiatives were market dependent.

2.21 Community awareness and education

Milestone 21.1

Providing ongoing formal participation to raise awareness and understanding of ESFM and how it can be achieved in NSW forests

Refer to UNE, LNE and Eden Forest Agreements Att 8; Southern Forest Agreement Att 6 (2) (g)

Progress of milestone: complete

Forests NSW has continued to participate in, and provide awareness to, the community about ESFM practices, as a result of finalising ESFM plans. Forests NSW publicly exhibited ESFM plans in 2000 as a first step in seeking greater involvement from stakeholders. As a result of input from the public and regulatory agencies the ESFM plans were progressively refined and completed in 2005 (see milestone 2.3). This process is part of the strategy for public education regarding the principles of ESFM.

Forests NSW public and educational programs include: ranger talks, education visits; development of the Sustainable Schools Program in NSW and inviting NSW science teachers to view Forests NSW operations as a way of promoting ESFM management practices.

Forests NSW also attended annual community meetings related to ESFM, including those about: catchment management, community bushfire management, community/school/education, conservation, cultural management, flora and fauna management, forestry practices, industry/stakeholder meetings, introduced predators/feral animals, recreation/tourism and regional planning. Forests NSW staff attendance contributes to raising the public awareness and understanding of ESFM practices.

Forests are only one element of a much broader landscape managed by DECCW; hence ESFM is indirectly addressed as part of the broader conservation awareness and understanding promoted by the agency, rather than being a specific component. DECCW's public and educational programs include guided walks and tag-along 4WD tours; ranger talks and on-site inspections; development of the Sustainable Schools Program in NSW; training, planning and control programs for pest species; and the Discovery program, which focuses on providing community education opportunities for the general public and interested groups on natural and cultural heritage.

While the implementation of this milestone will continue, there are other means for reporting on the progress to occur (such as DECCW annual reports and Forests NSW Seeing or annual reports); therefore this milestone is considered complete.

Milestone 21.2

Department of Planning, National Parks Wildlife Service, Environmental Protection Authority and NSW Fisheries must devise and implement a coordinated complaint handling and response system for any Integrated Forestry Operations Approval

Refer to UNE, LNE and Eden Forest Agreements section 6.15; Southern Forest Agreement section 6.15

Progress of milestone: complete

A coordinated complaint handling protocol was developed and implemented in 2001. It was used to manage the handling of complaints when various separate agencies existed. It has become less relevant since the functions previously done by DoP, NPWS, EPA are now incorporated within DECCW.

2.22 Community consultation – informing the public

Milestone 22.1

Additional reporting mechanisms by National Parks and Wildlife Service (State of the Parks report, National Parks and Wildlife Regional Advisory Committees and others) and Forests NSW (consulting on operational issues such as the Plan of Operations, stakeholder consultation on a range of matters and others) and other reporting mechanisms

Refer to UNE, LNE, Eden and Southern Forest Agreements sections 4.2, 4.3, 4.5, and 2.2.6

Progress of milestone: complete

DECCW

The State of the Parks is an ongoing program. The first State of the Parks report was released in November 2001, providing a snapshot of the conservation values in NSW and their management within the parks system, supported by a series of case studies for parks around the state. Indicators are being developed by which DECCW PWG management effectiveness will be reported in future State of the Parks reports.

The second State of the Parks qualitative survey was run in late 2004 with a public report released in June 2005. This report was based on an IUCN international management framework. It examined key issues for management within NSW parks and included data on the effectiveness of park management.

A further State of the Parks survey took place in 2005 to establish a baseline for future surveys. The opportunity was also taken to develop the survey as an online tool to ease data access and entry. Considerable enhancements were made to the survey methodology to standardise data collection; more comprehensive training and guidelines were also developed.

National Parks and Wildlife Regional Advisory Committees continue to provide advice to the National Parks Advisory Council and DECCW on a range of natural and cultural heritage conservation matters, both on and off reserve. Membership of these committees includes Aboriginal people, women, local government and farmer groups. The committees have been active in providing DECCW with expert advice on technical and specialist matters, feedback on the views of the community, encouragement of community support and involvement in conservation of nature and cultural heritage, suggestions for improving the management of national parks and other reserves, and input to plans of management.

The Aboriginal Cultural Heritage Advisory Committee, constituted in 2006 under Section 27 of the NPW Act, continues to advise the Minister for Climate Change and the Environment and the Director General of DECCW on any matter relating to identification, assessment and management of Aboriginal cultural heritage in NSW.

Other continuing examples of consultative mechanisms include DECCW corporate level annual reporting and the public exhibition of reserve plans of management, reserve fire management plans, threatened species recovery plans and threat abatement plans.

Forests NSW

Forests NSW has regional/corporate reporting and consultative mechanisms for considering forest management, including the annual plan of operations (supplied to regulators), public exhibited documents like the ESFM Plans, and regional plans that have incorporated public comments. The Research Division's annual report and Forests NSW financial report is produced each financial year.

Forests NSW is represented on a range of international, national, state and local groups related to forests and forest management, including the National Forestry and Forests Products Committee and its associated subcommittees – the National and International Montreal Process Working Group that sets the benchmark for sustainability reporting, the Australasian Fire Authorities Council, NSW Bushfires Coordinating Committee and Greening Australia (among others).

For reporting on sustainability, Forests NSW produces an annual sustainability report (Seeing Report) that informs performance on sustainability for both planted and native forests

www.dpi.nsw.gov.au/aboutus/resources/corporate-publications/forests-nsw-seeing-report-2007-08

The Seeing Report provides a report against four key result areas of the business: social, environmental, economic and sustainability.

NRAC, CMAs and NRC

Major institutional reforms to natural resource management, environment and planning took place during 2003–04. The Natural Resources Commission (NRC), the Natural Resources Advisory Council (NRAC) and 13 CMAs were established.

Under the new structure, state government remains the principal source of policy and direction; the NRC advises independently on standards and targets and reports on progress towards targets; the NRAC articulates the positions of key stakeholders to the NSW Government; and CMAs deliver programs and outcomes on the ground either in their own right or potentially in partnership with other local organisations, such as local councils and land care groups.

The function of the NRAC is to provide a high level forum for stakeholders to advise the NSW Government on natural resource management issues and to broker agreements between the representative stakeholder groups on contentious natural resource management issues. NRAC has an independent convener and 27 members representing a broad range of natural resource management (NRM) stakeholders, including state and local government, forestry, fishing, farming, environment, Aboriginal, union and industry sectors. The chief executive officers of the natural resources agencies are *ex officio* members of the advisory council.

This milestone is considered complete as additional mechanisms are in place and regular reporting is occurring across national park and state forest estate.

Supporting documentation

The State of the Parks reports can be found on the DECCW website at:
www.environment.nsw.gov.au/sop/index.htm

Forests NSW reports can be found at: www.dpi.nsw.gov.au/aboutus/resources/corporate-publications

Milestone 22.2

Project reports to be publicly available including FRAMES

Refer to Southern Forest Agreement section 2.11.3; Southern Forest Agreement Att 6 (5)

Progress of milestone: complete

All CRA/RFA project reports, including FRAMES CRA reports, have been published.

Supporting documentation

CRA/RFA project reports can be found on the Commonwealth Government's RFA website:

www.daff.gov.au/rfa/publications/cra-state

Milestone 22.3

Availability of forest agreements and integrated forestry operations approvals including online

Refer to Southern Forest Agreement section 6.11

Progress of milestone: complete

The NSW Forest Agreements and IFOAs (including amendments), annual forest agreement implementation reports and the terms of reference for this review are available on the DECCW website.

Forest agreements and IFOAs may also be requested through DECCW head office in Sydney.

Supporting documentation

Required documentation is available at:

www.environment.nsw.gov.au/forestagreements/index.htm

Milestone 22.4

Public notice and availability of agreements assessment documents and reports

Refer to UNE, LNE and Eden Forest Agreements section 6.11; Southern Forest Agreement section 6.2; Southern Forest Agreement section 6.11

Progress of milestone: complete

All forest agreements and IFOAs and associated amendments are available on the DECCW websites.

2.23 Reporting and monitoring

Milestone 23.1

Monitoring and reporting of criteria and indicators

Refer to UNE and LNE Forest Agreements section 2.11.2, Att 9; Eden Forest Agreement section 2.10.2, Att 9; Southern Forest Agreement section 2.11.2, Att 7

Progress of milestone: ongoing

The ESFM indicators are described in Table 1 and attachment 9 of the NSW Forest Agreements for the UNE and LNE regions, Table 2 and attachment 9 of the Eden Forest Agreement and Table 2 and attachment 7 of the NSW Forest Agreement for the Southern

region. These criteria and indicators are consistent with the Montreal Process criteria. In the RFAs the ESFM criteria and indicators are referred to as sustainability indicators, see: clause 49 of the North East RFA, clause 47 of the Eden RFA and clause 48 of the Southern RFA.

Monitoring of these ESFM criteria and indicators has occurred each financial year since 1999–2000 for the Eden and UNE and LNE regions, and since 2002–03 for the Southern region, as part of the NSW Forest Agreement implementation reports. The reports for 1999–2000 to 2006–07 are complete. The report for 2007–08 is being finalised and preparation of the 2008–09 report has commenced.

A summary of the results of the monitoring of the ESFM criteria and indicators is contained in section 5.2 of the *Draft report on Progress with Implementation of the New South Wales Regional Forest Agreements (RFAs)*, which was prepared for the review of the joint Commonwealth/NSW Regional Forest Agreements.

The ESFM criteria and indicators are being reviewed as discussed in milestone 23.3 and Chapter 4.

Supporting documentation

The annual reports on the implementation of the NSW Forest Agreements are available at: www.environment.nsw.gov.au/forestagreements/monitoring.htm

The *Draft report on Progress with Implementation of the New South Wales Regional Forest Agreements* is available at: www.environment.nsw.gov.au/forestagreements/RFAreviews.htm

Milestone 23.2

Annual reports on forest agreements and tabling reports

Refer to UNE, LNE, Eden, Southern Forest Agreement section 6.9

Progress of milestone: ongoing

Annual reports on the implementation of the NSW Forest Agreements have been completed and tabled up until to 2006–07. The report for 2007–08 is being finalised and preparation of the 2008–09 report has commenced.

The annual reports provide progress on:

- achievement of milestones in the NSW Forest Agreements
- monitoring of ESFM criteria and indicators by Forests NSW and DECCW each financial year
- compliance with the integrated forestry operations approvals.

Progress for all regions is compiled into one annual report.

Supporting documentation

The annual reports on the implementation of the NSW Forest Agreements are available at: www.environment.nsw.gov.au/forestagreements/monitoring.htm

Milestone 23.3

Trial and assessment of criteria and indicators including preparation of evaluation framework

Refer to UNE and LNE Forest Agreements section 2.11.2; Eden Forest Agreement section 2.10.2; Southern Forest Agreement section 2.11.2

Progress of milestone: complete

Monitoring and reporting ESFM indicators began in 1999–2000 for the UNE, LNE and Eden regions and in 2002–2003 for the Southern region, following the implementation of the forest agreements for each region. This monitoring has been reported annually in NSW Forest Agreement implementation reports (see milestone 23.2). An assessment of the ESFM criteria and indicators has occurred as a component of this review and recommendation on changes is contained in Chapter 4. An evaluation framework was applied as a component of this process.

2.24 Research and data management

Milestone 24.1

Data management agreement and archive

Refer to UNE, LNE, Eden section 6.13; Southern Forest Agreement section 6.13

Progress of milestone: complete

A data agreement was finalised in March 2000, and attached to the North East RFA (attachment 13). This agreement is also applicable to Eden and meets the principles agreed in attachment 13 of the Eden RFA.

A joint NSW/Commonwealth Government archive was completed in July 2001 for the Eden region and a joint NSW/Commonwealth Government archive was completed in July 2001 for the UNE and LNE regions. A joint NSW/Commonwealth Government archive was completed in November 2004 for the Southern region.

There are two copies of the archive, comprising five CDs held under appropriate security for the Commonwealth Government by the Department of Agriculture, Fisheries and Forestry, and by the Environment Resources Information Network in the Department of the Environment, Water, Heritage and the Arts (DEWHA).

Datasets for which DEWHA is custodian are available for download to the public via Discover Information Geographically www.environment.gov.au/metadataexplorer/explorer.jsp and the Australian Spatial Data Directory <http://asdd.ga.gov.au/> (search using term 'forest' or 'CRA/RFA' as used in DEWHA metadata), including:

- Eden CRA/RFA — 14 datasets
- North East CRA/RFA — 34 datasets
- Southern CRA/RFA — 21 datasets
- statewide — six datasets.

Similarly, the NSW archive is stored in various NSW Government departments, including I&I NSW (Forests NSW and Mineral Resources) and DECCW.

Milestone 24.2

Preparation of strategy to outline all monitoring and research to be undertaken by NPWS and Forests NSW

Refer to UNE and LNE Forest Agreements section 2.11.3; Eden Forest Agreement section 2.10.3; Southern Forest Agreement section 2.11.3

Progress of milestone: not applicable

While significant joint research occurs (e.g. on pests and weeds, threatened species and the Australian Research Committee project), a strategy has not been prepared. This milestone is considered no longer applicable, as research and science is being delivered by a range of government and 'cross agency' initiatives.

Milestone 24.3

Developing and implementing an information system to facilitate the sharing of data for use by all agencies, including local government, involved in the management of forested land

Refer to UNE, LNE and Eden Forest Agreements Att 8; Southern Att 6 (2) (h)

Progress of milestone: complete

A number of important information systems have been developed or are under development, to facilitate the sharing of data between agencies, local government and the public:

- Community Access to Natural Resource Information (CANRI) website – provided a central access point to various natural resources data such as vegetation mapping and data, soil profile information and water quality, storage and river flow. This was in operation from 2001–04, but has since been superseded
- MER Strategy – established to refocus the resources of NSW natural resource and environment agencies and coordinate their efforts with CMAs, local government, landholders and other natural resource managers to establish a system of monitoring, evaluation and reporting on natural resource condition. The establishment phase was completed in December 2008
- DECCW Atlas of NSW Wildlife – contains records of flora and fauna sightings in NSW from a wide variety of sources, including DECCW projects, survey records from environmental consultants and researchers, historical reports and members of the public. The atlas also contains and distributes datasets from the Royal Botanic Gardens Herbarium database, Forests NSW and DEWHA
- DECCW Vegetation Information System (VIS) will refine and integrate a range of DECCW vegetation information applications with the aim of providing a ‘one-stop-shop’ for information such as sample sites, vegetation community locations, native vegetation community type descriptions, standards and native vegetation maps, as well as a portal to DECCW vegetation related applications. This is currently under development; the VIS will initially only be accessible to government agencies but eventually appropriate parts will be available to the public
- NSW Native Vegetation Type Standard aims to ensure that the Government’s type and mapping is systematic, comprehensive, consistent and scientifically rigorous. This is currently under development
- Authorised Plantation layer held by I&I NSW – to be made available under licence to DECCW and relevant local government authorities. The sharing process is currently under development.

Milestone 24.4

Improving the coordination and effective use of resources allocated to research for ESFM in NSW

Refer to Southern Forest Agreement Att 6 (2) (f)

Progress of milestone: complete

Coordination of research and science activities continues. Science and research activities across NSW government agencies are coordinated by the recently appointed Chief Scientist and Scientific Engineer in the Office of Science and Medical Research (OSMR) in the Department of State and Regional Development. OSMR lists its objectives as follows:

- Build the state’s knowledge base to respond to challenges and opportunities within the research sector

- Ensure that the state’s research and development capabilities underpin state plan priorities and implement Innovation Statement principle.
- Promote national and international collaborations in science and medical research in NSW to attract increased investment to NSW
- Create strong links between the higher education sector, business and community
- Optimise the effectiveness of the NSW Government’s investment in science and medical research
- Continuously identify new areas of science and medical research of relevance to NSW.

Coordination also occurs by the Biodiversity Research Network, established under the NSW Biodiversity Strategy, which aims to facilitate communication and cooperation among stakeholders interested in biodiversity-related research in NSW. The network includes the following agencies:

- Australian Museum
- CSIRO
- Key Centre for Biodiversity and Bioresources
- NSW Department of Environment, Climate Change and Water
- I&I NSW – Agriculture
- I&I NSW – Fisheries
- I&I NSW – Forests
- Royal Botanic Gardens and Domain Trust
- University of Wollongong Institute for Conservation Biology
- Zoological Parks Board of NSW.

Supporting documentation

Information on OSMR is available at: www.osmr.nsw.gov.au/

Information on the Biodiversity Research Network is available at: www.environment.nsw.gov.au/biodiversity/biodiversityresearch.htm

Milestone 24.5

Research projects on former state forests

Refer to UNE and LNE Forest Agreements section 2.11.3; Eden Forest Agreement section 2.10.2; Southern Forest Agreement section 2.11.3

Progress of milestone: complete

During the CRA/RFAs, areas of state forests were transferred to DECCW tenure, resulting in some Forests NSW research projects being located in the DECCW estate.

In accordance with requirements of the NSW Forest Agreements, details of all research projects in former state forests in the UNE, LNE and Eden regions have been identified and details (including location and access requirements) of these studies were provided to DECCW in 2000–01. DECCW is providing access to these sites where required. Sites identified in the North East regions included the former Lorne flora Reserve (now national park) and Yabbra state forest (now Toonumbar National Park), and Coolangubra state forest (now part of the South East Forest National Park) in the Eden region.

In the Southern region only one research project area, situated in the Murramarang National Park, has been identified on DECCW tenure (previously state forest) requiring continued

access by Forests NSW. Details of the location of the area where field plots are located have been provided by Forests NSW to DECCW and DECCW allows periodic access.

Milestone 24.6

A compendium of NSW forest research must be prepared

Refer to UNE and LNE Forest Agreements section 2.11.3, Eden Forest Agreement section 2.10.3, Southern Forest Agreement section 2.11.3

Progress of milestone: ongoing

Contributions have been collated from a range of land management agencies, research organisations and universities on current research, future research priorities and published research related to forests covering the period 1999–02. Reports on research post–2002 can be accessed by following the links provided in the documentation section below.

Forests NSW publishes an annual report on its forest research activities, which includes a compilation of all publications and conference papers published throughout the year. It is available at: www.dpi.nsw.gov.au/research/forestry

Forests NSW is a supporting member of the Cooperative Research Centre (CRC) for Forestry. The CRC for Forestry mission is to support a sustainable and vibrant Australian forestry industry through research, education, communication and collaboration. Other research relevant to NSW is provided through national organisations, including the CSIRO, Forest and Wood Products Australia, and the Joint Venture Agroforestry Program. It is available at: www.crcforestry.com.au/

The Botanic Gardens Trust, part of DECCW, pursues horticultural, plant systematics, ecology and plant pathology research. In addition the National Herbarium of New South Wales houses the State Reference Library of 1.2 million preserved plants. DECCW and the Royal Botanic Gardens and Domain Trust annual reports list publications, including research papers.

Information is available at:

- DECCW research at: www.environment.nsw.gov.au/research/
- DECCW annual reports and other publications at: www.environment.nsw.gov.au/publications/
- Royal Botanic Gardens and Domain Trust research at: www.rbgsyd.nsw.gov.au/science/Research_programs
- Royal Botanic Gardens and Domain Trust publications at: www.rbgsyd.nsw.gov.au/welcome_to_bgt/quick_links/publications

Other national forest research activity can be found at: www.csiro.au/science/forestry.html, www.fwprdc.org.au/, www.daff.gov.au/brs/forest-veg, www.rirdc.gov.au/RIRDC/programs/national-rural-issues/agroforestry-and-farm-forestry/agroforestry-and-farm-forestry_home.cfm

Milestone 24.7

Operational research trial

Refer to Eden Forest Agreement section 3.1

Progress of milestone: not applicable

Forests NSW was proposing a trial in the Eden region to assess the merits of selective harvesting of filter strips and any associated impacts, but it is unlikely to proceed. Following interagency discussion and agreement the milestone is considered no longer applicable.

Milestone 24.8

Develop a suite of computational tools to help manage NSW forests at operational scales for a range of values, including wood yield, growth stage, water quality and quantity, natural and cultural heritage and wildlife habitat

Refer to Southern Forest Agreement Att 6 (6) (a)

Progress of milestone: ongoing

Developments in relation to this milestone include:

- 'Log Trak' – an electronic log delivery docketing system developed by Forests NSW which allows up-to-date log sales and delivery data to be available daily. This is being progressively implemented across state forests since 2004
- NCIR system – a reporting and task management tool developed by Forests NSW to demonstrate and promote its continuous improvement process; currently under development
- GeoMaster (NZ Forest Research) – a spatial forest event management system; currently set up and being evaluated with native forest operations in state forests.
- FRAMES (Forest Resource Assessment and Management Evaluation System) – a statewide (excluding Eden region) toolkit of applications developed by Forests NSW to calculate long-term wood supply volumes from areas of native forest where timber harvesting is permitted; see milestone 16.1
- Forests NSW EMS – a comprehensive planning, assessment, implementation, monitoring, auditing and reporting system aimed at continuous improvement in environmental management in native and planted forests; see milestone 1.1
- Native Vegetation Assessment Tools (NVAT) – objective, computer-based, decision support software used to apply the EOAM used by CMAs to assess whether clearing proposals for PVPs and Development Consents meet the criteria for clearing under the NV Act. This is currently in use
- PVP Data and Customer Service database (PADACS) – a customer relationship management software tool used by CMAs to manage client interactions surrounding native vegetation management and assessment. This is currently in use
- PVP Developer – software tool used by CMAs to help farmers prepare PVPs. This is currently in use
- DECCW Biobanking Information Management System and website – software and website providing information and advice to scheme participants; it records the number of trades and provides information on the extent of land covered by Biobanking Agreements. This is currently in use
- Bioforecasting tools – developed by the DECCW Landscape Modelling and Decision Support Section, available tools include regional scale biodiversity (aquatic and terrestrial) and cultural heritage modelling tools for evaluating the impacts (positive and negative) of land use changes, and for prioritising locations for conservation action; development of tools is ongoing.

Milestone 24.9

Develop by the end of 2010, a model to predict recruitment and maintenance of habitat trees over time

Refer to Southern Forest Agreement Att 6 (6) (b)

Progress of milestone: ongoing

This milestone is under development. The draft model can predict the likelihood of a tree of a particular size having hollows based on inventory or stand table data, and will be able to predict the accumulation and loss of hollow-bearing trees through the FRAMES simulator.

Using the number of trees in any diameter class, the number of habitat trees likely to be present can be predicted based on the probability of the trees developing hollows.

An initial model was prepared in 2003, and resource analysts conducted a sensitivity analysis in 2007. The model was updated to include proposed changes and a draft paper was provided to the *Journal of Forest Ecology and Management*. Peer review suggested some substantial revision was required but this is yet to occur. Forests NSW aims to review and complete the model as soon as practicable.

3. Review of Integrated Forestry Operations Approvals

Introduction

This review covers the IFOAs for the UNE, LNE, Southern and Eden regions of NSW. The IFOAs for UNE, LNE and Eden commenced on 1 January 2000, while that for the Southern region commenced on 13 May 2002. All have subsequently been amended (see Section 4.3).

The IFOAs provide the operational framework for the conduct of forestry operations in state forests and on Crown-timber land. The approvals, made under the *Forestry and National Park Estate Act 1998*, contain conditions (described as non-licence terms) and terms of licences under:

- *Protection of the Environment Operation Act 1997* (EPLs)
- *Threatened Species Conservation Act 1995* (TSLs)
- *Fisheries Management Act 1994* (FLs).

TSLs, EPLs and non-licence terms are administered by DECCW; FLs are administered by I&I NSW (Fisheries).

The review of the NSW integrated forestry operations approvals is to assess:

- the effectiveness of the approvals in achieving their purpose involving consideration of the extent to which the terms of the three licences and conditions have been successfully integrated
- extent of compliance with conditions and licences
- identification of areas where greater efficiency in administration, enforcement and compliance can be achieved.

The IFOAs create a stable and secure operating environment for Forests NSW whilst mitigating the impacts of forestry activities on the environment. The IFOAs incorporate licence conditions relating to soil and water protection and threatened species conservation, and therefore play a key role in the day-to-day planning and implementation of Forests NSW activities.

Many of the practices prescribed in the IFOAs have resulted in improved planning processes and more consistent implementation of controls across a wide range of Forests NSW activities. These achievements have been recognised through independent certification of the Forests NSW Forest Management System to the EMS standard ISO 14001:2004 and to the AFS AS 4708:2007.

As noted above, one of the aims of this review is to improve the efficiency and effectiveness of the forest agreement and IFOA framework. Opportunities to streamline and simplify this framework have been identified to assist in delivering policy and operational arrangements that allow resources to be effectively used in the field and ensure clear compliance requirements.

Integration of IFOA licences

IFOAs provide a framework for forestry operations that integrates regulatory regimes for environmental planning and assessment, the protection of the environment and threatened species conservation.

As well as combining licence terms through the EPLs, TSLs and FLs, the IFOAs contain conditions called non-licence terms. These non-licence terms regulate the forestry operations to which the IFOA applies, namely logging operations, forest products operations, ongoing forest management operations and ancillary road construction.

IFOA amendments

The *Forestry and National Park Estate Act 1998* (S. 31) provides that an IFOA may be amended, suspended or revoked at any time jointly by Ministers who have granted the approval. An amendment of the approval extends to an amendment of the terms of any relevant licences provided by the approval. Any amendments to the approval or agreement must be made publicly available.

Current versions of the IFOAs and licences are provided on the DECCW website: www.environment.nsw.gov.au/forestagreements/agreementsIFOAs.htm

Information available includes compilations and dates of amendments made to the original agreements and licences, as well as the original approvals and original amending instruments.

Compliance and audit framework

Compliance with IFOAs is reported annually in the NSW Forest Agreements Implementation Reports. A summary of the results of the compliance for the period of the review is provided below.

DECCW and I&I NSW (Fisheries) maintain an active compliance and audit program of Forests NSW forestry operations. Monitoring comprises desk-top audits, unannounced field inspections and strategic compliance campaigns to help drive Forests NSW compliance outcomes. DECCW and I&I NSW (Fisheries) also respond to any reports from the community about alleged non-compliance by Forests NSW with relevant IFOA requirements.

DECCW and I&I NSW (Fisheries) use a mix of regulatory tools to achieve compliance outcomes, including providing Forests NSW with formal letters regarding performance during audits, warning letters, requirements to remediate or clean up sites, penalty notices and prosecutions.

Forestry operations carried out in state forests and on other Crown-timber lands are also governed by Forests NSW internal requirements (such as codes of practice) and occupational health and safety requirements. Since the implementation of the IFOAs, Forests NSW has improved its systematic monitoring and auditing program for harvesting and other operations, to specifically measure compliance with the IFOA and other regulatory instruments. Forests NSW EMS is certified to ISO 14001 and sets the framework for achieving and continually improving environmental performance by introducing a systematic approach to measuring and monitoring.

The following information provides an overview of auditing and compliance by DECCW and I&I NSW (Fisheries). Asterisks (*) have been used to indicate unavailable information due to the transition from previous licensing arrangements to the IFOAs; an asterisk does not mean that compliance and enforcement work was not undertaken.

All enforcement action is recorded under the year it was signed off and issued to Forests NSW; in some cases the associated audit may have been conducted in the previous financial year.

UNE region

Table 4.1: Auditing licences held by Forests NSW in the UNE region

Audit results	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009
EPL										
Audits	4	5	10	4	4	4	2	5	3	2
Non-compliance incidents	*	12	79	20	58	61	7	146	122	19
Complaints	*	0	0	Yes	0	2	1	0	2	1
Feedback	*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Penalty notices	2	0	2	2	0	1	0	0	0	0
Warning letters	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clean-up notice	*	0	1	0	0	0	0	0	0	0
Remedial work (number of locations)	*	8	6	4	29	5	5	12	12	0
Request to obtain expert advice	*	7	0	0	4	2	4	1	0	0
Prosecutions	*	0	0	0	0	0	0	0	0	0
TSL										
Audits	1	7	15	3	2	3	1	5	1	2
Complaints	6	20	7	6	8	0	1	2	2	1
Breaches/ contraventions	*	Yes	Yes	Yes	Yes	Yes	5	11	17	14

Audit results	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009
Enforcement action	0	0	0	Warning issued	Warning issued	Warning issued	Warning issued	Yes	Warning letter and two penalty infringement notices (PINs) issued	Warning issued
FL										
Audits/complaints	0	0	0	0	0	0	0	0	0	1
Contraventions	0	0	0	0	0	0	0	0	0	0
Advice provided/enforcement	0	0	0	0	Yes	Yes	0	0	0	0

LNE region

Table 4.2: Auditing licences held by Forests NSW in the LNE region

Audit results	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009
EPL										
Audits	*	2	8	7	4	4	4	5	4	3
Non-compliance incidents	*	16	55	140	77	66	155	51	88	33
Complaints	*	0	1	0	0	2	4	0	1	0
Feedback	*	0	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Penalty notices	*	3	0	0	0	2	3	2	1 PIN	0
Warning letters	*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Remedial work (number of locations)	*	5	9	8	19	7	29	36	10	0

Audit results	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009
Request to obtain expert advice	*	0	0	4	1	2	8	1	4	1
Clean-up notices	*	0	0	0	0	2	1	1	2	2
Prosecution	*	0	0	0	Prosecution action begun	One prosecution (finalised for two offences)	0	0	0	0
TSL										
Audits	21	4	2	2	2	3	2	6	3	2
Complaints	4	9	9	3	1	2	4	0	0	0
Breaches/ non-compliances	Yes	Yes	Yes	Yes	Yes	27	19	7	41	32
Enforcement action	0	0	Warning issued	PIN	Warning issued	Warning issued	Warning issued	Warning Issued	Warning letter and PIN issued	Warning issued
FL										
Audits/complaints	0	0	Yes	0	0	0	0	0	0	0
Non-compliances/ contraventions	0	0	1	0	0	0	0	0	0	0
Advice provided/ enforcement	0	0	Yes	Yes	Yes	0	0	0	0	0

Southern region

Table 4.3: Auditing licences held by Forests NSW in the Southern region

Audit results	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009
EPL								
Audits	1	6	4	2	2	3	3	3
Non-compliance incidents	3	196	35	1	87	0	52	103
Complaints	0	1	0	3	4	1	0	1
Penalty notices	0	0	0	0	0	0	0	0
Warning letters	Yes	Yes	Yes	0	Yes	0	Yes	Yes
Remedial work (number of locations)	2	4	7	1	14	1	6	0
Request to obtain expert advice	0	1	2	0	1	1	2	0
Clean up notices	*	0	0	0	0	0	1	0
Prosecution	0	0	0	0	0	0	0	0
TSL								
Audits	*	6	4	2	2	4	3	3
Complaints	*	2	3	3	4	4	1	3
Breaches/contraventions	*	0	0	0	20	1	108	22
Enforcement action	*	0	0	0	Warning issued	Warning and PIN issued	Warning issued	Warning issued
FL								
Audits/complaints	*	0	0	0	0	0	0	0
Contraventions	*	0	0	0	0	0	0	0
Advice provided/enforcement	*	0	Yes	Yes	0	0	0	0

Eden

Table 4.4: Auditing licences held by Forests NSW in the Eden region

Audit results	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009
EPL										
Audits	2	3	5	2	2	4	1	2	2	3
Non-compliance incidents	*	34	36	24	32	17	83	28	49	8
Complaints	*	0	1	0	0	3	1	0	0	0
Penalty notices	0	0	0	0	0	0	0	0	0	0
Warning letters	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Remedial work (number of locations)	*	17	5	2	13	5	8	8	4	0
Request to obtain expert advice	*	0	1	0	1	1	1	0	2	0
Clean-up notices	*	0	0	0	0	0	1	0	0	0
Prosecution	0	0	0	0	0	0	0	0	0	0
TSL										
Audits	*	0	1	1	1	4	1	2	3	4
Complaints	0	0	0	0	2	3	1	0	2	4
Breaches/contraventions	*	0	Yes	Yes	Yes	0	8	76	51	201
Enforcement action	0	0	0	0	0	0	Warning letter issued	Warning issued	Warning issued	Warning issued

Audit results	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009
FL										
Audits/complaints	0	0	Yes	0	0	0	0	0	0	0
Contraventions	0	0	0	0	0	0	0	0	0	0
Advice provided/enforcement	0	0	Yes	0	Yes	Yes	0	0	0	0

Other information considered in review

Additional sources of information were used in the review. These included:

- outcomes from Nature Conservation Council (NCC) workshops on the 'improved regulatory arrangements for water quality and threatened species in NSW forests: five-year review of the UNE, LNE and IFOA' prepared on 29 October 2004 by Paul Winn
- representations on the proposed terms of reference by a range of organisations and individuals including industry and conservation groups, government agencies and individuals
- experience gained by DECCW, contractors and Forests NSW staff involved in the applying the IFOAs in the field
- new ideas and information in scientific papers and best practice procedures
- information received from the public regarding IFOA and forest agreement related issues.

Also considered in the review was the experience of Forests NSW in obtaining relevant information during harvest planning, fauna survey and erosion hazard assessment. Forests NSW presented a number of ideas for improving this.

Forests NSW management

Balancing timber production and conservation

Sustainable forest management relies on achieving a balance between timber production and environmental conservation. The IFOA recognises the significant informal reserve system established within NSW forests to achieve conservation outcomes, whilst permitting regulated timber harvesting on the remaining forest to meet industry needs.

The FMZ land classification system, which is based on nationally agreed reserve criteria, identifies areas of state forest specifically set aside for conservation and those available for other activities, such as timber harvesting, recreation, research and grazing (Table 4.5). The FMZ system is one of the key management tools used to balance management objectives of timber production, wildlife conservation, protection of water and soil resources with the provision of recreation, education and research facilities.

Table 4.5: Estimated area in 2008–2009 available for harvesting in FMZ

FMZ	FMZ No.	Southern		Eden		LNE		UNE	
		Non-harvest land (ha)	Land available for harvest (ha)	Non-harvest land (ha)	Land available for harvest (ha)	Non-harvest land (ha)	Land available for harvest (ha)	Non-harvest land (ha)	Land available for harvest (ha)
Formal Reserve	1	2,757	0	8,490	0	6,575	0	2,209	0
Informal Reserve - Special Management	2	19,702	0	3,656	0	75,723	0	52,202	0
Informal Reserve - Harvest Exclusion	3a	21,464	0	6,499	0	71,968	0	84,149	0
Special Prescription	3b	2,139	6,038	2,631	10,143	1,821	4,212	836	1,209
General Management Native Forest	4	50,900	166,551	27,633	110,525	65,235	159,385	44,069	155,790

FMZ	FMZ No.	Southern		Eden		LNE		UNE	
		Non-harvest land (ha)	Land available for harvest (ha)	Non-harvest land (ha)	Land available for harvest (ha)	Non-harvest land (ha)	Land available for harvest (ha)	Non-harvest land (ha)	Land available for harvest (ha)
Hardwood Planted Forest estate	5	12	34	0	0	10,493	6,370	19,491	29,045
Softwood Planted Forest estate	6	71,437	132,809	9,856	32,583	5,715	11,711	6,999	15,865
Non forestry use	7	0	1,156	8,490	0	6,575	0	1,805	
Land for further assessment	8	0	0	3,656	0	75,723	0	43,731	0
Total		168,411	306,588	70,911	153,251	319,828	181,678	255,491	201,909

Timber production

IFOA prescriptions aim to provide social, economic and environmental sustainability of forest resources. They regulate timber harvesting via harvesting limits and tree retention rates.

Table 4.6 shows timber production by product for each IFOA area. The scale of this annual production is highlighted when one considers that on average a hardwood tree produces about 1.6 m³ of sawlog – enough to make one high quality dining table and six chairs – plus provide low grade timber, pulp or chip products.

Table 4.6: Harvested hardwood timber by IFOA area

Log type	Units	Southern		Eden		LNE		UNE	
		2002–2003	2008–2009	1999–2000	2008–2009	1999–2000	2008–2009	1999–2000	2008–2009
High quality large sawlogs	m ³	62,329	61,671	23,735	19,102	167,529	101,504	118,444	55,730
High quality small sawlogs		5,419	6,263	1,950	1,598	45,650	40,019	66,382	23,826
Low quality sawlogs		59,665	34,701	4,089	1,598	156,993	163,879	91,326	68,357
Pulp grade & chipwood	tonnes	65,484	113,404	352,282	228,217	141,082	170,048	24,663	40,010

In the UNE and LNE regions, some hardwood timber is supplemented with plantation hardwood.

Wildlife management

Management of wildlife is achieved through the TSLs and FLs in the IFOAs. The TSLs target land-based threatened species for management through surveys and subsequent protection of habitat, while the FLs target aquatic threatened species through a range of aquatic habitat protection prescriptions. The broader goal of maintaining biodiversity across the NSW forest estate is achieved via the reserve system and the range of standard prescriptions that apply to harvesting. These include tree retention, drainage feature exclusion zones, and rainforest and old growth exclusion zones.

In 2008–2009, Forests NSW undertook 1416 pre-harvest flora and fauna surveys on state forest in the forest agreement regions. In addition, DECCW and Forests NSW develop Species Management Plans (SMPs). SMPs provide a framework for monitoring the suitability of reserves and management practices and adapting to potential threats such as predation by pest animals, unsuitable fire regimes and timber harvesting.

Management of soil and water

Maintaining healthy streams and conducting forestry operations appropriate to the stability of the underlying soils and geology are key environmental requirements for the IFOAs. The EPLs in the IFOAs contain specific requirements to minimise the risks of erosion and water pollution.

Fire management

Bushfires present a major threat to the community and Forests NSW has legal obligations to manage this risk. Fire management within the Forests NSW estate has three main objectives: the protection of life and property, the protection of current and future forest assets and the protection and maintenance of biodiversity. Hazard reduction burning is one of the main avenues available to land management agencies to mitigate the risk of bushfires.

Weed and pest control

The IFOA has delivered improved planning for weed and pest control through the requirement to develop Weed and Pest Animal Management Plans. These plans identify the key risk factors in the spread of pests and weeds, and appropriate control techniques, and highlight pests and weeds of significance on the state forest estate. Specific programs are implemented to target significant pests and weeds, in conjunction with neighbours and other land managers where appropriate.

Progress of undertakings in IFOAs (Eden, UNE, LNE and Southern)

The three tables that follow outline progress toward completion of undertakings relating to conditions and licences within the IFOAs for the UNE, LNE, Southern and Eden regions, including any further work required and other recommendations:

- Table 4.7 – undertakings relating to non-licence conditions⁴
- Table 4.8 – undertakings within TSLs
- Table 4.9 – undertakings within EPLs.

Note: the FLs do not contain any progressive undertakings.

Progress has been reported using one of three descriptors: complete, ongoing or not applicable. Progress was deemed not applicable if the milestone was not relevant to this review, had been discontinued, or if reporting on it was not required until a later review. Reasons are provided in each of these cases.

The generic term 'regulators' has been used in the tables to describe the Crown Forestry Policy and Regulation Section (CFPR) of DECCW, Industry & Investment NSW (I&I NSW), or any combination of these two.

⁴ Non-licence terms (conditions) are requirements in the IFOAs that do not fall under the licences. They include definitions and provisions applying to forestry operations generally.

Non-licence conditions

Table 4.7: Progress of undertakings relating to non-licence conditions

Note that a status of 'Ongoing' can mean that satisfactory progress is being made or that a process is in place, especially when it refers to an annual requirement. Some undertakings may not need to be updated in future reviews or annual reports.

Details of undertaking	Timing	Actions to date	Current status
<p>Undertaking 1: Policy on Aboriginal involvement</p> <p>Must prepare a policy on Aboriginal involvement in the management of indigenous heritage in connection with forestry operations.</p> <p>Refer to Clause 17: UNE/LNE/EDEN/Southern</p>	December 2000	<p>Forests NSW policy on Aboriginal involvement in the management of indigenous heritage has been prepared and is contained within Eden, UNE, LNE and Southern (South-Coast and Tumut) ESFM plans. The policy states that, 'Forests NSW will identify, protect and manage Aboriginal cultural heritage values on state forest in cooperation with the Aboriginal community.'</p> <p>Forests NSW has also developed guidelines for management of Aboriginal cultural heritage in NSW forests, including arrangements for consultation with local Aboriginal communities, when such consultation could be expected, site protection, and a review of how well consultative arrangements worked over the previous period.</p>	Complete
<p>Undertaking 2: Training program</p> <p>Must develop a training program for officers, employees and other persons referred to in section 10 of the Forestry Act 1916 in relation to the management of heritage in connection with forestry operations.</p> <p>Refer to Clause 18: UNE/LNE/EDEN/SOUTHERN</p>	<p>Commence training program by 31 December 2000</p> <p>Commence training program by 30 April 2003 (Southern)</p>	<p>Forests NSW staff can attend two Aboriginal cultural heritage training programs: a voluntary general program run by the DPI and a more targeted program run by Forests NSW.</p> <p>The Forests NSW Aboriginal Cultural Awareness Training program, developed with Aboriginal staff input, is delivered to appropriate employees and contractors. It commenced in September 2002 and is continuing.</p> <p>For non-Aboriginal heritage, relevant Forests NSW staff are trained to maintain a Section 170 Heritage and Conservation Register.</p>	Complete

Details of undertaking	Timing	Actions to date	Current status
<p>Undertaking 3: Annual plan of logging operations</p> <p>Must prepare, for each financial year, a plan of logging operations that provides specified information.</p> <p>Refer to Clause 23 (1) to (3): UNE/LNE/; Clause 22 (1) to (3): EDEN; Clause 27: SOUTHERN</p>	<p>Copy of plan for upcoming financial year to be forwarded to regulators by 1 June</p>	<p>An annual plan of logging operations covering UNE, LNE, Southern & Eden regions is submitted to regulatory agencies each financial year.</p>	<p>Ongoing</p>
<p>Undertaking 4: Monthly advance notice of harvesting operations</p> <p>Must submit monthly advance notice in accordance with requirements outlined in IFOA</p> <p>Refer to Clause 23A: EDEN; Clause 23B: LNE/UNE; Clause 29: SOUTHERN</p>	<p>Due by first working day of each month</p>	<p>Forests NSW submits a monthly report to regulators which outlines all proposed harvesting operations. Any amendments are notified as soon as possible.</p>	<p>Ongoing</p>
<p>Undertaking 5: Monthly Report on harvesting operations</p> <p>Must submit monthly report in accordance with requirements outlined in IFOA</p> <p>Refer to Clause 23B: EDEN; Clause 23C: LNE/UNE; Clause 30: SOUTHERN</p>	<p>Due by first working day of each month</p>	<p>Forests NSW submits a monthly report to regulators which outlines current and completed harvesting operations.</p>	<p>Ongoing</p>
<p>Undertaking 6: Annual reports of logging operations</p> <p>Must prepare a report on past logging that provides specified information.</p> <p>Refer to Clause 24: UNE/LNE/EDEN; Clause 31: SOUTHERN</p>	<p>For UNE, LNE and Eden: due by 31 January (2001 onwards)</p> <p>For Southern: due by 31 August (2003 onwards)</p>	<p>An annual report on logging operations covering UNE, LNE, Southern & Eden regions is submitted to regulatory agencies each financial year.</p>	<p>Ongoing</p>

Details of undertaking	Timing	Actions to date	Current status
<p>Undertaking 7: Plan or annual report of forest products operations</p> <p>Must submit a plan of forest products operations that provides specified information (Eden, LNE, UNE)</p> <p>Refer to Clause 27: UNE/LNE/EDEN</p> <p>Must submit a forest product operation report containing specified information (Southern)</p> <p>Refer to Clause 34: SOUTHERN</p>	<p>DoP may specify information</p> <p>Due by 30 June (2000 onwards)</p> <p>Must notify regulators of any amendments to plan</p>	<p>Plans of forest products operations covering UNE, LNE & Eden regions is provided each financial year. For Southern region, a report on forests products operations is provided each financial year.</p>	<p>Ongoing</p>
<p>Undertaking 8: Scientific trials concerning thinning (and culling in Southern)</p> <p>Must carry out scientific trials to assess the economic and environmental impacts of thinning and consult on design of trials.</p> <p>Refer to Clause 29: UNE/LNE/EDEN; Clause 39: SOUTHERN</p>	<p>Available if requested by regulators</p>	<p>Forests NSW (Eden region) in association with the Commonwealth Scientific and Industrial Research Organisation (CSIRO) completed a thinning trial in 1999. Periodic measurement is continuing as part of this project.</p> <p>Refer to Connell, M.J., Clark, B. and Raison, R.J. (2001). Evaluation of silvicultural options to increase the productivity of regrowth forests in the Eden area of South East NSW. A report of progress after three years to the South East Forests Advisory Committee, Forest Conservation and Management. CSIRO Canberra. 90 p.</p>	<p>Ongoing</p>
<p>Undertaking 9: Annual plan of thinning operations (and culling in Southern)</p> <p>Must submit Annual plan on thinning (and culling for Southern) containing specified information</p> <p>Refer to Clause 29A: UNE, LNE, EDEN; Clause 40: SOUTHERN</p>	<p>Due by 1 June of preceding financial year</p>	<p>Information on proposed thinning operations is included within the annual logging plan of operations which is provided each financial year to regulators.</p>	<p>Ongoing</p>

Details of undertaking	Timing	Actions to date	Current status
<p>Undertaking 10: Monthly advance notice of thinning operations (and culling in Southern)</p> <p>Must submit monthly advance notice containing specified information</p> <p>Refer to 29C: EDEN, LNE, UNE; Clause 42 : SOUTHERN</p>	<p>Due by first working day of each month</p>	<p>Forests NSW submits a monthly report to regulators which outlines all proposed thinning operations. Any amendments are notified as soon as possible.</p>	<p>Ongoing</p>
<p>Undertaking 11: Monthly report on thinning operations (and culling in Southern)</p> <p>Must submit monthly report containing specified information</p> <p>Refer to 29D: EDEN, LNE, UNE; Clause 43: SOUTHERN</p>	<p>Due by first working day of each month</p>	<p>Forests NSW submits a monthly report to regulators which outlines current and completed thinning operations.</p>	<p>Ongoing</p>
<p>Undertaking 12: Annual plan of burning operations</p> <p>Must prepare an annual plan in relation to proposed burning for the purposes of bush fire hazard reduction or regeneration and provide the specified information.</p> <p>Refer to Clause 30 (1) to (4): UNE/LNE/EDEN; Clause 44 (1) to (4): SOUTHERN</p>	<p>Available if requested by regulators</p>	<p>Annual plans are entered into the Bushfire Risk Information Management System (BRIMS) on behalf of the District Bushfire Management Committees.</p>	<p>Ongoing</p>
<p>Undertaking 13: Assessment prior to burning</p> <p>Prior to burning operations on a tract of land, Forests NSW must assess the potential impacts on the environment if proceeding or not proceeding with the operations</p> <p>Refer to Clause 30 (5) and (6): UNE/LNE/EDEN; Clause 44 (5) and (6): SOUTHERN</p>	<p>Available if requested by regulators</p>	<p>Forests NSW has prepared a corporate fuel management plan. Amongst other information, the plan contains a comparative assessment of proposed burning regimes with consideration of the impacts of not undertaking the proposed burning, as required by IFOAs. The plan also details operational, monitoring and training procedures.</p> <p>Each Forests NSW region is in the process of preparing a regional fuel management plan which details region-specific burn areas, burn parameters and environmental factors.</p>	<p>Ongoing</p>

Details of undertaking	Timing	Actions to date	Current status
<p>Undertaking 14: Site-specific plan of burning</p> <p>Prior to burning operations on a tract of land, must prepare a site-specific plan for the burn, which provides specified information.</p> <p>Refer to Clause 30 (7) to (10): UNE/LNE/EDEN; Clause 44(7) and (10): SOUTHERN</p>	<p>Plans to be prepared for operations carried out from six months after approval of model document; available if requested by regulators</p>	<p>Forests NSW prepares site-specific plans prior to burning operations occurring.</p> <p>Refer to milestone 7.1 in Chapter 4.2 of this report for more detail on site-specific burn plans that are currently prepared by Forests NSW.</p>	<p>Ongoing</p>
<p>Undertaking 15: Model site-specific plan of burning operations</p> <p>Must prepare a model document setting out the proposed format and general contents of site-specified plans of burning operations.</p> <p>Refer to Clause 30 (11) to (14): UNE/LNE/EDEN; Clause 44 (11) to (14): SOUTHERN</p>	<p>Model document due by 30 June 2000</p>	<p>Forests NSW participates in the BRIMS steering committee regarding site-specific burn issues and items. Many relevant issues have been discussed and resolutions lead to a NSW standard as found in the BRIMS system.</p> <p>A model Interagency Operations Burn Plan template has been compiled and agreed to by the principle fire agencies.</p> <p>A model site-specific plan of burning operations has not been approved by DECCW. However, consultation will continue between Forests NSW and regulators in an effort to finalise the model plan.</p>	<p>Ongoing</p>

Details of undertaking	Timing	Actions to date	Current status
<p>Undertaking 16: Scientific trials concerning burning</p> <p>Must carry out scientific trials to assess the impacts on the environment of burning for the purposes of bush fire hazard reduction or regeneration and consult on design of trials.</p> <p>Refer to Clause 31: UNE/LNE/EDEN; Clause 45: SOUTHERN</p>	<p>Consult agencies</p>	<p>Forests NSW has two long-term trials to assess the impacts of burning and logging on the environment: the Bulls Ground Frequent Fire Effects Study (established 1959 in LNE), and the Eden Burning Study Area (established 1985).</p> <p>The Eden Burning Study is comprised of a number of combinations of logging and burning treatments, while the Bulls Ground study consists of a number of different burning treatments.</p> <p>The Bulls Ground study initially looked at fuel loads and growth rates associated with frequent burning but later impacts on understorey vegetation and invertebrates were investigated. A review is in progress to determine the future of this project. Although this is a Forests NSW project, it may be integrated with work by the CRC as part of this review. A number of research papers have resulted from the study. These are listed in Appendix 4.</p>	<p>Complete</p>
<p>Undertaking 17: Beekeeping</p> <p>Maps to be prepared in accordance with IFOA requirements.</p> <p>Refer to Clause 32(4) and (5): UNE/LNE/EDEN; Clause 46(4) to (7): SOUTHERN</p>	<p>Timeframes specified in IFOAs; available if requested</p>	<p>Maps have been prepared for Southern and Eden regions and some areas in the LNE region. Maps are currently being prepared for the UNE region and outstanding areas in the LNE region.</p>	<p>Ongoing</p>
<p>Undertaking 18: Grazing management plans</p> <p>Must prepare a plan(s) that specifies strategies to control adverse impacts on the environment of grazing animals.</p> <p>Refer to Clause 33 (1) and (2) ‘ UNE/LNE/EDEN; Clause 47 (1) and (2): SOUTHERN</p>	<p>Plan(s) due within six months of approval of model document; available if requested</p>	<p>A draft model grazing management plan has been finalised by Forests NSW for internal use. This draft model plan is currently being considered by regulators. Once approved by regulators, regional plans will be developed consistent with the approved model plan. See also milestone 6.2 in Section 2.6 for details on current progress</p>	<p>Ongoing</p>

Details of undertaking	Timing	Actions to date	Current status
<p>Undertaking 19: Model plan for grazing</p> <p>Submit a model document setting out the proposed format and general contents of the grazing management plan(s).</p> <p>Refer to Clause 33 (3) to (6): UNE/LNE/EDEN; Clause 47 (3) to (6): SOUTHERN</p>	<p>Model document due by 30 June 2000</p>	<p>Refer to the above and see milestone 6.2 in Section 2.6 for details on current progress.</p>	<p>Ongoing</p>
<p>Undertaking 20: Periodic review of grazing management Plans</p> <p>Regularly and periodically review any grazing management plan(s).</p> <p>Refer to Clause 33 (10) to (12): UNE/LNE/EDEN; Clause 47 (10) to (12): SOUTHERN</p>	<p>At least every five years</p>	<p>There are currently no approved grazing management plans. Refer to above and milestone 6.2 in Section 2.6 for details on current progress.</p>	<p>Not applicable</p>
<p>Undertaking 21: Weed management plans</p> <p>Must prepare a plan(s) that specifies strategies to control weeds and provide relevant information.</p> <p>Refer to Clause 34 (1) to (6): UNE/LNE/EDEN; Clause 48 (1) to (6): SOUTHERN</p>	<p>Plan(s) due within six months of approval of model document; available if requested</p>	<p>All regional weed management plans have been completed.</p>	<p>Complete</p>
<p>Undertaking 22: Model document for weed management</p> <p>Submit a model document setting out the proposed format and general contents of the weed management plan(s).</p> <p>Refer to 34 (7) to (10): UNE/LNE/EDEN; 48 (7) to (10): SOUTHERN</p>	<p>Model document due by 30 June 2000</p>	<p>A model plan has been approved by regulators.</p>	<p>Complete</p>

Details of undertaking	Timing	Actions to date	Current status
<p>Undertaking 23: Periodic review of weed management plans</p> <p>Regularly and periodically review any weed management plan(s).</p> <p>Refer to 34 (14) and (15): UNE/LNE/EDEN; 48 (14) and (15): SOUTHERN</p>	<p>At least every five years</p>	<p>Will be reviewed within five years of each regional plan being approved.</p>	<p>Not applicable</p>
<p>Undertaking 24: Feral/introduced animal management plan</p> <p>Must prepare a plan(s) that specifies strategies to control feral/introduced animals, where the presence of those animals may have an adverse impact on the environment.</p> <p>Refer to 35 (1) and (2): UNE/LNE/EDEN; 49 (1) and (2): SOUTHERN</p>	<p>Feral/introduced animal management plan(s) due six months after approval of model document; available if requested by regulators</p>	<p>All regional plans have been completed.</p>	<p>Complete</p>
<p>Undertaking 25: Model document for feral and introduced animal management</p> <p>Submit a model document setting out the proposed format and general contents of the feral/introduced animal management plan.</p> <p>Refer to 35 (3) to (8): UNE/LNE/EDEN; 49 (3) and (6): SOUTHERN</p>	<p>Model document due by 30 June 2000</p>	<p>The model plan has been approved by regulators.</p>	<p>Complete</p>

Details of undertaking	Timing	Actions to date	Current status
<p>Undertaking 26: Periodic review of feral and introduced animal management plans</p> <p>Regularly and periodically review any feral/introduced animal management plan.</p> <p>Refer to 35 (12) to (11)(sic): UNE/LNE/EDEN; 49 (10) and (11): SOUTHERN</p>	<p>At least every five years</p>	<p>Will be reviewed within five years of each regional plan being approved</p>	<p>Not applicable</p>
<p>Undertaking 27: Assessment of regeneration</p> <p>Must assess the extent and nature of regeneration following the cessation of logging operations on a regular and periodic basis and consult on what data and analysis is required.</p> <p>Refer to 38: UNE/LNE/EDEN; 52: SOUTHERN</p>	<p>First assessment due by 31 Dec 2004, and subsequently at intervals of no more than five years; available if requested by regulators</p>	<p>Forests NSW has been carrying out routine regeneration surveys in the forest agreement areas; however a consistent process of assessment is being finalised.</p> <p>Consultation will continue between Forests NSW and its regulators prior to finalisation.</p>	<p>Ongoing</p>
<p>Undertaking 28: Road and fire trail management plans</p> <p>Must prepare a plan(s) that contains specified matters in relation to ancillary road construction.</p> <p>Refer to 40 (1) to (6): UNE/LNE/EDEN; 54(1) to (6): SOUTHERN</p>	<p>Plan(s) due within two years after approval of model document; available if requested by regulators</p>	<p>Road Management Plans for Southern (including Eden Forest Agreements) and North East regions (UNE and part LNE) were finalised by Forests NSW in December 2006. Central Regions (LNE) Road Management Plan was finalised by Forests NSW in September 2007. These plans had to be finalised by Forests NSW to meet AFS or EMS certification requirements. However, regulators have not approved a model road plan (see below). Consultation will continue between Forests NSW and regulators in an effort to finalise the model plan.</p>	<p>Ongoing</p>

Details of undertaking	Timing	Actions to date	Current status
<p>Undertaking 29: Model plan for road and fire trail management</p> <p>Submit a model document setting out the proposed format and general contents of the road and fire trail management plan(s).</p> <p>Refer to 40 (7) to (12): UNE/LNE/EDEN; 54 (7) to (12): SOUTHERN</p>	<p>Model document due by 30 June 2000</p>	<p>A model plan has not been approved by regulators. Consultation will continue between Forests NSW and regulators to finalise the model plan.</p>	<p>Ongoing</p>
<p>Undertaking 30: Compartment histories</p> <p>Must keep records on compartment identifying specified information.</p> <p>Refer to 42 UNE/LNE/EDEN; 56: SOUTHERN</p>	<p>Available if requested by regulators</p>	<p>Records are contained in compartment history files at Forests NSW regional offices.</p>	<p>Complete</p>
<p>Undertaking 31: Forests NSW to ensure compliance by certain persons</p> <p>Must require as a condition of any licence, permit or other authority that it issues or grants under the <i>Forestry Act 1916</i> that any holder of any licence, permit or other authority under the <i>Forestry Act 1916</i>, is to comply with the applicable terms of this approval and that where there is an inconsistency between the authority and the approval, the approval prevails.</p> <p>Refer to 43 (1) to (4): UNE/LNE/EDEN; 57 (1) and (2): SOUTHERN</p>	<p>Provision of an example of the licence, permit or other authority with the appropriate conditions</p>	<p>Conditions are contained within licences and permits under the <i>Forestry Act 1916</i> that require the holder to comply with the terms of the relevant integrated forestry operations approval.</p>	<p>Complete</p>

Details of undertaking	Timing	Actions to date	Current status
<p>Undertaking 32: Forests NSW to ensure compliance by certain persons</p> <p>Must take all reasonably practical steps to ensure that specified persons comply with the applicable terms of the IFOA when undertaking forestry operations, including: provide information on IFOA, training in responsibilities, provision of IFOA; supervise, audit or monitor and record what supervision, auditing or monitoring is undertaken; record particulars of non-compliance; record corrective actions; and undertake other measures so that it does not recur.</p> <p>Refer to 43 (3) and (4): UNE/LNE/EDEN; 57 (3) and (4): SOUTHERN</p>	<p>Available if requested by regulators</p>	<p>Forests NSW has in place a comprehensive planning process for forestry operations to ensure compliance with the IFOA by all relevant personnel. Supervision is undertaken during the implementation of forestry operations and they are monitored during and after the event under Forests NSW' four-tiered audit system.</p>	<p>Complete</p>
<p>Undertaking 33: Public availability of documents</p> <p>Must make available specified documents for public inspection</p> <p>Refer to 48: UNE/LNE/EDEN; 63: SOUTHERN</p>	<p>Duration of the IFOA</p>	<p>Documents listed under clause 48 of the UNE, LNE and Eden IFOAs and clause 63 of the Southern IFOA are made available at Forests NSW regional offices; some of these are also sent to key stakeholders consistent with regional arrangements</p>	<p>Complete</p>

TSLs

Table 4.8: Progress on undertakings contained within TSLs

Details of undertaking	Timing	Actions to date	Current status
<p>Undertaking 34: Provision of data Maps showing the location of ridge and Headwater habit Refer to Condition 4.1(d): LNE, UNE, EDEN, SOUTHERN</p>	<p>For UNE, LNE: due by 31 March 2000 For Eden: due by 31 July For Southern: due within six months</p>	<p>Maps showing the location of Ridge and Headwater habitats have been produced for all regions</p>	<p>Complete</p>
<p>Undertaking 35: Provision Of data Maintain a register of non-compliance Refer to Condition 4.1(f): LNE, UNE, EDEN, SOUTHERN</p>	<p>Ongoing</p>	<p>Forests NSW maintains a compliance register and notifies DECCW annually of non-compliances.</p>	<p>Complete</p>
<p>Undertaking 36: Marking up Forests NSW must develop a standard tree marking up code to apply to all operations unless specifically excluded. Refer to Condition 5.1 (i): LNE, UNE, EDEN, SOUTHERN</p>	<p>For UNE, LNE, Eden: due by 30 June 2000 For Southern: due within six months</p>	<p>Forests NSW has a standard marking code with some regional variations as appropriate.</p>	<p>Complete</p>
<p>Undertaking 37: Tree retention Forests NSW must conduct an audit of the application of the hollow-bearing tree and recruitment tree conditions, Refer to Condition 5.6(i): EDEN</p>	<p>Audit due within 15 months of commencement; to be provided to NPWS within 18 months</p>	<p>No specific audit has been undertaken in the Eden region to meet the requirements of this clause. However since the introduction of IFOAs, Forests NSW has implemented <i>Operational Circular 2003/01 Monitoring and Measuring Compliance of Operations</i>, The circular implements a four-tier system of operational compliance monitoring for harvesting and other significant operations. The system includes the ability to check compliance with habitat and recruitment tree retention conditions.</p>	<p>Ongoing</p>

Details of undertaking	Timing	Actions to date	Current status
<p>Undertaking 37: Grazing Grazing management plans for the estate subject to grazing must be prepared by the first five-yearly review of the IFOA. Refer to Condition 5.15(b): LNE, UNE, EDEN, SOUTHERN (South Coast); Condition 5.12 (b): SOUTHERN (Tumut)</p>	<p>Due by the first five-yearly review</p>	<p>Refer to undertaking number 18</p>	<p>Ongoing</p>
<p>Undertaking 38: Feral and introduced predator control Finalise and implement the draft feral and introduced predator control plan Refer to Condition 5.18 (a): LNE, UNE, EDEN, SOUTHERN (South Coast); Condition 5.15 (a): SOUTHERN (Tumut)</p>	<p>For LNE, UNE: to be finalised by 31 December 1999 For Eden: to be finalised by 3 June 2000 For Southern: to be implemented within first five years of IFOA</p>	<p>Refer to undertaking number 24</p>	<p>Complete</p>
<p>Undertaking 39: Tea tree Melaleuca protection Prepare a plan of management for harvesting of tea tree oil Refer to Condition 5.19 (c): LNE, UNE</p>	<p>Due within two years of commencement date</p>	<p>There has been no harvesting of tea tree oil since the implementation of the TSLs. A management plan would be prepared prior to any such operation being carried out.</p>	<p>Not applicable</p>
<p>Undertaking 40: Exclusion zone research program Forests NSW is exempt from the operation of Conditions 5.3 5.4, 5.5,5.7, 5.8, 5.9, 5.10 where a research program has been carried out in accordance with condition 22 under the terms of licence of the POEO Act and approved by NPWS Refer to Condition 5.20 (a-e): EDEN</p>	<p>Research program to be approved by NPWS</p>	<p>No research program has been approved under this clause, thus Conditions 5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.10 continue to apply. Refer to milestone 24.7 in Section 2.24 for details on current progress.</p>	<p>Ongoing</p>

Details of undertaking	Timing	Actions to date	Current status
<p>Undertaking 41: Koalas</p> <p>In areas where there is a local koala management plan which has been prepared in consultation with, and approved in writing by, the NPWS, this plan must be implemented</p> <p>Refer to Condition 6.14 (a): LNE, UNE</p>	<p>Prepared by Forests NSW, approved by NPWS</p>	<p>Refer to milestone 5.6 in Section 2.5 for details on current progress</p>	<p>Not applicable</p>
<p>Undertaking 42: Koalas – Pine Creek</p> <p>Specified forestry activities must not commence in Pine Creek Forests NSW until the local koala management plan has been approved by the NPWS</p> <p>Refer to Condition 6.14 (b): LNE, UNE</p>	<p>Approved by NPWS</p>	<p>Refer to milestone 5.6 in Section 2.5 for details on current progress.</p> <p>Note that under proposed changes to the UNE and LNE TSLs the Pine Creek koala management plan will no longer apply. This is because after adoption of the Pine Creek koala management plan in the TSL, Bongil Bongil National Park has expanded to incorporate those areas of Pine Creek state forest that contained key koala habitat. For further detail, see Table 4.11: Proposed changes to Threatened Species Licences, item number TSL 11 Pine Creek koala management plan.</p>	<p>Not applicable</p>
<p>Undertaking 43: Species-specific management plans</p> <p>Where Forests NSW can demonstrate to the satisfaction of the NPWS that the application of conditions for a particular species will significantly reduce the net harvest area then Forests NSW may develop a species specific management plan as an alternative management approach.</p> <p>Refer to Condition 6.16.3: SOUTHERN (South Coast); Condition 6.11.3: SOUTHERN (Tumut)</p>	<p>Approved by NPWS</p>	<p>Refer to milestone 5.4 in Section 2.5 for details on current progress</p>	<p>Ongoing</p>

Details of undertaking	Timing	Actions to date	Current status
<p>Undertaking 44: Site-specific management plan</p> <p>Where Forests NSW can demonstrate to the satisfaction of the NPWS that, due to exceptional circumstances, impacts on a flora species listed in Tables 1 and 2 or their exclusion/buffer zones (as required by Conditions 6.16.1 and 6.16.2) within a compartment are unavoidable, Forests NSW may develop a site specific management plan as an alternative management approach.</p> <p>Refer to Condition 6.16.4: SOUTHERN (South Coast); Condition 6.11.3: (SOUTHERN- Tumut)</p>	<p>Approved by NPWS</p>	<p>Refer to milestone 5.4 in Section 2.5 for details on current progress</p>	<p>Ongoing</p>
<p>Undertaking 45: Threatened flora Monitoring Program</p> <p>Where there is a record of any of the species listed in Table 11 or Table 12 within the net survey area or within 50 m outside the boundary of the net survey area, Forests NSW must prepare a monitoring program with the objective of assessing the response of species to disturbances associated with specified forestry activities.</p> <p>Refer to Section 6.27(a) and (b): LNE, UNE</p>	<p>Monitoring program must be approved by NPWS prior to commencement of specified forestry activities in the compartment within the area subject to a monitoring program</p>	<p>Refer to milestone 5.6 in Section 2.5 for details on current progress</p>	<p>Ongoing</p>
<p>Undertaking 46: Threatened flora: Species Management Plans</p> <p>Forests NSW may choose with prior approval of NPWS to develop a species management plan.</p> <p>Refer to Section 6.28 (a-g): LNE, UNE</p>	<p>As an alternative to conditions 6.22-6.27</p>	<p>Refer to milestone 5.6 in Section 2.5 for details on current progress</p>	<p>Ongoing</p>

Details of undertaking	Timing	Actions to date	Current status
<p>Undertaking 47: Threatened flora: species management plans Species management plans must be prepared in consultation with, and submitted for approval by the NPWS. They must be submitted prior to its implementation and prior to the commencement of specified forestry activities Refer to Section 6.28 (h) (i): LNE, UNE</p>	<p>Forests NSW prepares NPWS approves</p>	<p>Refer to milestone 5.6 in Section 2.5 for details on current progress</p>	<p>Ongoing</p>
<p>Undertaking 48: Surveyor experience Forests NSW must maintain a register of surveyors which details the way in which each surveyor meets the experience criteria specified in Section 8.3 (a). Refer to Section 8.3 (b): LNE, UNE, EDEN, SOUTHERN</p>	<p>Forests NSW</p>	<p>Forests NSW regional ecologists maintain a register of surveyors.</p>	<p>Ongoing</p>

EPLs

Table 4.9: Undertakings contained within EPLs

Details of undertaking	Timing	Actions to date	Current status
<p>Undertaking 49: Water quality monitoring</p> <p>State forests must conduct water quality monitoring in accordance with conditions 43.1 to 46.5 inclusive of the 1998/99 licence.</p> <p>State forests must develop a revised water quality monitoring program, in consultation with the EPA. The water quality monitoring program specified in condition must be provided to the EPA in writing as a document titled: Water Quality Monitoring for Forestry Activities in state forests: Phase 1. State forests must receive written approval from the EPA before implementing the water quality monitoring program.</p> <p>State forests must commence the water quality monitoring program</p> <p>Refer to Condition 21: UNE, LNE, SOUTHERN, EDEN</p>	<p>Water quality monitoring program to continue until State forests is notified in writing by EPA that program may cease.</p> <p>Document: Water Quality Monitoring for Forestry Activities in state forests: Phase 1 to be provided to EPA by 30 November 1999</p> <p>Water quality monitoring program to commence before 7 February 2000</p>	<p>Forests NSW has put in place a comprehensive, mandatory water quality monitoring program, called the <i>Phase 1</i> program, in native forests and pine plantations since 1999. The aim of the program is to determine whether licensed forestry activities have an identifiable impact on water quality (turbidity and suspended sediment concentration), and if so, to quantify the level of that impact.</p> <p>Results of the program have consistently showed that: water from streams in native forests is of a higher quality than water from pine plantations; and forestry activities in plantations and native forests raised the levels of turbidity and suspended sediment in streams but, with implementation of best management practices, these impacts were minor and temporary.</p> <p>The 2008 to 2012 water monitoring strategy, or <i>Phase 2</i> program, is being developed in the light of outcomes from Phase 1. Forests NSW is committed to ensuring that it develops a reliable, statistically powerful monitoring program in compliance with statutory requirements and maintain its certification under AFS and to meet community expectations.</p>	Ongoing
<p>Undertaking 50: Performance monitoring and auditing</p> <p>State forests must complete and supply to the EPA an Annual Return in the approved form comprising:</p> <p>(a) a Statement of Compliance;</p> <p>(b) an Operational & Complaints Summary; and</p> <p>(c) a Monitoring & Compliance Summary.</p> <p>Refer to Condition 23: UNE, LNE, SOUTHERN, EDEN</p>	Annual	Forests NSW provides regulators an annual return for each region which is consistent with the requirements of the licence	Ongoing

Details of undertaking	Timing	Actions to date	Current status
<p>Undertaking 51: Water quality monitoring reports</p> <p>Data collected as a result of water quality monitoring required by this licence must be submitted to the EPA in a standardised format approved by the EPA, including summaries of the data as required by the EPA. State forests must provide a written report to the EPA containing an interpretation of all the data.</p> <p>Where State forests has undertaken forestry activities in the representative areas in which water quality monitoring occurred inclusive of the 1998/99 licence, State forests must submit a compliance audit report as required in the 1998/99 licence. The report must be presented in a standardised format, and must report all non-compliance with the licence conditions.</p> <p>Refer to Condition 28: UNE, LNE, SOUTHERN, EDEN</p>	<p>Due within three months of the cessation of the 1998/99 water quality monitoring program</p> <p>The compliance audit report must be submitted to the EPA within 30 days of the audit being carried out.</p>	<p>Forests NSW provides regulators with water quality monitoring reports annually.</p>	<p>Ongoing</p>
<p>Undertaking 52: Water pollution hazard assessment model monitoring reports</p> <p>State forests must report in writing to the manager of the forestry unit of the EPA on the program for monitoring and reviewing the soil erosion and water pollution hazard assessment model. This reporting must be carried out in accordance with the documentation and methodology approved by the EPA in accordance with condition 47 of the 1998/1999 licence.</p> <p>Refer to Section 29: UNE, LNE, SOUTHERN, EDEN</p>	<p>Forests NSW</p>	<p>Forests NSW has produced Research Paper No. 38 'A Survey and Assessment of Post-harvest Erosion within Native Forests Managed by state forests of New South Wales. P.G. Walsh and S.T. Lacey'.</p>	<p>Ongoing</p>

Details of undertaking	Timing	Actions to date	Current status
<p>Undertaking 53: Complaints Register</p> <p>Each State forests' regional office must keep a register of all complaints received by State forests alleging water pollution which may have been caused by scheduled and non-scheduled forestry activities within that region, or alleging licence breaches which may have occurred during scheduled and non-scheduled forestry activities within that region.</p> <p>Refer to Section 31: UNE, LNE, SOUTHERN, EDEN</p>	<p>Records of complaints must be kept for at least four years and the register must be kept for at least four years after its last entry</p>	<p>Forests NSW regional offices maintain a complaints register.</p>	<p>Ongoing</p>
<p>Undertaking 54: Compliance register</p> <p>Each State forests' regional office must keep a register of every incident of non-compliance with the conditions of this licence</p> <p>Refer to Section 32: UNE LNE, SOUTHERN, EDEN</p>	<p>Register to be filled in within 14 days of State forests becoming aware of the non-compliance. Register must be kept for at least four years after its last entry.</p>	<p>Forests NSW regional offices maintain a compliance register.</p>	<p>Ongoing</p>
<p>Undertaking 55: Register of scheduled and non-scheduled activities</p> <p>Each State forests' regional office must keep a register of all scheduled and non-scheduled forestry activities undertaken within the region</p> <p>Refer to Section 33: UNE, LNE, SOUTHERN, EDEN</p>	<p>Register must be kept for at least four years after its last entry</p>	<p>An operation register is kept at Forests NSW regional offices.</p>	<p>Ongoing</p>
<p>Undertaking 56: Public inspection of documents</p> <p>Copies of the following documents must be made available for inspection by any person at each State forests' regional office responsible for land to which this licence applies: (a) this licence; (b) the 1999/2000 licence; (c) the 1998/99 licence; (d) the Code of Logging Practice; (e) the 'Conditions For Use With</p>	<p>Forests NSW</p>	<p>Documents listed under section 37 of the UNE, LNE, Southern and Eden IFOAs are made available at Forests NSW' regional offices</p>	<p>Complete</p>

Details of undertaking	Timing	Actions to date	Current status
<p>Harvesting Plans, Based on SEMGL (1993)', July 1993, compiled by State forests; (f) all planning documentation relating to forestry activities, and copies of the summary of operation of each licensed operation which is the responsibility of the regional office; (g) the latest annual return submitted to the EPA; and (h) the operations register. Copies must be made available to any person for photocopying at a reasonable cost.</p> <p>Refer to Section 37: UNE, LNE, SOUTHERN, EDEN</p>			
<p>Undertaking 57: Continuation of soil and water training</p> <p>1. State forests must continue to develop the soil and water training program for operators, supervisors and planners, development of which commenced during the 1994/95 licence period and in accordance with the 1994/95 licences, to the point where Vocational Education and Training Accreditation Board (VETAB) accreditation has been obtained</p> <p>2. The operators' course, supervisors' course and planners' course must be provided on a regular basis and at least once a year by a training organisation approved in writing by the EPA.</p> <p>3. State forests must advise the EPA in writing of the date on which each course is finalised and is first formally offered by a training organisation</p> <p>Refer to Section 44: UNE, LNE, SOUTHERN, EDEN</p>	<p>At least once per year</p>	<p>TAFE NSW Riverina Institute Forest Industry Training Centre (based at Tumut) runs <i>Forest Soil and Water Protection</i> courses for appropriate Forests NSW staff and contractors associated with operations in timber harvesting, roading, haulage and site preparation.</p> <p>Completion of this course is a requirement of the Forest Operators Licence which enables operators to work in state forests.</p>	<p>Complete</p>

Proposed IFOA changes

The following presents discussion on proposed changes to the EPL, TSL and FL components of the IFOAs. These amendments are aimed at clarifying and simplifying licence conditions to improve operational efficiency and deliver improved regulatory and environment and threatened species protection outcomes. Each licence is considered separately; however, some proposals may affect other licences and may require similar changes to those licences.

Schedule 2 of the EPL specifies detail (such as biophysical information) required to be collected during the planning of scheduled and non-scheduled forestry activities. Specific drafting instructions for amendments to Schedule 2 (and Schedule 1 where relevant) have been agreed and these are provided in Appendix 5.

EPLs

Table 4.10: Proposed changes to EPL items

EPL issue number	Issue/clause	Background and findings	Proposed changes
EPL 1	<p>Revisions to Schedule 2 of the EPL to update the detail (such as biophysical information) required to be collected during the planning of scheduled and non-scheduled forestry activities.</p> <p>Applies to Schedule 2 of the UNE, LNE, Southern and Eden IFOAs (all regions)</p>	<p>Schedule 2 of the EPL currently sets out specific information to be assessed during the pre-operational planning and when assessing scheduled and non-scheduled forestry activities. The schedule represents a description of the forest environment. It has a scientific and expert basis and may be updated from time to time to represent new research or to improve efficiency.</p> <p>Schedule 2 is in three parts: Part A: General Information to be assessed to enable Forests NSW to mitigate against water pollution. Part B: Determination of Stream Order for Drainage Feature Protection with methods outlined; and Part C: Design Methods for Crossings and Drainage Structures (Bridges, culverts and causeways, and Road and snig track drainage structures).</p> <p>Pre-operational assessment of the physical environment is critical to enable Forests NSW to operate under the EPL. Some factors in Schedule 2 require review to better align them with best practice EPL implementation on-the-ground.</p>	<p>Streamline Schedule 2 so that factors to be recorded, considered and assessed more closely relate to implementation of EPL standards.</p> <p>Specific amendments to Schedule 2 of the EPL are summarised in Appendix 5.</p>

EPL issue number	Issue/clause	Background and findings	Proposed changes
EPL 2	<p>Remove requirement for catchment calculations for causeways. Applies to:</p> <p>EPL conditions 50 and 51 of Schedule 4 of the UNE, LNE, Tumut Subregion and Eden IFOAs</p> <p>EPL conditions 122 and 123 of Schedule 4A of the South-Coast Subregion IFOA</p> <p>Schedule 2 Part C: Design Methods for Crossings and Drainage Structures (all regions)</p>	<p>The current conditions require Forests NSW to calculate peak flows for causeways where there is no intention to restrict the flow of water by installing a culvert or bridge. The relevant conditions state:</p> <p>Condition 50 of Schedule 4 (UNE, LNE, Eden, and Tumut Subregion IFOAs) and condition 122 (South Coast Subregion IFOA) - drainage feature crossings must be designed, constructed, upgraded and maintained to wholly convey a peak flow from a 1:5 year storm event. The determination of the peak flow must be carried out in accordance with Schedule 2 Part C: Design Methods for Crossings and Drainage Structures.</p> <p>Condition 51 of Schedule 4 (UNE, LNE, Eden and Tumut Subregion IFOAs) and condition 123 (South Coast Subregion IFOA) - drainage feature crossings must be designed, constructed, upgraded and maintained to withstand the peak flow from a 1:10 year storm event. The determination of the peak flow must be carried out in accordance with Schedule 2 Part C: Design Methods for Crossings and Drainage Structures.</p> <p>It is therefore proposed that peak flow calculations on open causeways are not required. Causeways are open structures and as such water flow is not concentrated into a pipe or under a bridge. The requirement to undertake peak flow calculations in relation to all other existing crossings will be retained.</p>	<p>Remove the requirement for catchment calculations for causeways but retain for other drainage feature crossings in the EPLs</p>
EPL 3	<p>Clarify plan approval and amendment delegations</p> <p>Applies to conditions 9.3, 17.1, 17.4, 19A, and 20 of the EPL for the UNE, LNE, Southern and Eden IFOAs (all regions). Relates to approval or signing by an officer (of FNSW) not below the rank of a regional manager.</p>	<p>Presently, the summary of operations for scheduled and non-scheduled forestry activities, or modifications to the summary of operations, can only be approved (in writing) by a State forests' officer <i>not below the rank of Regional Manager</i>. This approval delegation also applies to variation of site-specific conditions set out in the planning documentation referred to in the EPL, and for when a licence authority temporarily ceases to apply with respect to a scheduled or non-scheduled forestry activity.</p> <p>The delegations in the EPL will be amended to improve operational efficiency by allowing other Forests NSW senior officers to approve modifications.</p>	<p>The relevant conditions of the EPL (and related conditions in other licences) that require signing or approval by a State forests officer <i>not below the rank of Regional Manager</i>, will be amended to indicate that approval (or signing) may also be made by a Forests NSW Regional Manager or Planning Manager.</p>

EPL issue number	Issue/clause	Background and findings	Proposed changes
EPL 4	<p>Consider use of revised Australian New Zealand Environment Conservation Council (ANZECC) water quality guidelines in place of current outdated reference.</p> <p>Applies to condition 4.1 'Objects of this licence' of the EPL for the UNE, LNE, Southern and Eden IFOAs (all regions),</p>	<p>The 1992 'Australian Water Quality Guidelines for Fresh and Marine Waters' has since superseded by the updated 'Australian Water Quality Guidelines for Fresh and Marine Waters' (Australian and New Zealand Environment and Conservation Council, 2000).</p>	<p>Insert words into the Objects of the licence to make it known that the ANZECC guidelines were updated in 2000. The historic reference to the ANZECC guidelines (1992) will remain because the guidelines were relevant in formulating the licence and have historical relevance.</p>
EPL 5	<p>Align water pollution protection measures for culvert crossings with requirements for bridges.</p> <p>Proposes a new condition in the EPL in Schedule 5 of the UNE, LNE, Southern and Eden IFOAs (all regions),</p>	<p>From a water quality perspective, crossing structures are the most critical aspect of the road network. Failure of a crossing due to improper planning or construction can result in erosion and subsequent water pollution. Under the EPL (condition 55 in Schedule 5), bridges require structures that prevent soil or gravel pavement material from entering a drainage feature. Soil or gravel deposited within the drainage feature must be carefully removed; however, there is no similar condition for culvert crossings.</p> <p>It is proposed to align the water protection measures for culvert crossings with that of bridges as above.</p>	<p>Insert a new condition relating to culvert crossings for schedule 5 of the UNE, LNE, Southern and Eden IFOAs to be comparable to the condition related to bridges.</p>
EPL 6	<p>Upgrading of Crossings</p> <p>Applies to EPL condition 47 of Schedule 5 of the UNE, LNE, Southern and Eden EPLs (all regions),</p>	<p>There is a typographical omission in condition 47 of Schedule 5 of the EPLs: absence of the word 'upgrading' in the condition which currently relates to construction and maintenance of drainage feature crossings. As a result the condition is inconsistent with both the other conditions in this schedule and the corresponding section of Schedule 4 of the UNE, LNE, Southern and Eden EPLs that relate to construction and maintenance as well as upgrading.</p>	<p>Insert the word 'upgrading' in condition 47 of Schedule 5 of the UNE, LNE, Southern and Eden EPLs.</p>
EPL 7	<p>Preventing water pollution on road batters when upgrading roads</p> <p>Applies to condition 33 of Schedule 5 of the UNE, LNE, Southern and Eden EPLs (all regions),</p>	<p>If the toe of a fill batter intrudes into a filter strip or protection zone during road construction activities, then site-specific mitigating techniques must be employed to prevent water pollution. The same requirements are currently not specified for road upgrading activities.</p> <p>Both upgrading and maintenance should be clearly defined in the licence definitions.</p>	<p>Insert 'or upgrading' after the word 'construction' in condition 33.</p> <p>See also definition for 'upgrading' in this table (EPL 12).</p>

EPL issue number	Issue/clause	Background and findings	Proposed changes
EPL 8	<p>Water quality monitoring and water yield</p> <p>Applies to 21. <i>Water quality monitoring</i> in each EPL (all regions).</p>	<p>Forests NSW obligations for monitoring water quality are specifically addressed in the EPL '21. Water quality monitoring'. Forests NSW has been conducting water monitoring since 1999 (the 'Phase 1' program referred to in item 21 of the EPL).</p> <p>The Phase 1 program is nearing completion and will be replaced by the programs and projects specified in a new Forests NSW strategy east of the Great Divide. The statutory programs involved in the strategy have been negotiated and agreed between the DECCW and Forests NSW.</p> <p>The revised water quality monitoring strategy will comply with the EPL and Forests NSW' certification under the AFS for monitoring and evaluation of forest operations in both native and plantation forests.</p> <p>The changes also relate to NCC workshop recommendations 58 - 61 that Forests NSW, in consultation with DECCW, should monitor, evaluate, and manage issues relating to water yield from harvested forest catchments.</p>	<p>EPL references to 'Phase 1' will be amended to refer to a (published, available and up-to-date) Forests NSW water quality monitoring strategy for monitoring and evaluation of forest operations in both native and plantation forests where appropriate.</p>
EPL 9	<p>Mapping of snig tracks that cross a drainage line</p>	<p>Snig tracks are established during harvesting operations, after operational planning is complete. DECCW has not had access to information on the location of many snig tracks and snig crossings. Forests NSW has agreed to provide versions of harvest plan maps marked or annotated by the Supervising Forest Officer (SFO) that show newly established snig track crossings.</p>	<p>Forests NSW will provide versions of harvest plan maps to DECCW marked or annotated by the SFO that show newly established snig track crossings. No EPL amendment is required.</p>
EPL 10	<p>Soil Dispersibility Assessment</p> <p>Applies to EPL Module 3 of Schedule 3 of the UNE, LNE, Southern and Eden IFOAs (all regions).</p>	<p>Dispersibility relates to the susceptibility of soil aggregates to breakdown into individual particles in water and is important when evaluating potential for water pollution. Soil aggregates that score a dispersibility rating of 2, 3 or 4 are deemed to be dispersible for the purpose of the licence.</p> <p>The current dispersibility rating section of Module 3 of Schedule 3 in the EPL contains a minor typographical error which can make it difficult to determine dispersibility scores 2 or 3.</p>	<p>Replace the word 'or' with the word 'and' against Score 2.</p>
EPL 11	<p>Causeway crossings</p> <p>Applies to definition of 'causeway' in the EPL of the UNE, LNE,</p>	<p>The conditions associated with the construction, upgrading and maintenance of causeways require amendment. Instances have been noted in both the forest road network and general harvest area where crossing structures meeting the definition of 'gully stuffers' have been</p>	<p>Amend the definition of 'causeway' in the EPL to include that the upper surface of a causeway must vary by no more than 100 mm from the invert</p>

EPL issue number	Issue/clause	Background and findings	Proposed changes
	Southern and Eden IFOAs (all regions).	<p>constructed and categorised as 'raised causeways'. These can significantly impede the flow of water and may result in water being diverted along the road surface to exit the road at a new point, initiating a new drainage feature with associated soil erosion.</p> <p>It is proposed that the definitions be amended to ensure that causeways are only built in broader, flat drainage features, and alternative structures such as culverts or bridges are used in steeper terrain.</p>	level of the drainage feature, both upstream and downstream of the causeway.
EPL 12	<p>Updating the definitions of 'construction', 'upgrading' 'maintenance' and re-opening of roads</p> <p>Applies to the licences (EPL, TSL and FL) for the UNE, LNE, Southern and Eden IFOAs (all regions).</p>	<p>Varied definitions are used in the three licenses for 'construction', 'upgrading' 'maintenance' and re-opening of roads, and these could be unified.</p> <p>The examples provided below are being considered for all licences (EPL, TSL and Fisheries) subject to legal drafting and interpretation:</p> <ul style="list-style-type: none"> • <i>construction</i> means the act of erecting, building or providing (where previously none existed). • <i>upgrading</i> a road means the act of improving by re-opening, widening or realigning • <i>maintain a road</i> means to carry out work within the existing prism of a road or crossing structure to enable it to continue to be trafficable • <i>re-open</i> will need to be defined using the TSL definition. Re-opening (and closing) is referred to in the EPL. 	The definitions of 'construction', 'upgrading' and 'maintenance' in the EPL will be aligned in all three licences (see also FL 2 and TSL 39).
EPL 13	<p>Forms are required to be used by Forests NSW as part of their operating conditions.</p> <p>This item relates to Form 1: Summary of operations for scheduled and non-scheduled</p>	<p>Forests NSW is currently required to submit summary of operations to DECCW for each state forest compartment being licensed. An alternate model exists, as developed under the monthly reporting requirements for the draft Brigalow-Nandewar IFOA.</p> <p>Monthly reporting will provide relevant information on the nature of the operation at a planning unit rather than a detailed compartment scale, and to estimate the relative risks of soil erosion and water pollution involved across the planning unit. Reporting will include details on the proposed area, road construction and maintenance, and where appropriate, threatened species related information. Harvest plan maps will still be provided to DECCW.</p>	<p>DECCW has updated its list of items to be required in Forests NSW monthly advice.</p> <p>Harvest plan maps will still be provided to DECCW.</p> <p>DECCW intends that the updated list of required items would replace the current requirement for the Summary of Operations.</p>

TSLs

Table 4.11: Proposed changes to TSL

TSL issue number	Issue/clause	Background and findings	Recommended changes
TSL 1	<p>Hollow-bearing tree, recruitment tree and dead-standing tree retention definitions and conditions</p> <p>Tree retention</p> <p>UNE, LNE and South Coast 5.6</p> <p>Tumut 5.3</p> <p>Definitions and abbreviations</p>	<p>Retention of trees within the net harvest area for hollow dependent fauna is critical in minimising impacts of logging on such species.</p> <p>Definitions relating to tree retention may be overlooked when selecting trees in the field. The definitions are important and should be part of licence condition 5.6.</p> <p>Signs of obvious wildlife habitation should be the highest priority for hollow-bearing tree selection.</p> <p>The term 'dead-standing tree' is a more appropriate term than 'stag' in reference to dead trees requiring retention.</p> <p>Removal of dead-standing trees for safety reasons can lead to attrition of habitat. It is appropriate to document removal of dead-standing trees for safety reasons where the operation uses mechanised harvesters rather than chainsaws as the main method of tree felling.</p>	<p>Include hollow-bearing and recruitment tree definitions within tree retention conditions.</p> <p>Revise priorities for hollow-bearing tree selection including selecting trees with evidence of habitation by hollow dependent fauna and selecting trees containing multiple hollows.</p> <p>Use of the term 'dead-standing trees' rather than 'stags'.</p> <p>Document when dead-standing trees are removed for safety purposes during operations using mechanised harvesters.</p>
TSL 2	<p>Definitions and abbreviations – 'rock overhang.'</p> <p>Subterranean roost protection</p> <p>UNE, LNE, South Coast and Eden 5.14.2</p> <p>Tumut 5.11.2</p> <p>UNE, LNE, South Coast and Eden 5.14.3</p> <p>Tumut 5.11.3</p> <p>Significant subterranean roost protection</p>	<p>There is no definition for 'rock overhang' in the current TSL. The term is used in the subterranean roost protection condition in the TSL.</p> <p>The conditions relating to significant subterranean roost protection do not clearly identify the considerations required to be made in applying these conditions.</p>	<p>Rock overhang will be defined as a rock that projects outward from the rock face below it by at least three metres and is at least three metres wide.</p> <p>Protection of subterranean bat roosts will be reviewed to remove some of the complexity involved with survey and improve protection for significant subterranean roosts.</p>

TSL issue number	Issue/clause	Background and findings	Recommended changes
TSL 3	<p>Definition of sap feed tree within existing rule</p> <p>Applies to all IFOA regions</p> <p>Definitions and abbreviations</p>	<p>The existing 'sap feed tree' definition refers to trees with incisions made by a Yellow-bellied Glider or Squirrel Glider.</p> <p>Incisions made the Squirrel Glider are indistinguishable from incisions made by the closely related Sugar Glider.</p>	<p>Amend the current definition for 'sap feed tree' to include trees with incisions made by the Sugar Glider as well as those with incisions made by the Yellow-bellied Glider or Squirrel Glider.</p>
TSL 4	<p>Hastings River Mouse</p> <p>Survey and Condition</p> <p>UNE and LNE 6.13</p> <p>Species-specific Condition - Hastings River Mouse <i>Pseudomys oralis</i></p> <p>UNE and LNE 8.8.9A and 8.8.9B</p> <p>Targeted Fauna Surveys – Hastings River Mouse Surveys</p>	<p>Current Hasting River Mouse survey requirements and exclusion zones do not reflect current knowledge of Hasting River Mouse occurrence. Habitat suitability surveys are used to identify areas where trapping is required but are limited to areas within modelled habitat. The model is deficient because many records of the species fall outside of modelled habitat.</p> <p>To counter this deficiency, habitat suitability surveys within compartments containing 'known habitat' as well as those containing modelled habitat is appropriate; however, there is a need for Forests NSW to document the process of 'rapid assessment' of habitat suitability.</p> <p>Forests NSW proposes that the Hastings River Mouse is now more widespread and numerous than when existing conditions were developed, and that the home range of the species is now known to be relatively small. As such, Forests NSW considers that exclusion zones of up to 800 m diameter are not appropriate.</p>	<p>Habitat suitability surveys will be required in any compartment that contains 'modelled habitat' or 'known habitat' of Hastings River Mouse.</p> <p>Considerations and outcomes of rapid assessments will need to be documented using a record sheet with an agreed format.</p> <p>Forests NSW is to apply an exclusion zone covering 12 ha (equivalent to a circle of approximately 200 m radius) where there is a record of Hastings River Mouse of suitable habitat.</p>

TSL issue number	Issue/clause	Background and findings	Recommended changes
TSL 5	<p>Road and snig track construction within certain areas.</p> <p>Prohibition of road and snig track construction and use within certain areas (as detailed below for the various IFOA regions) protected under the general conditions where any threatened species has been recorded at the site.</p> <p>UNE and LNE: High Conservation Old Growth Forest - condition 5.3(i)ii; Rainforest - condition 5.4(e)ii; Rare Non-commercial Forest Types - condition 5.5(i)ii; Riparian Habitat Protection - condition 5.6(r)ii</p> <p>South Coast: High Conservation Value Old Growth 5.3(d)ii and (g1)ii; Rainforest 5.4(h)ii and (k1)ii; Rare Non-commercial Forest Ecosystems 5.5(d)ii and (g1)ii; Riparian Habitat Protection Zones 5.7.3(a)ii</p> <p>Eden: Rare Old Growth Forest Communities 5.3(d)ii; Rainforest 5.4(f)ii; Rare Forest Ecosystems 5.5(e)ii; Stream Exclusion Zones 5.7(i)ii</p> <p>Tumut: Stream Exclusion Zones 5.4(i)ii</p>	<p>Currently road and snig track construction and use is permitted within these areas subject to assessment under schedule 6 and Forests NSW approval unless a threatened species has been recorded at the site, in which case there is no provision for such activities (and road and snig track construction is not permitted).</p> <p>In many circumstances a threatened species record at the site does not indicate a valid reason to prohibit these activities. Such circumstances include where the species is locally abundant, adequately protected by other mechanisms or where the record is geographically inaccurate or does not imply habitat value is present at the site, such as a record of a Glossy Black-cockatoo flying over.</p> <p>Existing measures within the licence provide for appropriate consideration of threatened species records in these areas – subject to road and snig track activities – as follows:</p> <p>Where a threatened species record within such areas triggers a species-specific or nest/roost protection condition to be applied, an assessment process under schedule 6 (or 6A) of the TSL provides appropriate consideration of impacts on the species and its habitat and is subject to the approval of DECCW.</p> <p>Where a threatened species record within such areas does not trigger a species-specific or nest/roost protection condition (due to either the nature of the record or vulnerability of the species to forestry activities), schedule 6 (or 6A) assessment is also required and is subject to approval of the Forests NSW Regional Manager.</p>	<p>Remove the following subclause from the relevant licences:</p> <p>UNE and LNE</p> <p>High Conservation Old Growth Forest - condition 5.3(i)ii; Rainforest - condition 5.4(e)ii; Rare Non-commercial Forest Types - condition 5.5(i)ii; Riparian Habitat Protection - condition 5.6(r)ii</p> <p>South Coast</p> <p>High Conservation Value Old Growth 5.3(d)ii and (g1)ii; Rainforest 5.4(h)ii and (k1)ii; Rare Non-commercial Forest Ecosystems 5.5(d)ii and (g1)ii; Riparian Habitat Protection Zones 5.7.3(a)ii</p> <p>Eden</p> <p>Rare Old Growth Forest Communities 5.3(d)ii; Rainforest 5.4(f)ii; Rare Forest Ecosystems 5.5(e)ii; Stream Exclusion Zones 5.7(i)ii</p> <p>Tumut</p> <p>Stream Exclusion Zones 5.4(i)ii</p> <p>These clauses (subject to minor variation but to similar effect) read: ‘there has been no record made of any threatened species on the site of the proposed construction/proposed construction or snigging/snig track’</p>

TSL issue number	Issue/clause	Background and findings	Recommended changes
TSL 6	<p>Road and snig track construction and use within species-specific exclusion zones</p> <p>UNE, LNE, Eden and Tumut: General Conditions - operational requirements condition 5.1(b); Schedule 6</p> <p>South Coast: 5.1D(b), (c)i and (e); Schedule 6, Schedule 6A</p>	<p>Currently, Forests NSW may conduct a schedule 6 (or 6A) assessment and seek DECCW approval to construct roads and snig tracks (and re-open snig tracks) through species-specific nest/roost site exclusion zones, only if the exclusion zones are contained within High Conservation Old Growth Forest/Rare Old Growth Forest Communities, Rainforest, Rare Non-commercial Forest Types/Rare Forest Ecosystems or Riparian Habitat Protection Zones/Stream Exclusion Zones.</p> <p>Prohibition of road and snig track construction within species exclusion zones, without capacity for assessment of the actual habitat present and consequences of using alternative routes, can result in poor environmental outcomes. For example, to avoid these areas, longer extraction routes may be used resulting in greater habitat damage and erosion potential. Additionally, subject to assessment by Forests NSW Regional Manager, extraction routes may be placed within landscape level protection areas (e.g. areas of old growth, rainforest etc.) which could result in habitat loss, fragmentation and erosion in those areas.</p> <p>Assessment of habitat values in a broader context of the planning area will allow pragmatic consideration of most appropriate routes rather than strict adherence to the prescriptive nature of many species-specific conditions when other options are more environmentally benign.</p> <p>The effort required in undertaking assessment under the considerations of schedule 6, as well as the requirement for DECCW approval of such assessments in species-specific exclusion zones and capacity to place conditions on such approval, ensures that this approach is used appropriately.</p>	<p>UNE and LNE</p> <p>Revise condition 5.1(b) removing reference to areas of High Conservation Old Growth Forest, Rainforest, Rare Non-commercial Forest Types or Riparian Habitat Protection zones.</p> <p>Revise Schedule 6 to include proposals for roading through species-specific and nest/roost site exclusion zones in its application.</p> <p>Eden</p> <p>Revise condition 5.1(b) removing reference to areas of Rare Old Growth Forest Communities, Rainforest, Rare Forest Ecosystems or Stream Exclusion Zones.</p> <p>Revise Schedule 6 to include proposals for roading through species-specific and nest and roost site exclusion zones in its application.</p> <p>Tumut</p> <p>Revise condition 5.1(b) removing reference to areas of Stream Exclusion Zones.</p> <p>Revise Schedule 6 to include proposals for roading through species-specific and nest and roost site exclusion zones in its application.</p> <p>South Coast</p> <p>Revise subclauses 5.1D(b), (c)i and (e)i in relation to High Conservation Old Growth Forest, Rainforest, Rare Forest Ecosystems and Riparian Habitat Protection zones.</p> <p>Revise Schedule 6 to include proposals for roading through species-specific and nest and roost site exclusion zones in its application.</p> <p>Revise Schedule 6A to include proposals for re-opening of snig tracks through species-specific and nest and roost site exclusion zones in its application.</p>

TSL issue number	Issue/clause	Background and findings	Recommended changes
TSL 7	<p>Consideration of hair and scat analysis results</p> <p>Definition of 'record'</p> <p>Applies to all IFOA regions</p>	<p>UNE and LNE TSLs provide no guidance on how the results of hair and scat analysis should be considered.</p> <p>The South Coast, Tumut and Eden TSLs provide this type of guidance as part of the hair tube and scat and track survey requirements, although the guidance is not clear when records are made incidentally.</p>	<p>For all regions, change the definition of 'record' so that a reliably obtained result of 'definite' or 'probable' for presence of a fauna species constitutes a record with respect to threatened species listed on Schedule 1 of the <i>Threatened Species Conservation Act 1995</i>, and a 'definite' result constitutes a record for species listed on Schedule 2 of the Act. This is to apply for any fauna record whether it be made as part of a designated hair or scat search technique, or encountered incidentally.</p>
TSL 8	<p>Endangered Populations</p> <p>LNE only</p> <p>Preamble and other clauses as determined by legal drafting</p>	<p>The TSL does not currently authorise activities that harm, pick or damage Endangered Populations (EPs).</p> <p>The Broad-toothed Rat at Barrington Tops EP is largely confined to non-harvest areas. A landscape protection approach for the Broad-toothed Rat at Barrington Tops EP has been developed to apply in Barrington Tops and Stewarts Brook state forests which includes the protection of drainage features that could potentially form habitat for the population. However, they are not protected within the general licence conditions.</p> <p>The habitat of the Yellow-bellied Glider on the Bago Plateau coincides with areas available for timber harvesting. The threatened species determination for the Yellow-bellied Glider cites timber harvesting as a threat to the population and suggests that existing TSL provisions are not adequate to mitigate impacts on the population. It is not envisaged to provide any licence coverage to this EP as part of this review.</p>	<p>The landscape protection approach for the Broad-toothed Rat at Barrington Tops EP, developed to apply in Barrington Tops and Stewarts Brook state forests, is considered to adequately protect this EP. The terms of the LNE TSLs are proposed to be modified to include licence coverage for this particular EP subject to application of these conditions.</p> <p>No TSL provision is agreed for the Yellow-bellied Glider on the Bago Plateau EP as part of this review.</p>
TSL 9	<p>HCVOG on other Crown-timber lands</p>	<p>The IFOA does not currently include a process for identifying HCVOG forest on other Crown-timber lands (including private property purchases and travelling stock routes and reserves).</p>	<p>Include a process for identifying high conservation old growth forest on other Crown-timber lands. The process will be included in both TSL and IFOA non-licence terms.</p>

TSL issue number	Issue/clause	Background and findings	Recommended changes
TSL 10	<p>Broad-toothed Rat for Eden, South Coast, Tumut, Lower North East TSLs.</p> <p>Eden, Tumut and South Coast sub-regions</p> <p>Targeted fauna surveys - Broad-toothed Rat in site-specific conditions</p>	<p>The Broad-toothed Rat is currently protected under condition 1.2 - species requiring site-specific conditions.</p> <p>Forests NSW has identified that Elliot trap surveys for the Broad-toothed Rat are no longer considered the most effective way to determine presence of the species in a given area. Faecal pellet searching, a technique used by both Forests NSW and NPWS in other contexts, is a better technique for detecting Broad-toothed Rats.</p> <p>The known and predicted occurrence of the Broad-toothed Rat in particular habitat types enables a reasonable assessment of the protection afforded under the current IFOA TSL provisions. It is considered that much of the suitable habitat for the Broad-toothed Rat will be captured under the general provisions such as heath and scrub, wetland and riparian general protection provisions.</p> <p>A landscape provision will be developed and applied for the protection of Broad-toothed Rat in lieu of pre-harvest survey. In some areas, the species may principally be protected by the general licence conditions. However, some areas may require additional protection for suitable Broad-toothed Rat habitat occurring outside of the generally protected areas.</p> <p>Suitable habitat must be searched for during the compartment traverse survey and compartment mark up. Any area greater than 0.1 ha identified as suitable habitat should be marked, protected and mapped on the operational map with a 20 m exclusion zone.</p>	<p>Develop and apply a landscape provision for the protection of Broad-toothed Rat in lieu of pre-harvest survey.</p>

TSL issue number	Issue/clause	Background and findings	Recommended changes
TSL 11	Pine Creek koala management plan Local koala management plans UNE and LNE Species-specific condition - 6.14 koala <i>Phascolarctos cinereus</i>	Since the adoption of the Pine Creek koala management plan in the TSL, Bongil Bongil National Park has expanded to incorporate those areas of Pine Creek state forest that contained key koala habitat. Approximately 200 ha of remaining Forests NSW tenure is affected by the Pine Creek koala management plan. Koala management plans prepared by local government have no jurisdiction over Forests NSW estate and do not include provisions relating to such areas.	Remove reference to local koala management plans and Pine Creek state forest local koala management plan from within the species-specific condition for koala <i>Phascolarctos cinereus</i> .
TSL 12	Giant Burrowing Frog Survey for LNE TSL. Targeted Fauna Surveys - Riparian frog Targeted Fauna Surveys - Spotlight LNE Condition 1.2 (a)(i) Schedule 5 Table 2 - Threatened fauna species require the implementation of Species-specific conditions. 8.8.1 table 13 8.8.3 A Riparian frog survey 8.8.6 Spotlight survey	Current survey conditions for the Giant Burrowing Frog are not detecting the species. All records for the species on state forest tenure have been generated from alternative survey methods or incidental observations. Survey requirements for Giant Burrowing Frog in LNE will be removed and a monitoring program using tadpole survey to determine presence of the species will be required. The program will aim to assess impacts of fire on populations.	Provide a 'species-specific' condition for Giant Burrowing Frog in the LNE IFOA region requiring a monitoring program to assess persistence of populations under standard operating conditions for harvesting, and bush fire hazard reduction work. Methods based on tadpole survey may be used to satisfy this requirement. Sampling of populations not affected by forestry activities must also occur, for comparison with results from treatment areas. A monitoring strategy to the satisfaction of DECCW must be established prior to commencing operations within known habitat. The progress of the monitoring program must be reported annually and reviewed after five years to consider if further action is required. Remove reference to <i>Heleioporus</i> (sic) <i>australiacus</i> in Condition 1.2 (a)(i). Remove reference to <i>Heleioporus australiacus</i> in 8.8.1 Table 13, 8.8.3 A Riparian frog survey and 8.8.6 Spotlight Survey. Add reference to Giant Burrowing Frog <i>Heleioporus australiacus</i> in Schedule 5 Table 2 - Threatened fauna species require the implementation of species-specific conditions. Add requirement for monitoring program as a site-specific condition.

TSL issue number	Issue/clause	Background and findings	Recommended changes
TSL 13	Scat and track and hairtube surveys South Coast, Tumut and Eden TSL Targeted fauna - hairtube survey and scat and track survey	<p>The South Coast, Tumut and Eden TSLs specify requirements to undertake hairtube and scat and track targeted surveys for a range of species.</p> <p>Hairtube and scat and track targeted surveys yield a low number of records from a relatively large survey effort and there may be more effective ways for directing species-specific mitigating actions.</p> <p>DECCW has reviewed outcomes of all hairtube and scat and track targeted survey for a number of species and has agreed to some modifications to improve survey efficiency and species detection.</p>	<p>Remove the requirement for hairtube surveys for: Brush-tailed Phascogale; Spotted-tailed Quoll; Southern Brown Bandicoot (Eden licence); Long-footed Potoroo (replaced by remote cameras), and Southern Brown Bandicoot (replaced by remote cameras, South Coast licence only).</p> <p>Remove the requirement for scat and track targeted surveys for: Brush-tailed Phascogale; Koala; White-footed Dunnart; Spotted-tailed Quoll; Smoky Mouse; Long-footed Potoroo; Long-nosed Potoroo; and Southern Brown Bandicoot.</p> <p>Add the Smoky Mouse to the hairtube requirement for Tumut</p> <p>Replace the hairtube survey technique for Long-nosed Potoroo and Southern Brown Bandicoot with remote cameras, at a rate of two cameras per 200 ha net harvest area for a minimum of seven consecutive nights.</p>
TSL 14	Statutory reserves Definitions and abbreviations - 'statutory reserves'	The current definition for 'statutory reserves' within the TSL is out of date due to an amendment to the NPW Act.	In the definition of 'statutory reserves', insert 'State Conservation Areas' and 'Regional Parks' and remove 'State Recreation Areas', to align with reserve categories within the <i>National Parks and Wildlife Act 1974</i> and <i>Forestry and National Parks Estate Act 1998</i> .

TSL issue number	Issue/clause	Background and findings	Recommended changes
TSL 15	<p>Woodland bird and Gang-gang Cockatoo conditions</p> <p>Applies to all IFOA regions</p> <p>Bird roost/nest site protection</p> <p>Ground habitat protection</p> <p>Condition 6.11 (currently) Swift Parrot <i>Lathamus discolor</i>, Regent Honeyeater <i>Xanthomyza phrygia</i> (birds dependent on eucalypt feed trees)</p> <p>Targeted Fauna survey - Diurnal Bird surveys</p>	<p>There are no permanent conditions for protecting 'woodland bird' species and Gang-gang Cockatoos which have been listed since the commencement of the IFOAs.</p> <p>As an interim measure, woodland birds have required protection under site-specific conditions issued by DECCW on a case by case basis. Appropriate species-specific or nest and roost site conditions for these species need to be consolidated within the TSL.</p>	<p>Include Black-chinned Honeyeater to Targeted Fauna Surveys, General, Table 13, requiring Diurnal Bird Survey.</p> <p>Survey for Gang-gang Cockatoo and other woodland bird species requiring nest protection provided for by compartment mark up survey 5.2.1(a)(ii).</p> <p>Add Black-chinned Honeyeater to Targeted Fauna survey, Diurnal Birds 8.8.4.</p> <p>Add Speckled Warbler, Grey-Crowned Babbler, Diamond Firetail, Hooded Robin and Brown Treecreeper to Ground Habitat Protection condition.</p> <p>Add Black-chinned Honeyeater <i>Melithreptus gularis</i> to Swift Parrot <i>Lathamus discolor</i>, Regent Honeyeater <i>Xanthomyza Phrygia</i> condition for the retention of eucalypt feed trees condition.</p> <p>Add to Bird nest and roost site protection condition: Gang-gang cockatoo nest 20 m, Speckled Warbler nest 5 m, Black Chinned Honeyeater 20 m, Hooded Robin 50 m and Brown Treecreeper 20 m and; agreed to provide for removal of nest protection for those species where surveys conducted during two consecutive breeding seasons establish to the satisfaction of the DECCW that the nest or nest site is not being used.</p> <p>Provide for protection of nests for Grey-Crowned Babbler and Diamond Firetail.</p>

TSL issue number	Issue/clause	Background and findings	Recommended changes
TSL 16	<p>Brush-tailed Phascogale UNE and LNE</p> <p>General survey requirements - 7(b) default prescription for Brush-tailed Phascogale</p>	<p>The existing default prescription for Brush-tailed Phascogale in UNE and LNE regions is not used as its retention requirements are high.</p> <p>Forests NSW proposes a revised default condition for the Brush-tailed Phascogale for application in lieu survey requirements have been developed based on tree retention across compartment in a manner similar to the existing species-specific 'Landscape Approach'. This provides the option for an acceptable method of habitat retention while reducing survey costs.</p> <p>The condition operates on a compartment level rather than the 1000 ha of Forests NSW estate minimum required in 6.12.2. It is triggered by known or potential habitat (a record within 2 km or modelled habitat present) rather than a record within 500 m as under the condition 6 landscape approach. This approach does not alter any existing landscape approaches under 6.12.2.</p>	<p>Replace the existing 7(b) prescription for Brush-tailed Phascogale with the following. Across the net harvestable area of a compartment where there is a record or where modelled habitat occurs within a compartment:</p> <ul style="list-style-type: none"> • retain a minimum of eight rough-barked trees per two hectares of net logging area for foraging by Brush-tailed Phascogales. Retained trees must represent the range of rough-barked tree species that occur in the area with preference given to trees of an older growth stage (i.e. late mature trees must be selected in preference to mature trees). Trees retained to meet this condition must be in addition to those trees retained to meet the requirements of condition 5.6. • trees for retention must be selected from late mature, over-mature or senescent trees, where available. • trees for retention that meet conditions (b) and (c) must be selected from trees greater than 70 cm diameter breast height over bark (dbhob). Where trees greater than 70 cm dbhob are not present, then trees must be selected for retention from trees belonging to a cohort of trees with the largest dbhob. • retained trees must be marked for retention. • large, hollow-bearing dead standing trees which are potential den trees should be retained where their retention is consistent with safe working practice.

TSL issue number	Issue/clause	Background and findings	Recommended changes
TSL 17	<p>Sooty Owl and White-footed Dunnart South Coast</p> <p>Targeted fauna survey - General - Table 3 - White-footed Dunnart</p> <p>Targeted fauna survey - General - Table 3 - Sooty Owl</p> <p>Targeted fauna survey -scat and track</p> <p>Targeted fauna survey -nocturnal call playback</p> <p>Spotlight</p>	<p>Sooty Owl and White-footed Dunnart are currently listed in schedule 5 of the TSL as species protected by general conditions.</p> <p>Both species are also listed in targeted fauna surveys (Table 3) as requiring targeted surveys.</p>	<p>Remove requirement for targeted survey requirements for Sooty Owl and White-footed Dunnart in the South Coast TSL.</p>
TSL 18	<p>Squirrel glider</p> <p>Applies to all IFOA regions</p> <p>Targeted fauna surveys - Nocturnal Call Playback</p>	<p>Current survey requirement for squirrel gliders involve nocturnal call playback and spotlight surveying within known or modelled habitat.</p> <p>Research has found little support for the use of call playback to elicit calls and facilitate detection of squirrel gliders. Spotlighting will be retained as the targeted survey technique, with incidental 'heard call' records continuing to support the survey effort.</p>	<p>Remove Squirrel Glider from list of species requiring call playback survey.</p>
TSL 19	<p>Large-footed Myotis <i>Myotis adversus</i></p> <p>Applies to all IFOA regions</p> <p>Species-specific conditions - Large-footed Myotis <i>Myotis adversus</i></p> <p>General survey requirements - <i>Myotis adversus</i></p> <p>Targeted fauna surveys - targeted surveys - Golden-tipped Bat <i>Kerivoula papuensis</i> and Large-footed Myotis <i>Myotis adversus</i></p> <p>Schedule 5- Table 1</p>	<p>The habitat of the Large-footed myotis is considered to be adequately protected by the general licence conditions, riparian habitat protection, and wetlands.</p> <p>Large-footed Myotis generally roost close to water, in groups of 10 to 15 individuals. Roosts include caves, mine shafts, hollow-bearing trees, dense foliage, under bridges and in storm water channels.</p> <p>They forage over streams and pools of water catching insects and small fish.</p> <p>The scientific name for this species has been changed from <i>Myotis adversus</i> to <i>Myotis macropus</i>.</p>	<p>Add 'Large-footed Myotis' to Schedule 5 Table 1 of the TSL, as it is considered adequately protected by the general conditions.</p> <p>Remove species-specific condition, 'Large-footed Myotis <i>Myotis adversus</i>'.</p> <p>Remove '<i>Myotis adversus</i> condition' from General Survey Requirements.</p> <p>Remove 'Large-footed, Myotis <i>Myotis adversus</i> Targeted' from Targeted Fauna Survey, Table 13.</p> <p>Remove 'Large-footed Myotis <i>Myotis adversus</i>' from Targeted Fauna Survey, Microchiropteran Bat Surveys, Golden-tipped Bat and Large-footed Myotis.</p>

TSL issue number	Issue/clause	Background and findings	Recommended changes
TSL 20	Northern Corroboree Frog <i>Pseudophryne pengilleyi</i> Tumut Species-specific conditions - Northern Corroboree Frog <i>Pseudophryne pengilleyi</i> Conditions 6.9 (Northern Corroboree Frog)	Conditions 6.9 (Northern Corroboree Frog) of the TSL for Tumut sub-region (Southern) require a 30 m exclusion zone around all bogs, soaks and seepages. The current provision will be replaced with a record based protection and requirement for survey using 'shout-response' technique. These provisions are proposed to apply only in Bondo and Micalong state forests because the habitat of the Northern Corroboree Frog on Forests NSW estate is limited to within these state forests.	Amend Northern Corroboree Frog - species-specific condition: to apply only to Bondo and Micalong state forests; and to apply a 30 m protection zone around records and around bogs, soaks and seepages that have not been subject to survey. Insert a targeted fauna survey for the Northern Corroboree Frog using the 'shout-response' technique.
TSL 21	Riparian Frog survey Tumut Condition 8.8.3.A. Riparian frog survey	Riparian Frog surveys are required in the Tumut region for the Booroolong Frog, Southern Bell Frog and Spotted Tree Frog but have not detected any records of these species. These species are unlikely to occur in state forests within the Tumut region and this survey requirement will be removed.	Remove Riparian frog surveys from the Tumut TSL.
TSL 22	Threatened flora All regions Revise flora list	Following consideration of new scientific information and flora species newly listed as threatened by the NSW Scientific Committee, the list of flora species that occur or are likely to occur on state forest needs to be reviewed.	Revised conditions for flora species will be added to the licences to reflect new threatened species listing.

TSL issue number	Issue/clause	Background and findings	Recommended changes
TSL 23	Stephens' Banded Snake <i>Holocephalus stephensii</i> UNE and LNE Species-specific Conditions	<p>Stephens' Banded Snake is nocturnal, and shelters between loose bark and tree trunks, amongst vines, or in hollow trunks and limbs, rock crevices or under slabs during the day. Records of Stephens' Banded Snake are widespread in both National Parks and state forest estate. The species is known to occur in rainforest, eucalypt forests and rocky areas up to 950 m in altitude.</p> <p>The current licence has no conditions relating to the protection of Stephens' Banded Snake. Protection of large hollow bearing trees around records will be required.</p> <p>Survey provisions for the species are not amenable to the species detection. Detection will remain opportunistic.</p>	Insert a species-specific condition for Stephens' Banded Snake which includes retaining all hollow bearing trees of a diameter greater than 60 cm dbhob within 100 metres of the record/s.
TSL 24	Spatial GIS data provision Applies to all IFOA regions Reporting and information requirements	<p>The current conditions of the TSL provide for the provision of information or data by a specified date; however there is no ability to request revised full electronic versions after this date. Also, where the TSL requires that data must be provided, there is no ability to direct in what format the data must be provided. Electronic provision of data would satisfy DECCW's requirements.</p> <p>Currently the TSL requires Ridge and Headwater Habitat maps to be provided by 31 March 2000. There is no provision for maps to be provided after this date, except where requested by DECCW.</p> <p>The TSL also requires that Forests NSW must develop a standard tree marking-up code to apply to all operations, unless specifically excluded, by 30 June 2000. In order to effectively regulate and audit the TSL, DECCW needs access to FNSW electronic Arcview shapefiles of exclusion zones for Ridge and Headwater Habitat, other general conditions (wetlands etc.) and species-species conditions.</p>	<p>Review conditions relating to the provision of reporting and information.</p> <p>Extend specified dates and insert the ability for DECCW to request updates of information and data after this date.</p> <p>Specify the format of maps, 'as requested by DECCW.'</p>

TSL issue number	Issue/clause	Background and findings	Recommended changes
TSL 25	Green-thighed Frog UNE and LNE Species-specific condition	<p>The current licence has no conditions relating to the protection of Green-thighed Frog. The species is currently protected by site-specific conditions issued by DECCW on a case-by-case basis. Species-specific conditions need to be consolidated into the TSL.</p> <p>Green-thighed Frogs occur in a range of habitats from rainforest and moist eucalypt forest to dry eucalypt forest and heath, typically in areas where surface water gathers after rain. The frogs are thought to forage in leaf litter.</p> <p>Breeding occurs following heavy rainfall in late spring and summer, with frogs aggregating around grassy semi-permanent ponds and flood-prone grassy areas.</p>	<p>Add a new species-specific condition requiring a 30 m exclusion zone around records. Where the record location does not appear to be a suitable breeding site the 30 m exclusion zone is to be applied around suitable breeding sites located within 100 m of the record.</p> <p>No survey requirements are proposed.</p>
TSL 26	Littlejohn's Tree Frog Applies to all IFOA regions Species-specific condition Targeted fauna survey	<p>The current licence has no conditions relating to the protection of Littlejohn's Tree Frog. The species is currently protected by site-specific conditions issued by DECCW on a case-by-case basis. Appropriate conditions need to be consolidated into the TSL for these species.</p> <p>Littlejohn's Tree Frog is known to occur along permanent rocky streams with thick fringing vegetation associated with eucalypt woodlands and heaths among sandstone outcrops. It hunts either in shrubs or on the ground.</p> <p>Breeding is triggered by heavy rain and can occur from late winter to autumn, but is most likely to occur in spring when conditions are favourable. Males call from low vegetation close to slow flowing pools.</p>	<p>Add a new a species-specific condition requiring a 50 metre exclusion zone around all records.</p> <p>No survey requirements are proposed.</p>
TSL 27	Glossy-black Cockatoo feed tree retention Tree retention - significant food	Current conditions for the protection of Glossy-black Cockatoo feed trees requiring protection of trees with more than 30 crushed seed cones beneath	Require the protection of: individual shrubs or trees of <i>Allocasuraina</i> or <i>Casuarina</i> spp. where there is evidence that Glossy-Black Cockatoos have been

TSL issue number	Issue/clause	Background and findings	Recommended changes
	resources	<p>them are problematic in their application. Enforcement has been hampered by dispute regarding the number of chewed cones present at the time of mark up compared with at the time of audit.</p> <p>It is desired to improve clarity for field interpretation and enforcement and to ensure the protection of ongoing food resources.</p>	feeding on them, such as chewed cones at the base of the trees and minimise damage to all stands of <i>Allocasuraina</i> or <i>Casuarina</i> spp.
TSL 28	<p>Greater Glider tree retention and calculation of densities</p> <p>Applies to all IFOA regions</p> <p>Targeted fauna survey- spotlight survey</p> <p>Powerful Owl <i>Ninox strenua</i></p>	<p>The definition of 'compartment' allows the term to be interpreted as a 'group of compartments... covered by a single harvesting plan.</p> <p>This definition is intended for harvest planning purposes but is not suitable to be applied in the context of calculating Greater Glider densities throughout the licence as required under species-specific conditions for the Powerful Owl.</p>	Agreed to apply the survey and condition for Greater Glider densities to a single compartment and not a group of compartments
TSL 29	<p>Protection of Flying-fox camps</p> <p>Applies to all IFOA regions</p> <p>Bat roost protection - protection of Flying-fox camps.</p>	<p>Current best practice for recording Flying-fox camps needs to be adequately reflected in licence conditions.</p> <p>DECCW Flying-fox camp database and updates have been provided to Forests NSW and should be integrated with the TSLs for the UNE and LNE.</p> <p>The existing (UNE/LNE) TSL 5.14.4(b) requires additional exclusion zones around camps containing the Black Flying-fox. Since the commencement of the IFOAs, the Grey-headed Flying-fox has been listed as a vulnerable species. The Black Flying-fox was de-listed from the <i>Threatened Species Conservation Act 1995</i> (TSC Act) schedules as of August 2008. Most Flying-fox camps contain a mix of species and the populations are in a constant state of flux.</p> <p>Licences require amendment to provide an exclusion zone around any Flying -fox camp.</p>	Amend conditions for protection of Flying-fox camps such that if there is a record of a Flying-fox camp in a compartment, or a flying-fox camp is detected during pre-harvest inspections or during harvesting operations, an exclusion zone of at least 50 metres wide will be implemented around the camp. Forests NSW must also consider implementing an exclusion zone of up to 200 metres wide to allow for expansion or movement of the camp.

TSL issue number	Issue/clause	Background and findings	Recommended changes
TSL3 0	<p>Protection of Barrington Tops Broad-toothed Rat endangered population in UNE and LNE</p> <p>UNE and LNE</p> <p>Targeted fauna surveys - Broad-toothed Rat</p>	<p>An endangered population of Broad-toothed Rat exists within three major swamp complexes within the Barrington Tops National Park and State Conservation Area.</p> <p>Barrington Tops and Stewarts Brook state forest have the potential to provide habitat for the endangered population of Broad-toothed Rat.</p> <p>Habitat of the Broad-toothed Rat at Barrington Tops EP may be largely confined to non-harvest areas. A landscape protection approach for the Broad-toothed Rat at Barrington Tops EP has been developed to apply in Barrington Tops and Stewarts Brook state forests, which includes the protection of drainage features that could potentially form habitat for the population (but are not protected within the general licence conditions).</p> <p>Application of this provision is considered to adequately protect this EP.</p>	<p>Modify the terms of the TSL to include licence coverage for the endangered population of Broad-toothed Rat subject to application of landscape protection conditions.</p> <p>See details of suggested Broad-toothed Rat habitat protection provisions under Broad-toothed Rat for Eden, Southern, Tumut and LNE TSLs.</p>
TSL 31	<p>Inconsistency and errors in bat species</p> <p>Applies to all IFOA regions</p> <p>Bat roost protection - subterranean roost protection</p> <p>Bat roost protection - significant subterranean roost protection</p> <p>Targeted fauna survey - microchiropteran bat surveys - subterranean roost surveys</p>	<p>The current lists of target species recorded in conditions relating to bat roost protection are either incorrect or inconsistent.</p>	<p>Amend species listed in conditions for bat roost protection to ensure they are correct and consistent.</p>

TSL issue number	Issue/clause	Background and findings	Recommended changes
TSL 32	Thinning (clarification) Applies to all IFOA regions Definitions and abbreviations - specified forestry activities	Thinning is recognised as an important aspect of forestry management; however, the TSL does not specifically regulate thinning activities. Timber felling is a specified forestry activity and while thinning is intended to be covered in this definition, this should be clarified by inclusion of the thinning as a 'specified forestry activity'. This will ensure that any thinning, including any non-commercial thinning operation must be excluded from all areas protected under the TSL.	Include thinning as a 'specified forestry activity' in the definitions.
TSL 33	Compartment mark-up surveys – including general requirements UNE and LNE	The current condition in the UNE and LNE TSLs for compartment mark-up surveys - general requirements has an error in its numbering. The condition also fails to capture all areas that require specific searches and marking-up requirements, including Rocky Outcrops and Cliffs, Heath and Scrub and Wetlands. Other changes to compartment mark-up survey requirements are required as a result of this review.	Rectify errors in numbering. Add Rocky Outcrops and Cliffs, Heath and Scrub and Wetlands to part a) of the condition. ' <i>Allocasuarina</i> spp, with more than 30 crushed cones beneath' to be changed to ' <i>Allocasuarina</i> or <i>Casuarina</i> spp. with chewed cones beneath'.
TSL 34	IFOA condition 1.3 TSC Act - proposed new listings Applies to all IFOA regions 1.3 TSC Act - proposed new listings	The current condition of the TSL, as relating to newly listed threatened species, requires DECCW to notify Forests NSW of proposed new listings or species newly listed by the NSW Scientific Committee. Determinations made by the Scientific Committee are publicly available via the Government Gazette and online.	Publication of newly listed threatened species will trigger the consideration of site-specific management of the species during forestry operations. This will require rewriting of Section 1.3 of the licences.

TSL issue number	Issue/clause	Background and findings	Recommended changes
TSL 35	<p>Regrowth zone and non-regrowth zone tree retention requirements of the TSL</p> <p>UNE only</p> <p>Definitions and abbreviations</p> <p>Tree retention</p>	<p>The boundary defining regrowth and non-regrowth areas for the purpose of tree retention provisions was arrived at coarsely in the original IFOA negotiations (by agreement on a thick texta line drawn on a large scale map). The digitized line has resulted in unintended problems such as compartments being bisected without any rationale.</p> <p>Also, tenure changes since implementation of the IFOA have resulted in some of the more eastern areas with old growth characteristics becoming National Park estate and as such it is reasonable to reassess placement of the line in such areas.</p>	<p>Adopt the revised regrowth line for the UNE region.</p>
TSL 36	<p>White-Crowned Snake, Pale-headed Snake and Broad-headed Snake</p> <p>UNE, LNE and South Coast</p> <p>Targeted fauna surveys - spotlight survey</p> <p>Species requiring site-specific conditions</p> <p>UNE and LNE</p> <p>Species-specific conditions - White Crowned Snake <i>Cacophis harriettae</i> and Pale-headed Snake <i>Hoplocephalus bitorquatus</i></p>	<p>Species-specific survey is required for the White-Crowned Snake, Broad-headed Snake and Pale-headed Snake.</p> <p>These three species are adequately protected by the general conditions of the TSL.</p>	<p>Remove survey requirements for the White-Crowned Snake, Broad-headed Snake and Pale-headed Snake</p> <p>Remove species-specific conditions for White-Crowned Snake and Pale-headed Snake.</p> <p>Remove Broad-headed Snake from list of species requiring site-specific conditions.</p> <p>Maintain consideration of such species in relation to ground habitat protection.</p>
TSL 37	<p>Black-breasted Button-quail</p> <p>UNE</p> <p>Targeted fauna surveys - Diurnal Bird surveys - Black-breasted Button-quail</p>	<p>Under condition 8.8.4 of the UNE TSL, Forests NSW is required to survey for Black-breasted Button-quail across the entire region where modelled habitat occurs.</p> <p>The current model is a poor predictor of habitat and occurrence of the species in NSW is very unlikely. Targeted survey for the species is not appropriate.</p>	<p>Agree to remove survey requirement for Black-breasted Button-quail.</p> <p>Should the species be recorded, the requirement to develop a site-specific condition under condition 1.2 remains.</p>

TSL issue number	Issue/clause	Background and findings	Recommended changes
TSL 38	Schedule 5 - Species consideration Schedule 5 - Tables	Following resolution of species subject to species-specific conditions, the tables of schedule 5 require updating in the context of current threatened species listings to identify those species requiring implementation of species-specific conditions. This also applies to threatened fauna species considered adequately covered by the general conditions.	e.g.: move: Green-thighed Frog and Stephens' Banded Snake from Schedule 5 Table 1 to Schedule 5 Table 2. Add: Davies Tree Frog, <i>Nurus atlas</i> , <i>Nurua brevis</i> , Australian Fritillary, <i>Argyreus hyerbius</i> , <i>Phyllodes imperialis</i> southern spp. to Schedule 5 Table 1.
TSL 39	Updating the definitions of 'construction', 'upgrading' 'maintenance' and 're-opening of roads'. Applies to the licences (EPL, TSL and Fisheries) for the UNE, LNE, Southern and Eden IFOAs (all regions).	Varied definitions are used in the three licenses for 'construction', 'upgrading' 'maintenance' and 're-opening of roads'; these could be unified.	It is proposed to align the definitions of 'construction', 'upgrading' and 'maintenance' across the three licences. See EPL 12 and FL 2.

FLs

Table 4.13: Proposed changes to the FLs

FL issue number	Details of FL issue	Background and findings	Proposed changes
FL1	Clarify Fisheries Licence definitions in relation to Class 1 and Class 2 habitat and critical habitat.	The current definition of Class 1 and Class 2 aquatic habitat is ambiguous in relation to the proximity of potential and critical habitat to proposed operations.	Revise definitions of Class 1 and Class 2 aquatic habitat contained in condition 7 of the FL to clarify that the part of a watercourse, wetland or other water body being assessed is within the same catchment (drainage system) as the potential or critical habitat.
FL2	Updating the definitions of 'construction', 'upgrading' 'maintenance' and 're-opening of roads'. Applies to the licences (EPL, TSL and Fisheries) for the UNE, LNE, Southern and Eden IFOAs (all regions).	Varied definitions are used in the three licenses for 'construction', 'upgrading' 'maintenance' and 're-opening of roads'; these could be unified.	It is proposed to align the definitions of 'construction, 'upgrading' and 'maintenance' across the three licences. See EPL 12 and TSL 39.
FL3	Definitions of Class 1 and Class 2 aquatic habitat contained in condition 7 of the FL	The current definition of Class 1 aquatic habitat is ambiguous in relation to the proximity of potential threatened species habitat to proposed operations. It states 'within two kilometres upstream and five kilometres downstream of the site'. It should state 'within two kilometres upstream or five kilometres downstream of the site'.	Clarify that the definition is satisfied if the potential threatened species habitat occurs either upstream or downstream of the site of proposed works. The Class 2 aquatic habitat definition will need a similar revision where relevant.
FL4	The UNE, LNE and Eden FLs, under Condition 7, and Southern FL under Condition 7A	The UNE, LNE and Eden FL Condition 7 require that the boundary of any exclusion zone or buffer zone be marked in the field before specified forestry activity is commenced, where the activity will come within 50 metres of that boundary. In contrast, the Southern FL under Condition 7A has no marking requirements for the boundary of any exclusion zone or buffer zone. Consistency will be sought across the licences.	It is proposed to remove the requirement to mark the boundaries of riparian protection boundaries in the field.

Non-Licence Terms⁵ of the IFOAs

Table 4.14: Proposed changes to non-licence terms (Conditions)

NL number	Details of non-licence issue	Background and findings	Proposed changes
NL1	<p>Australian Group Selection (AGS) return time for Tumut sub-region Refer to Southern IFOA (Clause 11D)</p>	<p>The current return time for AGS silviculture for the Tumut Sub-region in the Southern IFOA requires at least a 20-year period between consecutive AGS harvesting events.</p> <p>This period of 20 years was derived after a description of the 'routine' cutting cycle period was provided verbally from Forests NSW as part of the input into the formulation of the Southern IFOA.</p> <p>It has become apparent that current return time provision of 20 years has limited the capacity to utilise forest stands before they deteriorate to an unsaleable state. The current return time also limits Forests NSW ability to respond to changes in markets, weather and seasonal conditions. Flexibility can be improved through aligning return times for AGS in the Tumut sub-region with those for the South Coast Sub-region.</p> <p>The proposal will have no effect on the timber volumes limitations specified under Clause 5 of the IFOA. The same limitations on volume of timber to be removed will apply</p>	<p>The return time for AGS silviculture in the Tumut region is proposed to be the same as the return times specified for AGS Light and AGS Medium in the South Coast Sub-region.</p>

⁵ Non-licence terms (conditions) are requirements in the IFOAs that do not fall under the licences. They include definitions and provisions applying to forestry operations generally.

NL number	Details of non-licence issue	Background and findings	Proposed changes
NL2 (Pt 1)	<p>Wilderness: Add land to which this approval does not apply</p> <p>Refer to Clause 4 (2) of UNE, LNE, Eden and Southern IFOAs</p> <p>Refer to Appendix D of UNE and LNE IFOAs</p>	<p>Under the FNPE Act (section 39) an area in which forestry operations authorised by an IFOA may be carried out cannot be proposed or identified as, or declared to be, a wilderness area under the <i>Wilderness Act 1987</i> or the NPW Act.</p> <p>This provision was intended to provide a stable timber supply and operating environment post the CRA/RFA process.</p> <p>Currently, however, the IFOA captures some areas of Crown-timber land that could be considered for proposal and identification as wilderness without affecting timber supply.</p> <p>It is proposed to exclude certain parcels of Crown-timber land that are not required for timber supply from the IFOA, including:</p> <ul style="list-style-type: none"> • Specific areas of Crown-timber to be proposed and identified as wilderness • Validation of past identifications of wilderness that potentially included areas of Crown-timber land to which an IFOA applied • Small parcels of Crown-timber land (such as roads, travelling stock routes, trigonometric reserves, river beds, etc.) enclosed or substantially surrounded by (but not included in) reserves under the NPW Act. 	<p>In accordance with the findings, add new maps to UNE, LNE, Eden and Southern IFOAs showing land not required for timber supply and to which the approvals will not apply.</p>

NL number	Details of non-licence issue	Background and findings	Proposed changes
NL2 (Pt 2)	<p>Wilderness: remove land to which this approval does not apply</p> <p>Refer to Clause 4 (2) (e) of UNE and LNE IFOAs</p> <p>Refer to Appendix D of UNE and LNE IFOAs</p>	<p>Some areas of Crown-timber land were excluded from the UNE and LNE IFOAs (mapped in Appendix D) to enable assessment and identification of wilderness to be completed. These processes have now been completed and portions of these lands have since been reserved under the NPW Act. It is intended that most of the remaining areas of state forest will be reserved under the NPW Act once potential mining interest issues have been resolved or the acquisition of Crown leases completed. Some areas are not to be reserved and are Zoned 2 under the FMZ system, so are not available for timber harvesting, removal of forest product and material, grazing or gravel/hard rock quarrying.</p> <p>It is proposed that the maps be removed from the IFOAs to enable operation of the IFOAs over the non-logging activities in the remaining areas not reserved under the NPW Act. These areas would be subject to the IFOAs whilst they remain as state forests and would be prevented from any further proposal, identification or declaration as wilderness. Areas awaiting reservation under the NPW Act could be declared as wilderness following any such reservation.</p>	<p>Remove the maps at Appendix D referring to land to which this approval does not apply for the UNE and LNE IFOAs.</p> <p>Replace the reference to the maps in Clause 4 (2) (e) with a reference to new maps (see Part 1 above).</p>

NL number	Details of non-licence issue	Background and findings	Proposed changes
NL3	<p>Proposed changes to plans of logging and plans of thinning operations</p> <p>Annual plan of logging operations</p> <p>Eden IFOA (Clause 22, 1 -3)</p> <p>UNE and LNE IFOAs (Clause 23, 1-3)</p> <p>Southern IFOA(Clause 27)</p> <p>Annual plan of thinning (and culling - for Southern IFOA only)</p> <p>Eden IFOA (Clause 29A)</p> <p>UNE and LNE IFOAs (Clause 29A)</p> <p>Southern IFOA (Clause 40)</p>	<p>Annual plans of logging and thinning operations provide detail on proposed operations on a financial year basis. The requirement to provide the annual plans is to ensure that Forests NSW consider the spreading of logging operations over space and time and that there has been some consideration of the estimated volume of timber to be to be removed.</p> <p>It is proposed that wording within clauses relating to the annual plan of logging operations and the annual plan of thinning operations are altered so they are unambiguous, more in accordance with Forests NSW current planning procedures and enable Forests NSW additional flexibility in the scheduling of harvesting activities while also maintaining forward planning to ensure that operations are dispersed in space and time.</p> <p>Timing of logging operations: The current clause 'order in which it is intended to carry out the proposed logging operations.' is ambiguous and should be changed to be in keeping with Forests NSW' current planning procedures and to allow for flexibility in scheduling of operations.</p> <p>Volume estimation: Meaningful estimation of volumes by timber products on a compartment by compartment basis is difficult so far in advance of harvesting operations. Additionally Forests NSW has advised that the FRAMES tool cannot provide accurate estimates at the compartment or even sub-regional level at this time. Nevertheless some sort of estimation of volume is consideration necessary as it is used to inform audit and assessment activities.</p> <p>Operation type: The current clauses for the annual plan of logging operations and the annual plan of thinning (or culling - for Southern only)</p>	<p>Timing of logging operations: The current clause 'order in which it is intended to carry out the proposed logging operations' should be reworded to replace 'order' with 'specified time period', to be defined in three month blocks, e.g. July-September. This would give Forests NSW increased flexibility to schedule and change the order of logging and thinning operations to respond to changes in markets, weather and/or seasonal conditions.</p> <p>Consider replacing 'carry out' with 'physically commence', which may be defined as 'when machinery is first used to prepare roads and/or log dumps or the first tree is felled'; 'carry out' is ambiguous & could be seen to cover the operation's full duration.</p> <p>Volume estimation: The part clause 'the predicted kinds and quantities of timber products that will be yielded from the proposed logging operations' is be replaced with the 'estimated total volume (combined products) per hectare to be removed for each compartment or tract' or similar. The 'estimated total volume (combined products)' is to be provided in broad classes (i.e. high, medium and low volume). These classes should directly correlate with the volume ranges specified for each region in the Forests NSW Practices Circular 2005/01 or any other successor document.</p> <p>Part of the clause will also be removed from the UNE, LNE and Eden IFOAs - 'determined in accordance with the Forest Resource and Management Evaluation System'; however it should be noted that should volume estimation be refined to a level where Forests NSW is comfortable with compartment/tract level</p>

NL number	Details of non-licence issue	Background and findings	Proposed changes
		<p>operations do not require Forests NSW to provide detail of proposed operations. It is meaningful to specify proposed operation types in the first instance as this also assists regulators in targeting auditing activities and handling stakeholder enquiries.</p>	<p>estimates, the original clause will be reinserted.</p> <p>Operation type: Introduce a new sub-clause to detail proposed operation type (or combination of) to be specified in the annual plan. To ensure consistency in the descriptions of operation types, each compartment should be categorised into one or a combination of the following groups: logging, thinning (or culling - in the case of Southern IFOA only), or roading.</p>
NL4	<p>Annual plan of forest products operations Eden, LNE and UNE IFOAs (Clause 27) Southern IFOA (Clause 34)</p>	<p>An annual plan of forest products operations must be submitted for the UNE, LNE and Eden IFOAs. An annual report of forest products operations must be provided for the Southern IFOA. These reports/plans capture information on proposed or actual forest products operations and ensure that Forests NSW considers and spreads these operations over space and time.</p> <p>It is difficult to provide annual plans of forest products because future demand for forest products is hard to predict, including those sold under section 30I of the <i>Forestry Act 1916</i>. This was recognised in the Southern IFOA and the requirement was changed to provision of an annual report on forest products operations and a similar amendment to the UNE, LNE and Eden IFOAs is recommended.</p> <p>Forests NSW planning, management, sales and reporting systems and practices effectively treat timber products such as fencing, sleepers, firewood or craftwood that are not produced from licensed logging operations (authorised under section 30I of the <i>Forestry Act 1916</i>), as 'forest products'. There is some ambiguity in non-licence terms about the types of forest products that should be reported under these clauses.</p>	<p>Alter clauses in the UNE, LNE and Eden IFOAs to be consistent with clauses in the Southern IFOA, which require an annual report on forest products operations to be produced</p> <p>Clarify that forest products sold under Section 30I of the <i>Forestry Act 1916</i> will be reported within an annual report on forest products operations, not within an annual plan or report of logging operations.</p>

NL number	Details of non-licence issue	Background and findings	Proposed changes
NL5	Annual report of logging operations Eden, UNE and LNE IFOA (Clause 24) Southern IFOA (Clause 31)	<p>Annual reports on logging operations provide detail on the volumes of timber products produced and areas harvested under various types of silviculture. The review has found that the IFOAs (except the Southern region IFOA) require annual reports on logging operations to be produced on a calendar-year basis. It is proposed that this be changed to financial year reporting to align with Forests NSW accounting and reporting systems.</p> <p>The IFOAs require recording and reporting of volumes of timber produced by thinning, and volumes of timber produced by logging, in the year. In practice, logging operations involving thinning are often carried out in conjunction with logging operations involving Australian group selection (AGS) or single tree selection (STS), and it is not practical to segregate the volume of timber produced from thinning from that produced by logging (i.e. AGS or STS).</p> <p>The IFOAs currently require the recording and reporting of 'areas logged' involving thinning and the total area 'selected for logging' using AGS, and the total area 'selected for logging' by STS (and, in Eden, the total area 'selected for logging' by alternate coupe) in the year. IFOAs also require recording and reporting of total area logged and total net harvest area for compartments completed in the year. It would be more pertinent to report on estimated areas logged under different silvicultural techniques rather than 'selected for logging'.</p>	<p>Amend IFOA clauses to allow for information to be recorded and reported on a financial-year basis.</p> <p>Allow the recording and reporting of volumes of timber (by product type – High Quality Large logs, which includes large veneer logs and large poles, piles and girders; High Quality Small logs, which includes small veneer logs and small poles, piles and girders; Low Quality logs; and pulp grade timber) produced by thinning/logging combined.</p> <p>Amend the IFOAs to allow the recording and reporting of the following, in the financial year:</p> <ul style="list-style-type: none"> • estimates of area logged by thinning (defined as the area of tract logged) • estimates of area logged by AGS (defined as the area of openings created by logging) • estimates of area logged by STS (defined as the area of tract logged) and • estimates of area logged by alternate coupe (defined as the area of coupes logged). <p>The total net harvest area for all compartments completed in the year.</p>

NL number	Details of non-licence issue	Background and findings	Proposed changes
NL6	Administrative changes to IFOAs Refer to whole document (Non licence, EPLs, TSL and FL)	There are numerous references within the NSW IFOAs which relate to previous administrative arrangements, departmental and ministerial responsibilities. Since IFOAs have been signed, there have been a number of organisational restructures which have resulted in changes of administrative responsibilities.	Administrative detail on the responsible NSW Ministers, Departmental heads and Government Departments should be revised to be made consistent with current departmental/organisational responsibilities for the various licences.
NL7	Monthly advice	Links to EPL table: EPL 13 Monthly advice to replace current requirement for the summary of operations.	

4. Criteria and indicator review

Introduction

Monitoring of indicators is an integral component of ESFM.

ESFM is defined in the NSW Forest Agreements as the guiding philosophy of forest conservation and management, and is based on the recognition that forests hold social, economic and environmental values in society. ESFM is founded on a framework that sets out performance indicators reflective of these key values.

ESFM criteria and indicators were established to track changes in key social, economic and environmental values over time. Information against ESFM criteria and indicators has been regularly monitored and is presented in annual implementation reports for the NSW Forest Agreements and Integrated Forestry Operations Approvals (see www.environment.nsw.gov.au/forestagreements/monitoring.htm).

The NSW Forest Agreements require that the ESFM criteria and indicators be reviewed and, where relevant, revised 'to ensure they are practical, measurable, cost effective and capable of being implemented at the regional level.'

The NSW RFAs also require the ESFM criteria and indicators, or, 'sustainability indicators' as they are termed in the RFAs, to be trialled and reviewed.

Background to the ESFM criteria and indicators

ESFM criteria and indicators were established to track changes in key measures, because these provide useful information about the forest resource and values that are important to the community.

Forest ecosystems provide a range of social, economic and environmental values. It must therefore be recognised that, given the dynamic nature of forests systems and the range of values that are provided by a forest, care must be taken when discerning trends from information reported through mechanisms such as the ESFM criteria and indicators. This is particularly true when considering information that references the state of forest values over short periods of time.

The ESFM criteria and indicators applicable to each forest agreement region are outlined in each forest agreement and are reproduced in Appendix 2 of this report for easy reference.

The ESFM criteria and indicators were developed in consultation between the State and Commonwealth Governments and the regional communities involved in the CRAs that were undertaken in developing the NSW Forest Agreements.

The indicators broadly align with the Montreal Process criteria and indicators (see section below), and were also developed to take into account the views of regional communities and DECCW and Forests NSW data collection and monitoring processes.

Review process

As required under the NSW Forest Agreements, an evaluation of the EFMSM criteria and indicators based on the indicators practicability, measurability, cost effectiveness and ease of implementation at the regional level has been undertaken. Experience already gained in preparing information against the EFMSM criteria and indicators for annual implementation reports for the NSW Forest Agreements and IFOAs was invaluable in the review process.

From 2005 the Australian Montreal Implementation Group (MIG), which includes representatives from the State and Commonwealth Governments, as well as other jurisdictions, worked extensively to assess whether existing national Montreal Process criteria and indicators could be refined. The MIG review aimed to remove duplication, fill gaps, reduce ambiguity and ensure indicators have both national and regional relevance. The national indicators were finalised in 2008. As such, the review of the EFMSM criteria and indicators has considered this work, with the intention of aligning EFMSM criteria and indicators with national MIG indicators wherever practical. Further information on the National

MIG Criteria and Indicators can be found at:
<http://adl.brs.gov.au/forestsaustralia/framework/indicator.html>).

Since the inception of ESFM criteria and indicators, a number of other state-based monitoring and reporting mechanisms have developed. The review of the ESFM criteria and indicators has also considered potential alignment with other state processes where relevant. Mechanisms considered include monitoring and reporting under the NSW State Plan, and the wealth of information presented under such reports as NSW State of the Environment Report, the State of the Parks Report and the Forests NSW Seeing report.

Review outcomes

ESFM Criteria and Indicators document

A report entitled *ESFM Criteria and Indicators for the Upper North East, Lower North East, Southern and Eden regions of NSW* encompassing the above considerations will be available as a separate report to this review document.

The report will specify the revised ESFM criteria and indicators that are to be monitored and reported on across NSW Forest Agreement regions into the future. The report will also include information on the rationale, potential data sources and potential interpretation of data for each ESFM indicator.

Review recommendation ESFM 1: NSW to publish a report entitled *ESFM Criteria and Indicators for the Upper North East, Lower North East, Southern and Eden regions of NSW*.

Reporting timeframe

The evaluation of ESFM indicators has also determined that reporting should be extended to five years. Extension of the reporting timeframe will allow changes in forest values over time to be reported more meaningfully. This will also align NSW ESFM criteria and indicator reporting mechanisms with other RFA states, such as Victoria and Tasmania.

Review recommendation ESFM 2: Reporting timeframe for all indicators will be extended to five years.

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Appendix 1 Items for the review and review conclusion/recommendations

The various categories within the 'Proposed review conclusion/recommendation' are as follows:

Descriptor	Meaning
Complete	Where a process/system or document has been completed. This will no longer be discussed in future reviews or annual reporting.
Not applicable	Where a process or document has been determined to be no longer required or is being delivered through an alternative mechanism. Reasons why milestones have been determined as such are explained in each case. These milestones will no longer be discussed in future reviews or annual reporting.
Ongoing	This relates to processes or documents that have commenced but are yet to be completed. This descriptor may also be applied to requirements that are to be produced on an annual or ongoing basis. Further progress on these milestones will be discussed in future reviews or annual reporting.

Report milestone number	Milestone	Proposed review conclusion/recommendation
1. Environmental Management Systems		
Milestone 1.1	Complete and implement Forests NSW Environmental Management System (E MS) Refer to UNE, LNE and Eden Forest Agreements section 2.1.1, Att 3, Att 4; Southern Forest Agreement - section 2.1.1, Att 2, Att 3, Att 6 (2) (c)	Complete
Milestone 1.2	Preparation of Parks and Wildlife Group (PWG) EMS Refer to UNE, LNE and Eden Forest Agreements section 2.1.2, Att 3; Southern Forest Agreement section 2.1.2, Att 6 (2) (b)	Ongoing
2. Management planning		
Milestone 2.1	Plans of management for the NPWS estate Refer to UNE, LNE and Eden Forest Agreements section 2.3.2, Att 8; Southern Forest Agreement section 2.3.2	Ongoing
Milestone 2.2	Release and adoption of NSW Biodiversity Strategy Refer to UNE, LNE and Eden Forest Agreements section 2.4.1 and Att 8; Southern Forest Agreement section 2.4.1, Att 6 (2) (d)	Complete

Report milestone number	Milestone	Proposed review conclusion/recommendation
Milestone 2.3	Forests NSW to produce ESFM plans Refer to UNE, LNE, Eden Forest Agreements section 2.1.1; Southern Forest Agreement sections 2.2.1, 4.3, Att 6 (1), Att 2 (a)	Complete
Milestone 2.4	Report on meeting targets in ESFM plans Refer to UNE, LNE, Eden, Southern Forest Agreements section 2.2.6	Ongoing
Milestone 2.5	Formation of a working group in Southern region to make recommendations on the management and tenure of areas of state forests that are isolated from the productive state forests Refer to Southern Forest Agreement section 6.16	Not applicable
Milestone 2.6	Large or significant areas of rainforest, HCVOG and other areas protected by exclusion – identification and management. Refer to UNE, LNE and Eden Forest Agreements section 2.4.4.5; Southern Forest Agreement 2.4.5.6	Complete
Milestone 2.7	Working plans for flora reserves to be incorporated into ESFM plans Refer to UNE, LNE and Forest Agreements section 2.2.2; Eden Forest Agreement section 2.2.2; Southern Forest Agreement sections 2.2.2, 2.3.2	Ongoing
Milestone 2.8	Working plans for informal reserves to be incorporated into ESFM plans Refer to UNE, LNE and Eden Forest Agreements section 2.3.3; Southern Forest Agreement section 2.3.3	Ongoing
Milestone 2.9	Guidelines for areas managed by prescription to be incorporated into ESFM plans Refer to UNE, LNE, Eden and Southern Forest Agreement section 2.3.3	Complete
Milestone 2.10	Implement the FMZ system and provision of maps Refer to UNE and LNE Forest Agreements section 2.2.2; Eden Forest Agreement section 2.2.2, Southern Forest Agreement section 2.2.2, UNE, LNE, Eden Forest Agreement Att 5	Complete
Milestone 2.11	Creation of special management zones under section 21A of the <i>Forestry Act 1916</i> Refer to UNE, LNE, Eden Forest Agreements section 2.3.1; Southern Forest Agreement section 2.3.1	Complete

Report milestone number	Milestone	Proposed review conclusion/recommendation
3. CAR reserve system		
Milestone 3.1	Procedures for purchasing leases and purchasing of leases through dedicated funding under the NSW Forest Agreement process Refer to UNE and LNE Forest Agreements section 6.16.2; Eden Forest Agreement section 6.16.1	Complete
Milestone 3.2	Aquatic reserves Refer to LNE, UNE, Eden, Southern Forest Agreements section 2.3.4	Ongoing
Milestone 3.3	Upgrading of FMZs, reviewing mineral objections and lands for further consideration (FURCONS) Refer to UNE and LNE Forest Agreements sections 2.3.1, 2.3.3, 6.16.2; Eden Forest Agreement section 6.16.1; Southern Forest Agreement section 2.3.3	Ongoing
4. Crown reserves and assessment of Crown land		
Milestone 4.1	Management and five-year review of Crown reserves/state conservation areas Refer to UNE, LNE and Eden Forest Agreements section 2.3.3; UNE and LNE Forest Agreement section 2.3.3; Eden Forest Agreement section 2.2.3; Southern Forest Agreement section 2.3.3	Ongoing
Milestone 4.2	Assessment of Crown land Refer to UNE and LNE Forest Agreements section 6.16.2	Ongoing
5. Threatened species management		
Milestone 5.1	Implementation of an assessment process for new information on species and undertaking reviews and process when an important new record is found (on a species already in IFOAs) Refer to UNE, LNE and Eden Forest Agreements sections 2.4.4.2, 2.4.4.3; Southern Forest Agreement section 2.4.5.4	Complete
Milestone 5.2	Notification about listing or delisting of items on schedules in <i>Threatened Species Conservation Act 1995</i> Refer to UNE, LNE, Eden Forest Agreements sections 2.4.3, 2.4.4.1; Southern Forest Agreement sections 2.4.4, 2.4.5.1	Complete

Report milestone number	Milestone	Proposed review conclusion/recommendation
Milestone 5.3	Development of a process for (a) assessment of new records of threatened species, populations and ecological communities not already covered by licences, whereby the conservation requirements of the species are assessed and (b) process for species new to science. Refer to UNE, LNE, Eden Forest Agreements sections 2.4.4.1, 2.4.4.2; Southern Forest Agreement sections 2.4.5.1, 2.4.5.2, 2.4.5.3	Complete
Milestone 5.4	Cooperation on management of threatened species, e.g. nomination process, cooperative approaches for management, recovery planning, key threatening processes, critical habitat Refer to UNE, LNE, Eden Forest Agreements section 2.4.3; Southern Forest Agreement section 2.4.4	Complete
Milestone 5.5	Milestone 5.5 Refinement of models to identify Hastings River mouse habitat Refer to UNE and LNE Forest Agreements section 2.4.3	Not applicable
Milestone 5.6	Milestone 5.6 Continued implementation of joint management plans, such as Pine Creek koala management plan Refer to UNE, LNE, Forest Agreements 2.4.3	Not applicable
6. Pest, weed and feral animal control		
Milestone 6.1	Wild dog control on land transferred to NPWS estate Refer to UNE and LNE Forest Agreements section 6.16.3; Eden Forest Agreement section 6.16.2	Complete
Milestone 6.2	Preparation of grazing management plans, feral and introduced predator control plans and threatened flora species management plans on state forests Refer to UNE, LNE and Eden Forest Agreements section 2.4.2; Southern Forest Agreement section 2.4.3	Ongoing
Milestone 6.3	Cooperation on weed control, including incorporating into regional ESFM plans and plans of management Refer to UNE and LNE Forest Agreements section 2.12; Eden Forest Agreement section 2.11; Southern Forest Agreement section 2.12, Att 6 (2) (m)	Complete

Report milestone number	Milestone	Proposed review conclusion/recommendation
Milestone 6.4	Cooperation on feral animal control, including incorporating into regional ESFM plans and plans of management Refer to UNE and LNE Forest Agreements section 2.12; Eden Forest Agreement section 2.11; Southern Forest Agreement section 2.12, Att 6 (2) (m)	Complete
Milestone 6.5	Cooperation between agencies on other forest health issues, such as bell miner associated dieback Refer to UNE, LNE, Southern Forest Agreements section 2.12; Eden Forest Agreement section 2.11	Complete
7. Managing for other forest values and uses		
Milestone 7.1	Participation of agencies in district fire committees (fire management) Refer to UNE, LNE and Eden Forest Agreements section 2.10; Eden Forest Agreement section 2.9; Southern Forest Agreement section 2.10; Southern Forest Agreement Att (6) (l)	Complete
Milestone 7.2	Forests NSW/NPWS to develop cooperative arrangements such as joint regional recreation and tourism plans Refer to UNE and LNE Forest Agreements section 2.13.1; Eden Forest Agreement section 2.12.1; Southern Forest Agreement section 2.13.1	Not applicable
Milestone 7.3	Carbon sequestration opportunities associated with revegetating sites within reserves in the UNE region Refer to UNE Forest Agreement section 2.13.2	Not applicable
Milestone 7.4	Occupation permits on state forests - formation of committee and phasing out of permits Refer to UNE, LNE, Eden Forest Agreements section 2.3.3; Southern Forest Agreement section 2.3.3	Ongoing
Milestone 7.5	Plantation areas within national parks to be rehabilitated by harvesting, prepare works programs and rehabilitation plans Refer to UNE and LNE Forest Agreements sections 3.3, 6.16.1, Att 11 - 30 June 2001, within six months of harvesting, ongoing	Not applicable
Milestone 7.6	NPWS and Forests NSW to prepare an MOU on joint usage of roads and trails Refer to UNE Forest Agreement section 2.13.5 - 1 January 2000; LNE Forest Agreement section 2.13.4 - 1 January 2000; Eden Forest Agreement section 2.12.4 - 1 January 2000; Southern Forest Agreement section 2.13.4 - 31 December 2002	Not applicable

Report milestone number	Milestone	Proposed review conclusion/recommendation
8. Private land		
Milestone 8.1	Identification of private land of conservation priority Refer to UNE and LNE Forest Agreements section 2.9.1 - 1 January 2000; Southern Forest Agreement section 2.9 - 30 June 2002	Ongoing
Milestone 8.2	Regional vegetation management committees/plans under the <i>Native Vegetation Conservation Act 1997</i> Refer to UNE and LNE Forest Agreements section 2.9.1; Southern Att 6 (2) (e), Att 6 (3 point 4)	Not applicable
Milestone 8.3	Establish a committee to promote conservation on private lands Refer to UNE and LNE Forest Agreements section 2.9.1; Eden Forest Agreement section 2.8.1; Southern Forest Agreement section 2.9	Complete
Milestone 8.4	Conservation mechanisms including voluntary mechanisms Refer to UNE and LNE Forest Agreements section 2.9.1, Att 7; Eden Forest Agreement section 2.8.1, Att 7; Southern Forest Agreement section 2.9, Att 5	Complete
Milestone 8.5	Improve administrative arrangements and cooperation and coordination by state agencies to facilitate the timber industry utilising private forest resources including marketing and pricing Refer to Southern Forest Agreement Att 6 (3)	Ongoing
Milestone 8.6	Arrangements to ensure ESFM on private forests involving the provision of technical advice, extension services, research and assistance in the estimation of sustainable yield Refer to Southern Forest Agreement Att 6 (3 point 1)	Ongoing
Milestone 8.7	Private forest inventory to be undertaken to determine the basis of wood product yield from private land. Refer to Southern Forest Agreement Att 6 (4)	Not applicable
9. Private native forestry and plantations		
Milestone 9.1	Code for private native forestry to be put into place Refer to Southern Forest Agreement Att 6 (3, points 2 and 3)	Complete
Milestone 9.2	Code of practice for plantations to be put into place Refer to Southern Forest Agreement Att 6 (3 point 3); Southern Forest Agreement Att 6 (3 point 5); Southern Forest Agreement section 2.2.3	Complete

Report milestone number	Milestone	Proposed review conclusion/recommendation
10. World heritage and wilderness		
Milestone 10.1	Review of CERRA World Heritage Areas to identify any additional rainforest to be included Refer to UNE and LNE Forest Agreements section 2.7	Ongoing
Milestone 10.2	Studies of the dedicated reserve system to identify World Heritage values, including eucalypt dominant vegetation and religious beliefs embedded in the landscape Refer to UNE and LNE Forest Agreements section 2.7; Eden Forest Agreement section 2.6; Southern Forest Agreement section 2.7	Ongoing
Milestone 10.3	Placing a wilderness assessment report on public exhibition, providing advice and Minister considering areas in the UNE/LNE regions and in Southern region providing advice and Minister considering areas Refer to UNE and LNE Forest Agreements section 2.5, Att 8 (point 4); Southern Forest Agreement section 2.5	Complete
Milestone 10.4	Altering the NSW Forest Agreements and IFOA to provide for the protection of wild rivers Refer to UNE, LNE and Southern Forest Agreements sections 2.6; Eden Forest Agreement sections 2.5	Not applicable
11. Cultural heritage		
Milestone 11.1	Cultural heritage guidelines for state forests and manage cultural values Refer to UNE and LNE Forest Agreements section 2.8, Att 8 (point 6); Eden Forest Agreement section 2.7 Att 8 (point 5); Southern Forest Agreement section 2.8	Complete
Milestone 11.2	Finalisation of Forests NSW policy on indigenous and non-indigenous cultural heritage Refer to UNE and LNE Forest Agreements section 2.8; Eden Forest Agreement section 2.7; Southern Forest Agreement section 2.8	Complete
Milestone 11.3	Managing cultural values including NPWS reviewing its cultural heritage guidelines Refer to UNE, LNE section 2.8 and Att 8; Eden Forest Agreement section 2.7 and Att 8; Southern Forest Agreement section 2.8	Complete
Milestone 11.4	Report on cultural heritage performance Refer to UNE, LNE, Southern Forest Agreements section 2.8; Eden Forest Agreement section 2.7	Complete
Milestone 11.5	Updating section 170 register including sites of state significance Refer to UNE, LNE and Southern Forest Agreements section 2.8; Eden Forest Agreement section 2.7	Complete

Report milestone number	Milestone	Proposed review conclusion/recommendation
Milestone 11.6	NPWS to review indigenous cultural heritage management processes to provide a landscape-based system Refer to UNE and LNE Forest Agreements section 2.8; Eden Forest Agreement section 2.7; Southern Forest Agreement section 2.8	Complete
Milestone 11.7	NPWS to develop its information management system for indigenous heritage in consultation with Aboriginal communities and other stakeholders Refer to UNE, LNE, Eden, Southern Forest Agreements section 2.8 - ongoing	Complete
12. Aboriginal interests		
Milestone 12.1	Assessment of all parks to determine if any could be added to Schedule 14 of the NPW Act Refer to UNE and LNE Forest Agreements section 5.1.1; Southern Forest Agreement section 5.1.1	Not applicable
Milestone 12.2	Forests NSW and NPWS to prepare strategies for Aboriginal involvement in forest management Refer to UNE, LNE and Eden Forest Agreements section 5.1.3; Southern Forest Agreement section 5.1.3	Ongoing
Milestone 12.3	Forests NSW to involve Aboriginal committees in the development and finalisation of its policy on Aboriginal involvement in forest management and form part of the EMS Refer to UNE, LNE and Eden Forest Agreements section 5.1.3; Southern Forest Agreement section 5.1.3	Complete
Milestone 12.4	NPWS and Forests NSW to undertake joint management arrangements with local Aboriginal communities and examination of state forests for co-management arrangements Refer to UNE, LNE and Eden Forest Agreements section 5.1.1; UNE and LNE Forest Agreements section 5.1.1; Southern Forest Agreement section 5.1.1	Ongoing
Milestone 12.5	Joint ventures with local Aboriginal communities and development of project plans Refer to UNE, LNE and Eden Forest Agreements section 5.1.1; Southern Forest Agreement section 5.1.1	Ongoing
Milestone 12.6	NPWS and Forests NSW prepare a joint strategy to gain access for traditional and cultural purposes Refer to UNE, LNE and Eden Forest Agreements section 5.1.1; Southern Forest Agreement section 5.1.1	Complete

Report milestone number	Milestone	Proposed review conclusion/recommendation
Milestone 12.7	NPWS and Forests NSW must prepare an employment and economic opportunities program with Aboriginal people, partnerships to create employment and training opportunities, employment in NPWS and Forests NSW Refer to UNE and LNE Forest Agreements section 5.1.2; Southern Forest Agreement section 5.1.2	Not applicable
13. Aboriginal interests in the Hume and Riverina regions of SFNSW and the South West Slopes region of NPWS		
Milestone 13.1	Cooperative management arrangements - Forests NSW and NPWS to negotiate separate cooperative management agreements to be involved in management and joint ventures; an Aboriginal Management Committee will be established for both state forests and national parks to represent and manage Aboriginal cultural heritage on state forests and national parks respectively; The committee will be involved in the development of terms of reference and a plan of management Refer to Southern Forest Agreement section 5.1.4.1	Complete
Milestone 13.2	Specified enterprise development on state forests within Hume and Riverina regions of Forests NSW. Refer to Southern Forest Agreement section 5.1.4.2	Ongoing
Milestone 13.3	Areas of state forests to be set aside for Aboriginal education and specific community activities within Hume and Riverina regions Refer to Southern Forest Agreement section 5.1.4.3 - 31 December 2006	Complete
Milestone 13.4	Zone to be created to protect Aboriginal cultural heritage within Hume and Riverina regions Refer to Southern Forest Agreement section 5.1.4.3	Complete
Milestone 13.5	Forests NSW to initiate specific employment opportunities in the Hume and Riverina regions of Forests NSW subject to external funding Refer to Southern Forest Agreement section 5.1.4.4	Ongoing
Milestone 13.6	Management of Aboriginal cultural heritage on NPWS estate, subject to funding: cooperative management agreement to ensure the effective protection and management of Aboriginal cultural heritage; access policy; provision for two Aboriginal representatives to sit on the National Parks and Wildlife South West Slopes Regional Advisory Committee; provide cultural awareness training Refer to Southern Forest Agreement section 5.1.4.5	Complete
Milestone 13.7	Specified employment and training opportunities with NPWS Refer to Southern Forest Agreement section 5.1.4.6	Ongoing

Report milestone number	Milestone	Proposed review conclusion/recommendation
14. Supply arrangements		
Milestone 14.1	Consultation on timber arrangements through the development of plans of operation Refer to UNE, LNE and Eden Forest Agreements section 3.4; Southern Forest Agreement section 4.3	Ongoing
Milestone 14.2	Additional volumes supplied under a transitional 'top-up' arrangement over two years to assist industry adjustments to terminate by 31 December 2000 Refer to UNE and LNE Forest Agreements section 3.2	Complete
Milestone 14.3	Amendment of existing wood supply agreement with Harris Daishowa Australia and Boral and wood supply agreement arrangements for processing thinnings Refer to UNE, LNE and Eden Forest Agreements section 3.2	Complete
Milestone 14.4	Review legislation and policies relevant to the allocation and pricing of hardwood logs from state forests Refer to UNE, LNE and Eden Forest Agreements Att 8	Not applicable
15. Supplementing timber supply		
Milestone 15.1	Supplementary timber supply by actions such as purchasing private lands and/or timber rights to supply high quality large sawlogs and large veneer logs Refer to UNE and LNE Forest Agreements sections 2.9.2, 3.3, 3.6, 6.16.2, Att 10; Eden 2.8.2; Southern Forest Agreement section 3.3.3, 3.6	Ongoing
Milestone 15.2	Development of a process to consider unmet targets prior to land purchases Refer to UNE and LNE Forest Agreements section 6.16.2; Southern Forest Agreement section 3.3.3	Ongoing
Milestone 15.3	Establishment of plantations Refer to UNE Forest Agreement section 3.2; LNE sections 3.1, 3.3, 3.6; Southern section 3.6, Att8	Ongoing
16. FRAMES improvement, inventory, sustainable yield, volume review		
Milestone 16.1	Continuous FRAMES development program for the UNE, LNE, Eden and Southern regions Refer to UNE, LNE, Eden FAs section 3.5; Southern FA section 3.5 and Att 6 (7)	Ongoing

Report milestone number	Milestone	Proposed review conclusion/recommendation
Milestone 16.2	Inventory system for regrowth forests for Eden; improvement to inventory in UNE, LNE and Southern Refer to UNE, LNE and Eden Forest Agreements section 3.5, Att 8; Southern Forest Agreement section 3.5, Att 6 (6) (e)	Ongoing
Milestone 16.3	Commission and publish an independent review of the FRAMES system, including improvements applying to South Coast and Tumut subregions Refer to Southern Forest Agreement Att 6 (8 point 1)	Complete
Milestone 16.4	Monitoring FRAMES through comparison of actual versus predicted volumes Refer to UNE, LNE, Eden section 3.5; Southern Forest Agreement section 3.5, Att 6 (6) (f), Att 6 (7 point 12)	Ongoing
Milestone 16.5	Strategic and operational requirements of sustainable yield systems and processes, review sustainable yield every five years using enhanced FRAMES and publish methods Refer to UNE, LNE and Eden Forest Agreements section 3.1; Southern Forest Agreement Att 6 (8)	Ongoing
Milestone 16.6	Complete and publish independent audits of sustainable yield Refer to Southern Forest Agreement Att 6 (8 point 3)	Ongoing
Milestone 16.7	Review of wood supply/timber volumes Refer to UNE and LNE Forest Agreements sections 3.2, 3.5	Complete
17. Forests NSW practices including silviculture		
Milestone 17.1	Report on annual production of timber products and non-timber/forest products such as non-quota material, firewood, fencing materials, seed, beekeeping products, cut wildflowers, commercial bush tucker, tea tree oil and road construction material may also be supplied on a sustainable basis Refer to UNE, LNE and Eden Forest Agreements sections 3.2, 3.5; Southern Forest Agreement section 3.2, 3.5, Att 6 (6) (d)	Complete
Milestone 17.2	Preparation of eco field guides Refer to UNE and LNE Forest Agreements section 2.2.4; Southern Forest Agreement sections 2.2.4, 4.3	Complete
Milestone 17.3	Forest Practices Code: Part 5 - Wildlife Management in Native Forests Refer to UNE, LNE, Eden and Southern Forest Agreements section 2.2.4, Att 6	Not applicable

Report milestone number	Milestone	Proposed review conclusion/recommendation
Milestone 17.4	Establishing demonstration areas in the UNE and LNE regions and establishing a register of locations where different silvicultural practices/silvicultural regimes can be examined in Southern region, as an aid for field supervisor training Refer to UNE and LNE Forest Agreements section 2.2.8; Southern Forest Agreement sections 2.2.8, 4.2, Att 6 (2) (o)	Ongoing
Milestone 17.5	Implementing silvicultural regimes (including publishing Native Forest Silviculture Manual) that will outline the scientific basis for site-specific silvicultural regimes and silvicultural decisions and guidelines to where such regimes are applied, a peer review to form part of consultation on the manual Refer to UNE, LNE and Eden Forest Agreements section 2.2.8; Southern Forest Agreement section 2.2.8, Att 6 (2) (p)	Complete
Milestone 17.6	Determine, based on review, field-based sampling and principles of sustainability to determine the range of silvicultural regimes and prescriptions that can be appropriately applied to each strata of forest type; use in Southern region Australian Group Selection light, medium, heavy and Single Tree Selection light, medium and heavy; Forest Resource Assessment and Management Evaluation System to be based on regimes Refer to Southern Forest Agreement Att 6 (6) (c)	Complete
Milestone 17.7	Internal audit system to ensure consistent standards and reporting on results, review processes Refer to UNE, LNE, Eden, Southern Forest Agreements section 2.2.5 - ongoing; Southern Forest Agreement Att 6 (2) (n)	Complete
Milestone 17.8	Harvest plans to be prepared Refer to UNE, LNE, Eden, Southern Forest Agreements section 2.2.3	Complete
Milestone 17.9	Notification about forestry operations Refer to UNE, LNE and Eden Forest Agreements section 2.2.7; Southern Forest Agreement section 2.2.6	Complete
Milestone 17.10	Liaison by Forests NSW with PlanningNSW, National Parks and Wildlife Service and Environmental Protection Authority on proposed forestry operations not covered by a forest agreement or Integrated Forestry Operations Approval including environmental assessment and evaluation Refer to UNE, LNE, Eden Forest Agreements, Southern Forest Agreement section 2.2.7	Ongoing

Report milestone number	Milestone	Proposed review conclusion/recommendation
18. External auditing processes and reporting results, review processes		
Milestone 18.1	External auditing processes and reporting results, review processes Refer to Southern Forest Agreement Att 6 (2) (n)	Complete
19. Charcoal provisions in NSW Forest Agreements		
Milestone 19.1	Charcoal provisions Refer to Southern Forest Agreement section 3.3.2	Not applicable
20. Staff training, employment and industry initiatives		
Milestone 20.1	Staff and contractors of Forests NSW and National Parks and Wildlife Service to receive competency-based training (including maintaining and enhancing processes); specifically for Forests NSW field staff and forest operators to receive competency-based training in forest values including flora/fauna identification and management, heritage management, soil/water protection, silvicultural training, inventory and management information systems, product segregation and harvest planning Refer to UNE and LNE Forest Agreements section 2.1.1, 2.1.2; Eden Forest Agreement sections 2.1.1, 2.1.2, 3.6; Southern Forest Agreement section 2.1.1, 2.1.2, Att 6 (2) (k)	Complete
Milestone 20.2	Enhance opportunities for industry development and employment in forest-based industries Refer to UNE, LNE and Eden Forest Agreements - section 3.6 and Att 10, Southern Forest Agreement - section 3.6, Att 8	Complete
21. Community awareness and education		
Milestone 21.1	Providing ongoing formal participation to raise awareness and understanding of ESFM and how it can be achieved in NSW forests Refer to UNE, LNE and Eden Forest Agreements Att 8; Southern Forest Agreement Att 6 (2) (g)	Complete
Milestone 21.2	Department of Planning, National Parks Wildlife Service, Environmental Protection Authority and NSW Fisheries must devise and implement a coordinated complaint handling and response system for any Integrated Forestry Operations Approval Refer to UNE, LNE and Eden Forest Agreements section 6.15; Southern Forest Agreement section 6.15	Complete

Report milestone number	Milestone	Proposed review conclusion/recommendation
22. Community consultation — informing the public		
Milestone 22.1	Additional reporting mechanisms by National Parks and Wildlife Service (State of the Parks report, National Parks and Wildlife Regional Advisory Committees and others) and Forests NSW (consulting on operational issues such as the Plan of Operations, stakeholder consultation on a range of matters and others) and other reporting mechanisms Refer to UNE, LNE, Eden and Southern Forest Agreements sections 4.2, 4.3, 4.5, and 2.2.6	Complete
Milestone 22.2	Project reports to be publicly available including FRAMES Refer to Southern Forest Agreement section 2.11.3; Southern Forest Agreement Att 6 (5)	Complete
Milestone 22.3	Availability of forest agreements and integrated forestry operations approvals including online Refer to Southern Forest Agreement section 6.11	Complete
Milestone 22.4	Public notice and availability of agreements assessment documents and reports Refer to UNE, LNE and Eden Forest Agreements section 6.11; Southern Forest Agreement section 6.2; Southern Forest Agreement section 6.11	Complete
23. Reporting and monitoring		
Milestone 23.1	Monitoring and reporting of criteria and indicators Refer to UNE and LNE Forest Agreements section 2.11.2, Att 9; Eden Forest Agreement section 2.10.2, Att 9; Southern Forest Agreement section 2.11.2, Att 7	Ongoing
Milestone 23.2	Annual reports on forest agreements and tabling reports Refer to UNE, LNE, Eden, Southern Forest Agreement section 6.9	Ongoing
Milestone 23.3	Trial and assessment of criteria and indicators including preparation of evaluation framework Refer to UNE and LNE Forest Agreements section 2.11.2; Eden Forest Agreement section 2.10.2; Southern Forest Agreement section 2.11.2	Complete
24. Research and data management		
Milestone 24.1	Data management agreement and archive Refer to UNE, LNE, Eden section 6.13; Southern Forest Agreement section 6.13	Complete

Report milestone number	Milestone	Proposed review conclusion/recommendation
Milestone 24.2	Milestone 24.2 Preparation of strategy to outline all monitoring and research to be undertaken by NPWS and Forests NSW Refer to UNE and LNE Forest Agreements section 2.11.3; Eden Forest Agreement section 2.10.3; Southern Forest Agreement section 2.11.3	Not applicable
Milestone 24.3	Developing and implementing an information system to facilitate the sharing of data for use by all agencies, including local government, involved in the management of forested land Refer to UNE, LNE and Eden Forest Agreements Att 8; Southern Att 6 (2) (h)	Complete
Milestone 24.4	Improving the coordination and effective use of resources allocated to research for ESFM in NSW Refer to Southern Forest Agreement Att 6 (2) (f)	Complete
Milestone 24.5	Research projects on former state forests Refer to UNE and LNE Forest Agreements section 2.11.3; Eden Forest Agreement section 2.10.2; Southern Forest Agreement section 2.11.3	Complete
Milestone 24.6	A compendium of NSW forest research must be prepared Refer to UNE and LNE Forest Agreements section 2.11.3, Eden Forest Agreement section 2.10.3, Southern Forest Agreement section 2.11.3	Ongoing
Milestone 24.7	Operational research trial Refer to Eden Forest Agreement section 3.1	Not applicable
Milestone 24.8	Develop a suite of computational tools to help manage NSW forests at operational scales for a range of values, including wood yield, growth stage, water quality and quantity, natural and cultural heritage and wildlife habitat Refer to Southern Forest Agreement Att 6 (6) (a)	Ongoing
Milestone 24.9	Develop by the end of 2010, a model to predict recruitment and maintenance of habitat trees over time Refer to Southern Forest Agreement Att 6 (6) (b)	Ongoing

Appendix 2 Current indicators of ESFM

Current indicators of ESFM for the Eden region Forest Agreement

Forest value/criteria	Indicator
Biodiversity	<p>1.1 Extent of forest ecosystem types and vegetation types by growth stage (Category A). MIG 1.1.a Extent of area by forest type and tenure (Category A).</p> <p>1.2 Extent of connectivity in the forest landscape in relation to threatened species habitat, general retained habitat on public and private land, and conservation reserves (Category A). MIG 1.2.a A list of forest dwelling species (Category A). MIG 1.2.b The status (threatened, rare, vulnerable, endangered, or extinct) of forest dwelling species at risk of not maintaining viable breeding populations, as determined by legislation or scientific assessment (Category A).</p> <p>1.3 Management measures in place to maintain species extent and abundance (interim for first five years of the Forest Agreement) (Category A). 1.3.b List of representative species by extent and abundance. Representative sample to include threatened species, key functional groups and indicator species (Category B).</p>
The productive capacity and sustainability of forest ecosystems	<p>MIG 2.1.a Area of forest land and net area of forest land available for timber production (Category A).</p> <p>2.1.b Annual removal of timber and non-timber products from forest ecosystems compared with those estimated to be ecologically sustainable by tenure (Category B).</p> <p>2.1.d Annual removal of timber products and non-timber products from forest ecosystems by volume (Category A).</p> <p>MIG 2.1.f Area and percent of plantation established meeting effective stocking one year after planting (Category A).</p> <p>MIG 2.1.g Area and percent of harvested area of native forest effectively regenerated (Category A).</p> <p>2.3 Standing volume of log stocks by species groups and diameter at breast height class for multi-aged native forest and available for timber production by land tenure (Category A).</p>
Forest ecosystem health and vitality	<p>3.1 List of biological factors influencing forest health and vitality including weeds, feral animals, insects and diseases (Category B).</p> <p>MIG 3.1.a Area and percent of forest affected by processes or agents that may change ecosystem health and vitality (narrative as interim) (Category A).</p> <p>3.2 Impact of fire on forest-related values (Category B).</p>
Soil and water	<p>4.1 Road density by category and catchment, and stream crossing density by catchment, for the total Forest Agreement area, including forest and non forest areas. Calculation of an ecologically sustainable road index and an ecologically sustainable crossing index (Category A).</p> <p>MIG 4.1.a (Interim) Area and percent of forest land systematically assessed for soil erosion hazard, and for which site-varying scientifically-based measures to protect soil and water values are implemented (Category A).</p>
Forest contribution to global carbon cycles	<p>MIG 5.1a Total forest ecosystem biomass and carbon pool, and if appropriate, by forest type, age class, and successional stages (Category B).</p>

Forest value/criteria	Indicator
	MIG 5.1c Contribution of forest products to the global carbon budget (Category B).
Long-term multiple socio-economic benefits to meet the needs of society	<p>6.1 Average volume and royalty value of logs harvested per annum by species and grade by tenure (Category A).</p> <p>MIG 6.2.c Number of visits per annum (Category A).</p> <p>6.3 Availability and usage of recreational/tourism facilities (Category B).</p> <p>6.4 Employment numbers by type across all forest users in Eden region (Category A).</p> <p>6.5 Gross income index related to forests (Category B).</p> <p>MIG 6.5.a Direct and indirect employment in the forest sector and forest sector employment as a proportion of total employment (Category A).</p> <p>6.6 Change in condition and number of recorded places, artefacts, sites, buildings or other structures (Category A).</p>
Legal, institutional and economic framework for forest conservation and sustainable management	<p>MIG 7.1 (Narrative) Extent to which the legal framework (laws, regulations, guidelines) supports the conservation and sustainable management of forests (Category A).</p> <p>MIG 7.2 (Narrative) Extent to which the institutional framework supports the conservation and sustainable management of forests (Category A).</p> <p>MIG 7.4 (Narrative) Capacity to measure and monitor changes in the conservation and sustainable management of forests (Category A).</p> <p>MIG 7.5 (Narrative) Capacity to conduct and apply research and development aimed at improving forest management and delivery of forest goods and services (Category A).</p>

Current indicators of ESFM for the LNE region Forest Agreement

Forest value/criteria	Indicator
Biodiversity	<p>1.1.a Extent of area by forest type and tenure.</p> <p>1.1.b Area of forest type by growth stage distribution by tenure.</p> <p>1.1.e Fragmentation of forest types.</p> <p>1.2.a A list of forest dwelling species</p> <p>1.2.b The status (threatened, rare, vulnerable, endangered, or extinct) of forest dwelling species at risk of not maintaining viable breeding populations, as determined by legislation or scientific assessment.</p> <p>1.2.b.1 The status of endangered populations and ecosystems as determined by legislation or scientific assessment (sub-indicator of 1.2.b).</p>
Maintenance of productive capacity of forest ecosystems	<p>2.1.a Area of forest land and net area of forest land available for timber production.</p> <p>2.1.b Total growing stock of both merchantable and non-merchantable tree species on native forest land available for timber production.</p> <p>2.1.d Annual removal of wood products compared to sustainable volume.</p> <p>2.1.f Area and percent of plantation established meeting effective stocking one year after planting.</p>

Forest value/criteria	Indicator
	2.1.g Area and percent of harvested area of native forest effectively regenerated.
Maintenance of ecosystem health and vitality	3.1.a Area and percent of forest affected by processes or agents that may change ecosystem health and vitality (narrative as interim)
Conservation and maintenance of soil and water resources	4.1.a Area and percent of forest land covered by comprehensive road management plans, which include: <ul style="list-style-type: none"> - an assessment of the extent of existing road infrastructure - processes for ongoing improvement - targets and milestones. 4.1.a Area and percent of forest land systematically assessed for soil erosion hazard, and for which site-varying scientifically-based measures to protect soil and water values are implemented (Interim).
Maintenance of forest contribution to global carbon cycles	5.1a Total forest ecosystem biomass and carbon pool, and if appropriate, by forest type, age class, and successional stages (Category B). 5.1c Contribution of forest products to the global carbon budget (Category B).
Maintenance and enhancement of long term multiple socio-economic benefits to meet the needs of society	6.2.c Number of visits per annum. 6.4.c Change in condition and number of recorded places, artefacts, sites, buildings or other structures. 6.5.a Direct and indirect employment in the forest sector and forest sector employment as a proportion of total employment.
Legal, institutional and economic framework for forest conservation and sustainable management	7.1 Extent to which the legal framework (laws, regulations, guidelines) supports the conservation and sustainable management of forests (Narrative). 7.2 Extent to which the institutional framework supports the conservation and sustainable management of forests (Narrative). 7.4 Capacity to measure and monitor changes in the conservation and sustainable management of forests (Narrative). 7.5 Capacity to conduct and apply research and development aimed at improving forest management and delivery of forest goods and services (Narrative).

Current indicators of ESFM for the UNE region

Forest value/criteria	Indicator
Biodiversity	1.1.a Extent of area by forest type and tenure. 1.1.b Area of forest type by growth stage distribution by tenure. 1.1.e Fragmentation of forest types. 1.2.a A list of forest dwelling species 1.2.b The status (threatened, rare, vulnerable, endangered, or extinct) of forest dwelling species at risk of not maintaining viable breeding populations, as determined by legislation or scientific assessment. 1.2.b.1 The status of endangered populations and ecosystems as determined by legislation or scientific assessment (sub-indicator of 1.2.b).
Maintenance of productive capacity of forest ecosystems	2.1.a Area of forest land and net area of forest land available for timber production.

Forest value/criteria	Indicator
	<p>2.1.b Total growing stock of both merchantable and non-merchantable tree species on native forest land available for timber production.</p> <p>2.1.d Annual removal of wood products compared to sustainable volume.</p> <p>2.1.f Area and percent of plantation established meeting effective stocking one year after planting.</p> <p>2.1.g Area and percent of harvested area of native forest effectively regenerated.</p>
Maintenance of ecosystem health and vitality	3.1.a Area and percent of forest affected by processes or agents that may change ecosystem health and vitality (narrative as interim)
Conservation and maintenance of soil and water resources	4.1.a Area and percent of forest land covered by comprehensive road management plans, which include;
	<ul style="list-style-type: none"> - an assessment of the extent of existing road infrastructure, - processes for ongoing improvement, - targets and milestones. <p>4.1.a Area and percent of forest land systematically assessed for soil erosion hazard, and for which site-varying scientifically-based measures to protect soil and water values are implemented (Interim).</p>
Maintenance of forest contribution to global carbon cycles	<p>5.1a Total forest ecosystem biomass and carbon pool and, if appropriate, by forest type, age class, and successional stages (Category B).</p> <p>5.1c Contribution of forest products to the global carbon budget (Category B).</p>
Maintenance and enhancement of long term multiple socio-economic benefits to meet the needs of society	<p>6.2.c Number of visits per annum.</p> <p>6.4.c Change in condition and number of recorded places, artefacts, sites, buildings or other structures.</p> <p>6.5.a Direct and indirect employment in the forest sector and forest sector employment as a proportion of total employment.</p>
Legal, institutional and economic framework for forest conservation and sustainable management	<p>7.1 Extent to which the legal framework (laws, regulations, guidelines) supports the conservation and sustainable management of forests (Narrative).</p> <p>7.2 Extent to which the institutional framework supports the conservation and sustainable management of forests (Narrative).</p> <p>7.4 Capacity to measure and monitor changes in the conservation and sustainable management of forests (Narrative).</p> <p>7.5 Capacity to conduct and apply research and development aimed at improving forest management and delivery of forest goods and services (Narrative).</p>

Current indicators of ESFM for the Southern region Forest Agreement

Forest value/criteria	Indicator
Biodiversity	<p>1.1.a Extent of area by forest ecosystem and tenure.</p> <p>1.1.a.1 Understorey vegetation layer.</p> <p>1.1.b Area of forest ecosystems by growth stage distribution by tenure.</p> <p>1.1.e Fragmentation of forest ecosystem.</p> <p>1.2.a A list of forest dwelling species.</p> <p>1.2.b The status (threatened, rare, vulnerable, endangered, or extinct) of forest dwelling species at risk of not maintaining viable breeding populations, as determined by legislation or scientific assessment.</p> <p>1.2.b.1 The status of endangered populations, ecological communities and ecosystems as determined by legislation or scientific assessment.</p>
Maintenance of productive capacity of forest ecosystems	<p>2.1.a Area of forest land and net area of forest land available for timber production.</p> <p>2.1.b Total growing stock of both merchantable and non-merchantable tree species on native forest land available for timber production.</p> <p>2.1.d Annual removal of wood products compared to sustainable volume.</p>
	<p>2.1.e Annual removal of non-timber forest products (e.g. berries, mushrooms, game, honey, wildflowers, tree ferns and possums) compared to the sustainable level.</p> <p>2.1.f Area and percentage of plantation established meeting effective stocking one year after planting.</p> <p>2.1.g Area and percentage of harvested area of native forest effectively regenerated.</p>
Maintenance of ecosystem health and vitality	<p>3.1.a Area and percentage of forest affected by processes or agents that may change ecosystem health and vitality (narrative as interim).</p>
Conservation and maintenance of soil and water resources	<p>4.1.a Area and percentage of forest land covered by comprehensive road management plans, which include;</p> <ul style="list-style-type: none"> • an assessment of the extent of existing road infrastructure • processes for ongoing improvement • targets and milestones. <p>4.1.a (Interim) Area and percentage of forest land systematically assessed for soil erosion hazard, and for which site-varying scientifically-based measures to protect soil and water values are implemented.</p>
Maintenance of forest contribution to global carbon cycles	<p>5.1a Total forest ecosystem biomass and carbon pool, and if appropriate, by forest ecosystems, age class, and successional stages.</p> <p>5.1c Contribution of forest products to the global carbon budget.</p>
Maintenance and enhancement of long term multiple socio-economic benefits to meet the needs of society	<p>6.1.a Value and volume of wood and wood production.</p> <p>6.2.c Number of visits per annum.</p> <p>6.4.c (i) Change in condition and number of Aboriginal cultural heritage features within the forest eState including recorded places, artefacts, sites, or other structures.</p>

Forest value/criteria	Indicator
	<p>6.4.c (ii) Change in condition and number of historic heritage features within the forest eState including recorded places, artefacts, sites, buildings or other structures.</p> <p>6.5.a Direct and indirect employment in the forest sector and forest sector employment as a proportion/percentage of total employment.</p>
<p>Legal, institutional and economic framework for forest conservation and sustainable management</p>	<p>7.1 Extent to which the legal framework (laws, regulations, guidelines) supports the conservation and sustainable management of forests (Narrative).</p> <p>7.2 Extent to which the institutional framework supports the conservation and sustainable management of forests (Narrative).</p> <p>7.4 Capacity to measure and monitor changes in the conservation and sustainable management of forests (Narrative).</p> <p>7.5 Capacity to conduct and apply research and development aimed at improving forest management and delivery of forest goods and services (Narrative).</p>

Appendix 3

Appendix 3 provides lists of parks within each of the four Forest Agreement regions and an indication of the stage of preparation of management plans for those parks.

A. Eden region

Name	Forest Agreement region	Status*
Bell Bird Creek Nature Reserve	Eden	2a
Ben Boyd National Park	Eden	1
Bermagabee Nature Reserve	Eden	1
Biamanga National Park	Eden	2c
Bondi Gulf Nature Reserve	Eden	1
Bournda National Park	Eden	1
Bournda Nature Reserve	Eden	1
Coolumbooka Nature Reserve	Eden	1
Dangelong Nature Reserve	Eden	2b
Davidson Whaling Station Historic Site	Eden	1
Eagles Claw Nature Reserve	Eden	1
Egan Peaks Nature Reserve	Eden	1
Mimosa Rocks National Park	Eden	1
Mount Imlay National Park	Eden	1
Nadgee Nature Reserve	Eden	1
South East Forest National Park	Eden	1
Wadbilliga National Park	Eden (and Southern)	2a
Yurammie State Conservation Area	Eden	2c

Note: Some reserves are located in more than one region. These reserves are counted in the figures for the region in which the majority of the reserve is located.

* Status:

0 – Plan of management not commenced

1 – Plan adopted by the Minister

2a – Draft plan publicly exhibited

2b – Draft plan finalised

2c – Plan in preparation.

B. UNE region

Name	Forest Agreement region	Status*
Andrew Johnston Big Scrub Nature Reserve	UNE	1
Arakwal National Park	UNE	1
Bald Rock National Park	UNE	1
Ballina Nature Reserve	UNE	1
Bandahngan Aboriginal Area	UNE	0

Name	Forest Agreement region	Status*
Banyabba Nature Reserve	UNE	2a
Banyabba State Conservation Area	UNE	2a
Barool National Park	UNE	1
Basket Swamp National Park	UNE	1
Billinudgel Nature Reserve	UNE	1
Bindarri National Park	UNE and LNE	1
Bindarri State Conservation Area	UNE	0
Bluff River Nature Reserve	UNE	2c
Boatharbour Nature Reserve	UNE	1
Bolivia Hill Nature Reserve	UNE	2c
Bongil Bongil National Park	UNE and LNE	1
Boonoo Boonoo National Park	UNE	1
Border Ranges National Park	UNE	1
Broadwater National Park	UNE	1
Broken Head Nature Reserve	UNE	1
Brunswick Heads Nature Reserve	UNE	1
Bundjalung National Park	UNE	1
Bundjalung State Conservation Area	UNE	2c
Bungabbee Nature Reserve	UNE	1
Bungawalbin National Park	UNE	2c
Bungawalbin Nature Reserve	UNE	2c
Bungawalbin State Conservation Area	UNE	2c
Burnt-Down Scrub Nature Reserve	UNE	1
Butterleaf National Park	UNE	2c
Butterleaf State Conservation Area	UNE	2c
Byrnes Scrub Nature Reserve	UNE	1
Cape Byron State Conservation Area	UNE	1
Capoompeta National Park	UNE	1
Captains Creek Nature Reserve	UNE	2a
Cataract National Park	UNE	2c
Cataract State Conservation Area	UNE	2c
Cathedral Rock National Park	UNE and LNE	1
Chaelundi National Park	UNE	1
Chaelundi State Conservation Area	UNE	1
Chambigne Nature Reserve	UNE	1
Chapmans Peak Nature Reserve	UNE	2a
Chatsworth Hill State Conservation Area	UNE	2a
Clarence Estuary Nature Reserve	UNE	2a

Name	Forest Agreement region	Status*
Coffs Coast Regional Park	UNE	0
Coramba Nature Reserve	UNE	1
Corymbia State Conservation Area	UNE	2a
Couchy Creek Nature Reserve	UNE	0
Cudgen Nature Reserve	UNE	1
Cudgera Creek Nature Reserve	UNE	0
Cumbebin Swamp Nature Reserve	UNE	2c
Currys Gap State Conservation Area	UNE	2c
Davis Scrub Nature Reserve	UNE	1
Demon Nature Reserve	UNE	1
Doctors Nose Mountain Nature Reserve	UNE	0
Donnybrook Nature Reserve	UNE	0
Dubay Nurahm Aboriginal Area	UNE	2a
Duroby Nature Reserve	UNE	2b
Everlasting Swamp State Conservation Area	UNE	0
Fladbury State Conservation Area	UNE	0
Flaggy Creek Nature Reserve	UNE	1
Fortis Creek National Park	UNE	2a
Garby Nature Reserve	UNE	0
Gibraltar Nature Reserve	UNE	2a
Gibraltar Range National Park	UNE	1
Goonengerry National Park	UNE	1
Gurranang State Conservation Area	UNE	2a
Guy Fawkes River National Park	UNE	1
Guy Fawkes River Nature Reserve	UNE	1
Guy Fawkes River State Conservation Area	UNE	1
Hattons Bluff Nature Reserve	UNE	0
Hayters Hill Nature Reserve	UNE	1
Hogarth Range Nature Reserve	UNE	1
Hortons Creek Nature Reserve	UNE	1
Iluka Nature Reserve	UNE	1
Indwarra National Park	UNE	1
Inner Pocket Nature Reserve	UNE	0
Jackywalbin State Conservation Area	UNE	0
Jubullum Flat Camp Aboriginal Area	UNE	2a
Kooyong State Conservation Area	UNE	2a
Koreelah National Park	UNE	2c
Kororo Nature Reserve	UNE	1

Name	Forest Agreement region	Status*
Koukandowie Nature Reserve	UNE	1
Lawrence Road State Conservation Area	UNE	2a
Lennox Head Aboriginal Area	UNE	1
Limpinwood Nature Reserve	UNE	1
Little Llangothlin Nature Reserve	UNE	1
Little Pimlico Island Nature Reserve	UNE	1
Mallanganee National Park	UNE	1
Mann River Nature Reserve	UNE	2a
Marshalls Creek Nature Reserve	UNE	2a
Maryland National Park	UNE	1
Mebbin National Park	UNE	1
Mooball National Park	UNE	2a
Moonee Beach Nature Reserve	UNE	2a
Moore Park Nature Reserve	UNE	2c
Mororo Creek Nature Reserve	UNE	2a
Mother Of Ducks Lagoon Nature Reserve	UNE	2c
Mount Clunie National Park	UNE	2c
Mount Hyland Nature Reserve	UNE	1
Mount Hyland State Conservation Area	UNE	1
Mount Jerusalem National Park	UNE	1
Mount Mackenzie Nature Reserve	UNE	2c
Mount Neville Nature Reserve	UNE	2a
Mount Nothofagus National Park	UNE	2c
Mount Nullum Nature Reserve	UNE	0
Mount Pikapene National Park	UNE	2a
Mount Pikapene State Conservation Area	UNE	0
Mount Warning National Park	UNE	1
Muckleewee Mountain Nature Reserve	UNE	1
Munro Island Nature Reserve	UNE	2a
Muttonbird Island Nature Reserve	UNE	1
Nightcap National Park	UNE	1
North Obelisk Nature Reserve	UNE	0
Numinbah Nature Reserve	UNE	1
Nymboi-Binderay National Park	UNE and LNE	2a
Nymboida National Park	UNE	1
Nymboida State Conservation Area	UNE	1
Ramornie National Park	UNE	2a
Richmond Range National Park	UNE	1

Name	Forest Agreement region	Status*
Richmond River Nature Reserve	UNE	1
Sherwood Nature Reserve	UNE	1
Single National Park	UNE	2c
Snows Gully Nature Reserve	UNE	1
Stonewoman Aboriginal Area	UNE	0
Stotts Island Nature Reserve	UNE	1
Susan Island Nature Reserve	UNE	2a
Tabbimoble Swamp Nature Reserve	UNE	2c
Tallawudjah Nature Reserve	UNE	1
The Basin Nature Reserve	UNE	1
Timbarra National Park	UNE	2c
Toooloom National Park	UNE	1
Toonumbar National Park	UNE	1
Toonumbar State Conservation Area	UNE	0
Torrington State Conservation Area	UNE	1
Tuckean Nature Reserve	UNE	1
Tucki Tucki Nature Reserve	UNE	1
Tweed Estuary Nature Reserve	UNE	2a
Tweed Heads Historic Site	UNE	1
Tyagarah Nature Reserve	UNE	1
Ukerebagh Nature Reserve	UNE	1
Ulidarra National Park	UNE	2a
Uralba Nature Reserve	UNE	1
Victoria Park Nature Reserve	UNE	1
Warra National Park	UNE	1
Warragai Creek Nature Reserve	UNE	2a
Washpool National Park	UNE	1
Washpool State Conservation area	UNE	1
Whian Whian State Conservation Area	UNE	2a
Wilson Nature Reserve	UNE	1
Wollumbin National Park	UNE	2c
Wollumbin State Conservation Area	UNE	2c
Wombat Creek State Conservation Area	UNE	2a
Woodford Island Nature Reserve	UNE	2a
Wooyung Nature Reserve	UNE	1
Yabbra National Park	UNE	2b
Yaegl Nature Reserve	UNE	2a
Yarringly Nature Reserve	UNE	0

Name	Forest Agreement region	Status*
Yarringly State Conservation Area	UNE	0
Yuraygir National Park	UNE	1
Yuraygir State Conservation Area	UNE	1

Note: Some reserves are located in more than one region. These reserves are counted in the figures for the region in which the majority of the reserve is located.

* Status:

0 – Plan of management not commenced

1 – Plan adopted by the Minister

2a – Draft plan publicly exhibited

2b – Draft plan finalised

2c – Plan in preparation

C. LNE region

Name	Forest Agreement region	Status*
Aberaldie Nature Reserve	LNE	2c
Appletree Aboriginal Area	LNE	0
Arakoon State Conservation Area	LNE	1
Avondale State Conservation Area	LNE	2a
Awabakal Nature Reserve	LNE	0
Baalijin Nature Reserve	LNE	2c
Back River Nature Reserve	LNE	2c
Bago Bluff National Park	LNE	1
Bagul Waajaarr Nature Reserve	LNE	1
Bandicoot Island Nature Reserve	LNE	2c
Barakee National Park	LNE	2c
Barrakee State Conservation Area	LNE	0
Barrington Tops National Park	LNE	2a
Barrington Tops State Conservation Area	LNE	2a
Belford National Park	LNE	2b
Bellinger River National Park	LNE	1
Ben Halls Gap National Park	LNE	1
Berrico Nature Reserve	LNE	0
Biriwal Bulga National Park	LNE	1
Black Bulga State Conservation Area	LNE	0
Blue Gum Hills Regional Park	LNE	1
Bollanolla Nature Reserve	LNE	2a
Boonanghi Nature Reserve	LNE	1
Boonanghi State Conservation Area	LNE	0
Boorganna Nature Reserve	LNE	1

Name	Forest Agreement region	Status*
Booroolong Nature Reserve	LNE	1
Booti Booti National Park	LNE	1
Bouddi National Park	LNE	1
Bowraville Nature Reserve	LNE	2a
Bretti Nature Reserve	LNE	0
Bridal Veil Falls Nature Reserve	LNE	2c
Bridal Veil Falls State Conservation Area	LNE	2c
Brimbin Nature Reserve	LNE	1
Brisbane Water National Park	LNE	1
Bugan Nature Reserve	LNE	2c
Bulahdelah State Conservation Area	LNE	0
Brushy Hill Nature Reserve	LNE	0
Bull Island Nature Reserve	LNE	0
Burning Mountain Nature Reserve	LNE	1
Bushy Island Nature Reserve	LNE	0
Camels Hump Nature Reserve	LNE	0
Camerons Gorge Nature Reserve	LNE	2a
Camerons Gorge State Conservation Area	LNE	2a
Carrai National Park	LNE	1
Carrai State Conservation Area	LNE	1
Cascade National Park	UNE and LNE	2a
Cascade State Conservation Area	LNE	2a
Cedar Brush Nature Reserve	LNE	1
Clybucca Historic Site	LNE	1
Cockle Bay Nature Reserve	LNE	1
Colongra Swamp Nature Reserve	LNE	0
Columbey National Park	LNE	2c
Comboyne Nature Reserve	LNE	2c
Coneac State Conservation Area	LNE	0
Coocumbac Island Nature Reserve	LNE	1
Coolongolook Nature Reserve	LNE	0
Cooperabung Creek Nature Reserve	LNE	1
Coorabakh National Park	LNE	1
Copeland Tops State Conservation Area	LNE	2c
Corrie Island Nature Reserve	LNE	0
Cottan-Bimbang National Park	LNE	2c
Cottan-Bimbang State Conservation Area	LNE	2c
Coxcomb Nature Reserve	LNE	2a

Name	Forest Agreement region	Status*
Crawney Pass CCA Zone 1 National Park	LNE	0
Crowdy Bay National Park	LNE	1
Cunnawarra National Park	LNE	1
Curracabundi National Park	LNE	2c
Curracabundi State Conservation Area	LNE	2c
Darawank Nature Reserve	LNE	0
Deer Vale Nature Reserve	LNE	1
Dharug National Park	LNE	1
Dooragan National Park	LNE	1
Dorrigo National Park	UNE and LNE	1
Dunggir National Park	LNE	1
Durands Island Nature Reserve	LNE	0
Duval Nature Reserve	LNE	1
Fifes Knob Nature Reserve	LNE	1
Finchley Aboriginal Area	LNE	1
Fishermans Bend Nature Reserve	LNE	1
Fishermans Bend State Conservation Area	LNE	2c
Flat Island Nature Reserve	LNE	0
Gads Sugarloaf Nature Reserve	LNE	1
Ganay Nature Reserve	LNE	2a
Georges Creek Nature Reserve	LNE	1
Ghin-Doo-Ee National Park	LNE	0
Gir-um-bit National Park	LNE	0
Gir-um-bit State Conservation Area	LNE	0
Glenrock State Conservation Area	LNE	1
Goonook Nature Reserve	LNE	2a
Goulburn River National Park	LNE	1
Gumbaynggirr National Park	LNE	0
Gumbaynggirr State Conservation Area	LNE	0
Hat Head National Park	LNE	1
Howe Aboriginal Area	LNE	0
Hunter Estuary National Park	LNE	1
Imbota Nature Reserve	LNE	1
Innes Ruins Historic Site	LNE	0
Jaaningga Nature Reserve	LNE	2a
Jagun Nature Reserve	LNE	1
Jasper Nature Reserve	LNE	1
Jiliby State Conservation Area	LNE	2a

Name	Forest Agreement region	Status*
Jobs Mountain Nature Reserve	LNE	0
Junuy Juluum National Park	LNE	2a
Juugawaarri Nature Reserve	LNE	2a
Karuah National Park	LNE	2c
Karuah Nature Reserve	LNE	2c
Karuah State Conservation Area	LNE	2c
Kattang Nature Reserve	LNE	1
Khappinghat Nature Reserve	LNE	2c
Khatambuhl Nature Reserve	LNE	2c
Killabakh Nature Reserve	LNE	2a
Killarney Nature Reserve	LNE	1
Koorebang Nature Reserve	LNE	1
Kumbatine National Park	LNE	1
Kumbatine State Conservation Area	LNE	1
Ku-ring-gai Chase National Park	LNE	1
Lake Innes Nature Reserve	LNE	1
Lake Innes State Conservation Area	LNE	2c
Lake Macquarie State Conservation Area	LNE	1
Lansdowne Nature Reserve	LNE	0
Limeburners Creek Nature Reserve	LNE	1
Lion Island Nature Reserve	LNE	1
Macquarie Nature Reserve	LNE	2a
Manobalai Nature Reserve	LNE	2a
Maria National Park	LNE	1
Medowie Nature Reserve	LNE	2c
Medowie State Conservation Area	LNE	2c
Mernot Nature Reserve	LNE	0
Middle Brother National Park	LNE	1
Mills Island Nature Reserve	LNE	2c
Minimbah Nature Reserve	LNE	0
Moffats Swamp Nature Reserve	LNE	0
Monkerai Nature Reserve	LNE	1
Monkeycot Nature Reserve	LNE	0
Mooney Mooney Aboriginal Area	LNE	0
Mount Royal National Park	LNE	2a
Mount Seaview Nature Reserve	LNE	1
Mount Yarrowyck Nature Reserve	LNE	2c
Muldiva Nature Reserve	LNE	1

Name	Forest Agreement region	Status*
Mummel Gulf National Park	LNE	2c
Mummel Gulf State Conservation Area	LNE	2c
Munmorah State Conservation Area	LNE	1
Myall Lakes National Park	LNE	1
Nambucca Aboriginal Area	LNE	0
New England National Park	LNE (and Upper)	1
Ngambaa Nature Reserve	LNE	1
Ngulin Nature Reserve	LNE	2c
Nowendoc National Park	LNE	2c
Nunguu Mirral Aboriginal Area	LNE	0
Nymboi-Binderay State Conservation Area	LNE	2a
One Tree Island Nature Reserve	LNE	0
Oxley Wild Rivers National Park	LNE	1
Oxley Wild Rivers State Conservation Area	LNE	1
Palm Grove Nature Reserve	LNE	0
Pambalong Nature Reserve	LNE	1
Parr State Conservation Area	LNE	1
Pee Dee Nature Reserve	LNE	1
Pelican Island Nature Reserve	LNE	1
Popran National Park	LNE	1
Pulbah Island Nature Reserve	LNE	1
Queens Lake Nature Reserve	LNE	2c
Queens Lake State Conservation Area	LNE	2c
Rawdon Creek Nature Reserve	LNE	1
Regatta Island Nature Reserve	LNE	2b
Rileys Island Nature Reserve	LNE	1
Saltwater National Park	LNE	0
Saratoga Island Nature Reserve	LNE	1
Scone Mountain National Park	LNE	2c
Sea Acres Nature Reserve	LNE	1
Seaham Swamp Nature Reserve	LNE	1
Serpentine Nature Reserve	LNE	2b
Skillion Nature Reserve	LNE	1
Smiths Lake Nature Reserve	LNE	0
Snapper Island Nature Reserve	LNE	0
Spectacle Island Nature Reserve	LNE	1
Stony Batter Creek Nature Reserve	LNE	1
Sugarloaf State Conservation Area	LNE	0

Name	Forest Agreement region	Status*
Talawahl Nature Reserve	LNE	2c
Talawahl State Conservation Area	LNE	2c
Tapin Tops National Park	LNE	1
The Castles Nature Reserve	LNE	1
The Cells State Conservation Area	LNE	2c
The Glen Nature Reserve	LNE	2c
Tilligerry National Park	LNE	0
Tilligerry Nature Reserve	LNE	0
Tilligerry State Conservation Area	LNE	0
Tingira Heights Nature Reserve	LNE	1
Tomalla Nature Reserve	LNE	2c
Tomaree National Park	LNE	1
Towarri National Park	LNE	1
Towibakh Nature Reserve	LNE	0
Tuggerah Nature Reserve	LNE	0
Tuggerah State Conservation Area	LNE	0
Tuggolo Creek Nature Reserve	LNE	2c
Valla Nature Reserve	LNE	1
Wallamba Nature Reserve	LNE	2c
Wallarah National Park	LNE	2c
Wallaroo National Park	LNE	2c
Wallingat National Park	LNE	2a
Wallis Island Nature Reserve	LNE	0
Wamberal Lagoon Nature Reserve	LNE	1
Wambina Nature Reserve	LNE	1
Watagans National Park	LNE	2a
Watchimbark Nature Reserve	LNE	0
Weelah Nature Reserve	LNE	1
Werakata National Park	LNE	0
Werakata State Conservation Area	LNE	0
Werrikimbe National Park	LNE	1
Werrikimbe State Conservation Area	LNE	0
Willi Willi Caves Nature Reserve	LNE	1
Willi Willi National Park	LNE	2b
Wingen Maid Nature Reserve	LNE	1
Wingham Brush Nature Reserve	LNE	1
Woko National Park	LNE	0
Wollemi National Park	LNE	1

Name	Forest Agreement region	Status*
Woolooma National Park	LNE	0
Woregore Nature Reserve	LNE	2c
Worimi National Park	LNE	0
Worimi Regional Park	LNE	0
Worimi State Conservation Area	LNE	0
Wyrabalong National Park	LNE	1
Yahoo Island Nature Reserve	LNE	2c
Yarrahapinni Wetlands National Park	LNE	2c
Yarravel Nature Reserve	LNE	1
Yarriabini National Park	LNE	2c
Yarriabini State Conservation Area	LNE	2c
Yengo National Park	LNE	1
Yessabah Nature Reserve	LNE	1
Yina Nature Reserve	LNE	1

Note: Some reserves are located in more than one region. These reserves are counted in the figures for the region in which the majority of the reserve is located.

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2a – Draft plan publicly exhibited

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D. Southern region

Name	Forest Agreement region	Status*
Araluen Nature Reserve	Southern	1
Badja Swamps Nature Reserve	Southern	2a
Bamarang Nature Reserve	Southern	2c
Bangadilly National Park	Southern	2a
Barnunj State Conservation Area	Southern	2a
Barren Grounds Nature Reserve	Southern	1
Barrengarry Nature Reserve	Southern	1
Bees Nest Nature Reserve	Southern	2a
Benambra National Park	Southern	1
Berlang State Conservation Area	Southern	0
Bimberamala National Park	Southern	1
Bimberi Nature Reserve	Southern	1
Binjura Nature Reserve	Southern	2c

Name	Forest Agreement region	Status*
Black Andrew Nature Reserve	Southern	1
Bobundara Nature Reserve	Southern	1
Bogandyera Nature Reserve	Southern	1
Bomaderry Creek Regional Park	Southern	2c
Brindabella National Park	Southern	1
Brindabella State Conservation Area	Southern	1
Broulee Island Nature Reserve	Southern	1
Brundee Swamp Nature Reserve	Southern	1
Budawang National Park	Southern	1
Budderoo National Park	Southern	1
Bugong National Park	Southern	2c
Bungonia State Conservation Area	Southern	1
Burnt School Nature Reserve	Southern	1
Burra Creek Nature Reserve	Southern	1
Burrinjuck Nature Reserve	Southern	2a
Cambewarra Range Nature Reserve	Southern	1
Clarkes Hill Nature Reserve	Southern	1
Clyde River National Park	Southern	2a
Colymea State Conservation Area	Southern	2c
Comerong Island Nature Reserve	Southern	1
Conjola National Park	Southern	1
Coornartha Nature Reserve	Southern	2b
Corramy State Conservation Area	Southern	2a
Courabyra Nature Reserve	Southern	1
Cullendulla Creek Nature Reserve	Southern	1
Cuumbeun Nature Reserve	Southern	1
Deua National Park	Southern	2a
Downfall Nature Reserve	Southern	1
Ellerslie Nature Reserve	Southern	2a
Eurobodalla National Park	Southern	1
frogs Hole State Conservation Area	Southern	0
Good Good Nature Reserve	Southern	2b
Goorooyarroo Nature Reserve	Southern	0
Gourock National Park	Southern	2a
Gulaga National Park	Southern (and Eden)	2c
Hattons Corner Nature Reserve	Southern	1
Illawong Nature Reserve	Southern	1
Ironmungy Nature Reserve	Southern	1

Name	Forest Agreement region	Status*
Jerralong Nature Reserve	Southern	2a
Jerrawangala National Park	Southern	2a
Jervis Bay National Park	Southern	2a
Jingellic Nature Reserve	Southern	1
Joadja Nature Reserve	Southern	2c
Kangaroo River Nature Reserve	Southern	1
Kooraban National Park	Southern	2a
Kosciuszko National Park	Southern	1
Kuma Nature Reserve	Southern	1
Kybeyan Nature Reserve	Southern	2b
Kybeyan State Conservation Area	Southern (and Eden)	2b
Livingstone National Park	Southern	1
Livingstone State Conservation Area	Southern	1
Macanally State Conservation Area	Southern	2b
Macquarie Pass National Park	Southern	1
Macquarie Pass State Conservation Area	Southern	0
Majors Creek State Conservation Area	Southern	0
Meringo Nature Reserve	Southern	2a
Meroo National Park	Southern	2a
Merriangaah Nature Reserve	Southern	2a
Minjary National Park	Southern	1
Monga National Park	Southern	2a
Monga State Conservation Area	Southern	0
Morton National Park	Southern	1
Morton State Conservation Area	Southern	2c
Mount Clifford Nature Reserve	Southern	2b
Mount Dowling Nature Reserve	Southern	1
Mudjarn Nature Reserve	Southern	1
Mullengandra Nature Reserve	Southern	2a
Mullengandra State Conservation Area	Southern	2a
Murramarang Aboriginal Area	Southern	1
Murramarang National Park	Southern	1
Myalla Nature Reserve	Southern	2a
Nadgigomar Nature Reserve	Southern	2a
Narrawallee Creek Nature Reserve	Southern	1
Nest Hill Nature Reserve	Southern	1
Ngadang Nature Reserve	Southern	1
Nimmo Nature Reserve	Southern	1

Name	Forest Agreement region	Status*
Numeralla Nature Reserve	Southern	2b
Oak Creek Nature Reserve	Southern	2a
Parma Creek Nature Reserve	Southern	2a
Paupong Nature Reserve	Southern	1
Queanbeyan Nature Reserve	Southern	1
Quidong Nature Reserve	Southern	2a
Robertson Nature Reserve	Southern	1
Rodway Nature Reserve	Southern	1
Saltwater Swamp Nature Reserve	Southern	1
Scabby Range Nature Reserve	Southern	2a
Scott Nature Reserve	Southern	2a
Seven Mile Beach National Park	Southern	1
Stony Creek Nature Reserve	Southern	1
Strike-a-Light Nature Reserve	Southern	1
Tallaganda National Park	Southern	2b
Tallaganda State Conservation Area	Southern	2b
Tapitallee Nature Reserve	Southern	0
Tinderry Nature Reserve	Southern	1
Triplarina Nature Reserve	Southern	2c
Tumblong State Conservation Area	Southern	1
Turallo Nature Reserve	Southern	1
Undoo Nature Reserve	Southern	2b
Wadjan Nature Reserve	Southern (and Eden)	2b
Wanna Wanna Nature Reserve	Southern	1
Wee Jasper Nature Reserve	Southern	2a
Wereboldera State Conservation Area	Southern	2a
Wogamia Nature Reserve	Southern	2c
Wollondilly River Nature Reserve	Southern	2c
Woollamia Nature Reserve	Southern	2a
Woomargama National Park	Southern	2a
Woomargama State Conservation Area	Southern	2a
Worrigee Nature Reserve	Southern	2c
Wullwe Nature Reserve	Southern	2a
Yanununbeyan National Park	Southern	1
Yanununbeyan Nature Reserve	Southern	1
Yanununbeyan State Conservation Area	Southern	1
Yaouk Nature Reserve	Southern	2a
Yattheyattah Nature Reserve	Southern	1

Note: Some reserves are located in more than one region. These reserves are counted in the figures for the region in which the majority of the reserve is located.

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Appendix 4: Reference Papers for Eden and Bulls Ground Burn Study Areas

Eden

- Binns D. L. & Bridges R. G. (2003) Ecological impacts and sustainability of timber harvesting and burning in coastal forests of the Eden area: establishment and progress of the Eden Burning Study. Technical paper 67. Research and Development Division, State forests of New South Wales, Sydney.
- Bridges R. G. (2005) Effects of logging and burning regimes on forest fuel in dry sclerophyll forests in south-eastern New South Wales: Initial results (1986–1993) from the Eden Burning Study Area: Research Paper No 40. p.79. Forests Resources Research, NSW Department of Primary Industries, Sydney.
- Penman TD, Binns DL, Kavanagh RP (2007a) Burning for biodiversity or burning the biodiversity. In 'Australasian Fire Association Council Conference'. Hobart, Australia
- Penman TD, Binns DL, Kavanagh RP (2008a) Quantifying successional changes in response to forest disturbance. *Applied Vegetation Science* 11, 261–268.
- Penman TD, Binns DL, Kavanagh RP (2009) Patch occupancy modelling as a method for monitoring changes in forest floristics: A case study in south-eastern Australia. *Conservation Biology* in press.
- Penman TD, Binns DL, Shiels RJ, Allen RM, Kavanagh RP (2008b) Changes in understorey plant species richness following logging and prescribed burning in shrubby dry sclerophyll forests of south-eastern Australia. *Austral Ecology* 33, 197–210.
- Penman TD, Binns DL, Shiels RJ, Allen RM, Plummer SH (2008c) Germination responses of a dry sclerophyll forest soil stored seed bank to fire related cues. *Cunninghamia* 10, 547–555.
- Penman TD, Kavanagh RP, Binns DL, Melick DR (2007b) Patchiness of prescribed burns in dry sclerophyll eucalypt forests in south-eastern Australia. *Forest Ecology and Management* 252, 24–32.
- Penman TD, Towerton AL (2007) Observations of responses to a prescribed burn in the frog *Litoria verreauxii* (Dumeril, 1853). *Herpetofauna* 37, 83–84.
- Penman TD, Towerton AL (2008) Are soil temperatures during autumn prescribed burning sufficient to trigger germination in fire responsive species? *International Journal of Wildland Fire* 17, 572–578.
- Scherl T, Penman TD, Poulton B (2007) Fire management in a heating world: Potential issues and actions for commercial forest areas. In 'Nature Conservation Council Conference – Bushfire in a Heating World'. Sydney, Australia

Bulls Ground

- Brennan KEC, Christie FJ, York A, Lawrence J (2006) Fuel for thought: Do litter-dwelling invertebrates mediate fine fuel loads in frequently burnt eucalypt forests? *Forest Ecology and Management* 234, S163–S163.
- Christie FJ, York A (2009) No detectable impact of frequent fire on foliar N or C and invertebrate herbivory in an Australian Eucalypt forest. *Applied Vegetation Science*.

- York A (1994) The long-term effects of fire on forest ant communities: Management implications for the conservation of biodiversity. *Memoirs of the Queensland Museum* 36, 231–239.
- York A (1996) Long-term effects of fuel reduction burning on invertebrates in a dry sclerophyll forest. In 'Fire and Biodiversity. The Effects and Effectiveness of Fire Management. Biodiversity Series Paper No 8.' (Ed. B Unit) pp. 163–181. (Department of Environment Sport and Territories: Canberra, Australia)
- York A (2000) Long-term effects of frequent low-intensity burning on ant communities in coastal blackbutt forests of south-eastern Australia. *Austral Ecology* 25, 83–98.

Appendix 5: Proposed changes to Schedule 2 (and related revisions to operational map requirements of Schedule 1)

Schedule 2 of the EPL specifies detail (such as biophysical information) required to be collected during the planning of scheduled and non-scheduled forestry activities. Specific drafting instructions for amendments have been agreed and are included in this table. These amendments generally apply to Schedule 2 of the UNE, LNE, Southern and Eden IFOAs (all regions) and include changes to information required in operational maps (in Part B of Schedule 1 of the EPL).

Condition no.	Existing condition	Proposed new condition
Schedule 1 Part B Operational map requirements New B4	-	B4 Stream order as determined according to the methodology specified in part B of Schedule 2 of this licence
Schedule 1 Part B Operational map requirements C	C. Roads Only the roads marked on the operational map are covered by the requirements of this licence. Roads not identified on the operational map are not covered by the requirements of the licence. The operational map must clearly differentiate between existing and new roads to be constructed.	C. Roads Only the roads marked on the operational map are covered by the requirements of this licence. Roads not identified on the operational map are not covered by the requirements of the licence. The operational map must clearly differentiate between existing and new roads to be constructed. The operational map must also clearly depict licensed roads and unlicensed roads
Schedule 1 Part B Operational map requirements D	D. Drainage feature crossings by roads	D. Drainage feature crossings
Schedule 1 Part B Operational map requirements New D2	-	D2. Indicative location of snig track crossings of a drainage line, watercourse, swamp or wetland. (All crossings must be labelled or coded on the operational map so that the descriptions are consistent with the planning documentation)
Schedule 1 Part B Operational map requirements E.	E. Log dumps and log landings	E. Log dumps, log landings, borrow pits and gravel pits
Schedule 1 Part B operational map requirements New E4	Insert new condition after E3	E4. Location of borrow pits and gravel pits

Condition no.	Existing condition	Proposed new condition
Schedule 2 A1	A1. Rainfall characteristics for the proposed area of operations, including average annual rainfall and distribution;	Replace with 'rainfall characteristics for the proposed area of operations that are relevant to the calculation of design capacity for road and snig track drainage structures, such as rainfall intensity'.
Schedule 2 A2	A2. Temperature range, including maxima and minima	Delete - no nexus with planning or operational conditions.
Schedule 2 C3	C3. Nutrient status of the soil regolith	Delete this condition
Schedule 2 C5	C5. Location of soil or regolith boundaries (mapped at the same scale as the operational map)	C5. Location of soil or regolith boundaries
Schedule 2 D1	D1. Total area (ha) for each of the slope classes as specified in the inherent hazard matrices in module 1 of Schedule 3;	Retain at present
Schedule 2 D2	D2. Aspect	Delete this condition
Schedule 2 D3	D3. Rockiness and rock outcrops	D3. Rockiness or rocky outcrops mapped or known at the time of planning.
Schedule 2 D5	D5. Areas of inherent hazard level 4	Delete this condition because it is the same requirement as Condition A3 of Schedule 1 <i>areas of inherent hazard level 4 (indicative boundary)</i> . A3 will remain in Schedule 1.
Schedule 2 D6	D6. Form, extent and location of any historical or existing erosion; gully erosion; sheet and rill erosion; and	Proposed to delete Expand H1 to include 'sites where there is existing erosion on roads, batters and at drainage structure outlets'. (Noting that most existing erosion is associated with roads, batters and drain outlets). Additional information: Forests NSW planners will visually assess whether there are any sites on the roads (or batters of roads or the outlets of drainage structures on roads) being planned for use/maintenance/upgrading that have existing erosion (e.g. specifying gully, sheet or rill). If identified, instructions to remedy the erosion or problem may be annotated in the harvesting plan or planning documents.
Schedule 2 D7	D7. Topographic position	Delete this condition
Schedule 2 E1	E1. Location of drainage lines, watercourses, swamps and wetlands;	Delete this condition - incorporated into mapping requirements
Schedule 2 E2	E2. Drainage pattern and density;	Delete this condition - incorporated into mapping requirements

Condition no.	Existing condition	Proposed new condition
Schedule 2 E3	E3. Stream order as determined according to the methodology specified in part B of this Schedule;	Delete this condition - incorporated into mapping requirements
Schedule 2 E4	E4. Stability of drainage lines and watercourses;	Delete this condition - considered as part of I and J schedule 2
Schedule 2 E5	E5. Catchments to which drainage features within the compartment, age class or roading area flow, including the delineation of catchment boundaries; and	Delete this condition - incorporated into mapping requirements
Schedule 2 E6	E6. Forestry activities which were carried out in the last two years or are proposed to occur in the next two years in the catchment (both immediate and larger catchments). This must be documented on a map by locating the compartments and age classes and indicating the type of forestry activities that occurred or are proposed to occur	Delete this condition - Included in annual plan of operation and EPL annual return
Schedule 2 F1	F1. Forest type	Delete this condition
Schedule 2 F2 (amend UNE, LNE Eden and Southern)	F2. condition of existing vegetation and ground cover Forest litter Existing logging slash Seasonal conditions; and Impacts by recent fires.	F2. to be deleted in its entirety because it has no nexus with planning conditions. The operational conditions require 70% ground cover to be achieved on disturbed soil surfaces and are independent of the condition of exiting vegetation and ground cover.
Schedule 2 G	G. New road construction (including major realignment work)	G. New road construction (including upgrading) greater than 40 metres in length (Items must be assessed for each road licensed)
Schedule 2 G1	G1. Length of new road to be constructed	G1. Length of road to be constructed or upgraded
Schedule 2 G2	G2. Maximum width of road prism	G2. Maximum width of road to be constructed or upgraded. Additional information: This information is needed to specify the work to be carried out.
Schedule 2 G3	G3. Maximum width of clearing on either side of road prism	G3. Sites where clearing will exceed 3 metres in width on either side of road prism; Additional information: Sites where clearing will exceed 3 metres are required to be considered in planning (because there is an operational condition consequence), not the maximum width of clearing. Maximum clearing width is not generally specified in a road plan, as clearing is usually constrained to the minimum necessary to allow batters to be built.

Condition no.	Existing condition	Proposed new condition
Schedule 2 G4	G4. Maximum ground slope of land to be used for road construction	G4. Sites where the slope of the land to be used for construction/upgrading exceeds 30 degrees; Additional information: Forests NSW planners will assess steep side-slope with clinometers. If there are any sites >30 degrees, relevant conditions will be included in the planning documents. Recording may include mapping or describing the slope.
Schedule 2 G5	G5. Maximum site-specific road grade	G5. Maximum grade of road to be constructed or upgraded.
Schedule 2 G6	G6. Length of road which will exceed 10 degrees	G6. Sites where road grade will exceed 10 degrees Additional information: Forests NSW planners will assess whether there are any sections of road that exceed 10 degrees in grade and, if there are, will include the relevant conditions to accommodate them. This will also be provided in the monthly report.
Schedule 2 G7	G7. Distance between road drainage structures for roads that exceed 10 degrees grade	G7. Delete - no nexus with planning or operational conditions Additional information: It is agreed that G6 above will identify sites on roads (that exceed 10 degrees grade) that may require special conditions, spacing or design.
Schedule 2 G8	G8. Spacing of road drainage structures to be installed	G8. Type of road drainage structures to be installed (three indicative types);
Schedule 2 G9	G9. Type of sediment trapping or soil erosion and sediment control devices to be used during road construction	G9. Type of sediment trapping or soil erosion and sediment control devices to be used during road construction and upgrading;
Schedule 2 G12	G12. Type of drop-down structures and dissipaters to be used over fill batters	G12. Type of drop-down structures and dissipaters to be used on fill batters greater than one metre in height
Schedule 2 G13	G13. Site-specific design and stabilisation techniques to be used on any roading to be constructed on ground slopes exceeding 30 degrees	G13. Site-specific design and stabilisation techniques to be used on any roading to be constructed or upgraded on ground slopes exceeding 30 degrees;
Schedule 2 G14	G14. Site-specific design and soil stabilisation techniques to be used on any roading to be constructed on areas that, or are likely to have a mass movement hazard	G14. Site-specific design and soil stabilisation techniques to be used on any roading to be constructed or upgraded on areas that have, or are likely to have a mass movement hazard;
Schedule 2 G15	G15. Site-specific details for the disposal of dispersible material from road construction	G15. Site-specific details for the disposal of dispersible material from road construction or upgrading.
Schedule 2 G19	G19. Proximity of road to nearest drainage feature	Delete this condition - in mapping requirements

Condition no.	Existing condition	Proposed new condition
Schedule 2 H	H. Existing roads	H. Existing roads maintenance (items must be assessed for each road licensed)
Schedule 2 H2	H2. Total length of existing roads to be used in forestry activities, including the length of roads which are passable and not passable prior to forestry activities;	H2. Length and name of each existing road to be used in forestry activities and the total length of existing roads to be used in forestry activities.
Schedule 2 H3	H3. Length of roads to be re-opened (reshaped/reformed);	Delete this condition Additional information: Forests NSW roading plan will still identify whether or not maintenance to be carried out qualifies as 're-opening' (for TSL purposes).
Schedule 2 H4	H4. Length of road to be gravelled;	Delete this condition - see roading plan comment for H2 above.
Schedule 2 H5	H5. Length of existing road to subject to maintenance works prior to operations	H5. sites where road maintenance is required;
Schedule 2 H6	H6. Type of road maintenance;	H6. Description of road maintenance to be carried out;
Schedule 2 H7	H7. Maximum width of existing running surface;	Delete this condition Additional information: Forests NSW its roading plan will continue to indicate the width to which the road will be maintained, especially if it qualifies as 're-opening'.
Schedule 2 H8	H8. Maximum width of clearing on either side of the road prism;	H8. Sites where clearing will exceed 3 metres in width on either side of road prism.' (see G3);
Schedule 2 H9	H9. Maximum road grade;	Delete this condition
Schedule 2 H10	H10 Maximum ground slope on existing roads	Delete this condition
Schedule 2	H11. Type of road drainage structures;	H11. Type of proposed road drainage structures
Schedule 2	H12. Spacing of existing road drainage structures;	H12. Sites where road drainage structures exceed road drainage conditions;
Schedule 2 H15	H15. Condition of existing cut and fill batters;	H15. Site-specific stabilisation techniques to be applied to unstable cut and fill batters;
Schedule 2 H16	H16. Condition of existing drop-down structures;	H16. Type of drop-down structures and dissipators to be used on fill batters greater than one metre in height and having unstable surfaces or surfaces with less than 70% ground cover;

Condition no.	Existing condition	Proposed new condition
Schedule 2 H17	H 17. Site-specific stabilisation techniques to be used on any road on ground slope exceeding 30 degrees;	H 17. Site-specific stabilisation techniques for roads, road drainage structures and road batters on roads that traverse ground-slopes in excess of 30 degrees.'
Schedule 2 H18	H18. Site-specific design and stabilisation techniques to be used on roads constructed on areas that, or are likely to have a mass movement hazard;	H18. Additional site-specific design and stabilisation techniques to be used on existing roads on areas that have, or are likely to have a mass movement hazard
Schedule 2 H19	H19. Site-specific soil erosion and sediment control techniques;	H19. Site-specific techniques to prevent erosion of the road batters, road surface and table drains and to provide efficient sediment trapping and energy dissipation at drainage structure outlets;
Schedule 2 H20	H20. Future plans for the road (i.e. roads to be retained or closed); and	Delete this condition Additional information: Forests NSW roading plan will still have to identify future plans for the road because they will influence the type of maintenance to be carried out.
Schedule 2 H21	H21. Site-specific details on roads to be re-opened: level of disturbance on cut and fill batters length of road re-alignment lowering of road grade placement/disposal of spoil material.	H21. Site-specific details on roads to be re-opened: length of road re-alignment; lowering of road grade; and placement/disposal of spoil material Additional information: H21 is subject to consistency of definitions such as 'reopening' with other licenses. See table 4.10, EPL 14.
Schedule 2 New H22	Insert this condition following condition H21	H22. Site-specific soil erosion and sediment control techniques
Schedule 2 I	I. Construction of new drainage feature crossings	I. Construction or upgrading of drainage feature crossings for roads and snig tracks (Items must be assessed for each licensed crossing)
Schedule 2 I1	I1. Types of drainage feature crossings;	I1. Types of drainage feature crossings to be constructed/upgraded
Schedule 2 I2	I2. Location of drainage feature crossings to be constructed	I2. Location of drainage feature crossings to be constructed or upgraded
Schedule 2 I3	I3. Maximum width of drainage feature crossings including areas adjacent to crossings that will be disturbed by construction activities;	I3. Sites where disturbance of vegetation and groundcover will exceed three metres upstream or downstream of the crossing.
Schedule 2 I4	I4. Site-specific techniques to be used to prevent the deposition of spoil material into the drainage feature during construction (including sediment control structures);	I4. Site-specific soil erosion and sediment control measures to: (a) provide temporary protection to disturbed areas from water from the road surface and road drainage structures; and (b) prevent the deposition of spoil material into the drainage feature during drainage feature crossing construction and upgrading operations.

Condition no.	Existing condition	Proposed new condition
Schedule 2 I5	I5. Approach reforming to be undertaken: road drainage within 30 metres of the drainage feature distance to nearest drainage structures from the drainage feature outlet control of nearest drainage structure table-drain checking devices.	I5 (a) Type of proposed drainage structures to drain roads between five metres and 30 metres from a watercourse, drainage line, wetland or swamp crossing. I5 (b) Site-specific techniques to be used to prevent the pollution of water where a road drainage structure cannot be installed between five metres and 30 metres of a watercourse, drainage line, wetland or swamp crossing.
Schedule 2 I6	I6. Reshaping of the bed and banks that will be required	I6. Delete
Schedule 2 I7	I7. Site-specific soil stabilisation techniques within 20 metres of drainage feature crossing;	I7. Site-specific soil stabilisation techniques to be undertaken on disturbed areas within 20 metres either side of watercourses, within 20 metres either side of drainage lines or within protection or filter strips of wetlands or swamps.
Schedule 2 New I7 (a)	New condition after I7	Insert new: I7 (a) sites where roads are constructed in dispersible soils within 20 metres either side of a drainage feature crossing.'
Schedule 2 I9	I9. Site-specific techniques to provide temporary protection of construction area from approach drainage;	Delete this condition because of changes to I4 above.
Schedule 2 I10	I10. Site-specific soil erosion and sediment control techniques; and	Delete this condition because of changes to I4 above.
Schedule 2 (heading)	Culvert	New or upgraded culverts
Schedule 2 I12	I12. Method by which culverts will be installed/removed;	I12. Delete this condition
Schedule 2 I13	I13. Site-specific techniques to be used to prevent spoil entering the drainage feature when removing culverts	I13. Site-specific techniques to be used to prevent spoil entering the drainage feature when removing and/or installing culverts Additional information: Note that this will require an amendment to condition 64 of Schedule 4 and condition 57 of Schedule 5.
Schedule 2 I16	I16. Site-specific techniques to be used to prevent road pavement material from entering the drainage feature.	I16. Site-specific techniques to be used to prevent pavement or surface material from entering the drainage feature.
Schedule 2 (heading)	Bridge	New and upgraded bridge
New I17 (a)	Insert new condition after I17	Insert new: I17 (a) site-specific techniques to be used to prevent spoil entering the drainage feature when replacing or removing bridges;

Condition no.	Existing condition	Proposed new condition
I17	I17. Site-specific techniques to be used to stabilise the banks from table drain discharge; and	I17. Site-specific techniques to be used to protect bridge embankments from table drain discharge
Schedule 2 (heading)	Causeway	New or upgraded causeways
Schedule 2 New I20	Insert this condition following condition I19	I20. Type of surface material proposed
Schedule 2	J. Existing drainage feature crossings	J. Existing drainage feature crossings maintenance for roads and snig tracks
Schedule 2 J1	J1. Type of existing drainage feature crossings;	J1. Proposed type of drainage feature crossing to be maintained
Schedule 2 J1 (a) (new)	J1 (a) (new)	J1 (a) Description of maintenance to be carried out
Schedule 2 J2	J2. location of existing drainage feature crossings	J2. Location of crossing on which maintenance is to be carried out Additional information: Note also that monthly reporting will include <i>number of existing crossings to be used.</i>
Schedule 2 J3	J3. approach reforming to be undertaken: road drainage within 30 metres of the drainage feature distance to the nearest drainage structures from the drainage feature distance to the nearest drainage structures outlet control of the nearest drainage structure table-drain checking devices.	J3. Type of proposed drainage structures to drain roads between 5 metres and 30 metres from a watercourse, drainage line, wetland or swamp crossing'.
Schedule 2 J3 (a) (new)	J3 (a) (new)	J3 (a) Site-specific techniques to be used to prevent the pollution of water where a road drainage structure cannot be installed between five metres and 30 metres of a watercourse, drainage line, wetland or swamp crossing'
Schedule 2 J4	J4. Type of pavement surface to be used on the drainage feature crossing;	J4. Type of pavement or surface to be used on the drainage feature crossing;
Schedule 2 J5	J5. Reshaping of the bed and banks that will be required;	Delete this condition
Schedule 2 J6	J6.Site-specific soil stabilisation techniques within 20 metres of drainage feature crossing;	J6. Site-specific soil stabilisation techniques to be undertaken on disturbed areas within 20 metres either side of drainage feature crossings.

Condition no.	Existing condition	Proposed new condition
Schedule 2 J7	J7. Site-specific soil erosion and sediment control techniques	J7. Site-specific soil erosion and sediment control measures to: provide temporary protection to disturbed areas from water from the road surface and road drainage structures prevent the deposition of spoil material into the drainage feature during drainage feature crossing maintenance operations; and [leading to J8].
Schedule 2 J9	J9. Method by which existing culverts will be removed;	Delete this condition
Schedule 2 J10	J10. Site-specific techniques to be used to prevent spoil entering the drainage feature when removing culverts;	Delete this condition
Schedule 2 J13	J13. Site-specific techniques to be used to prevent road pavement material from entering the drainage feature.	J13. Site-specific techniques to be used to prevent road pavement or surface material from entering the drainage feature.
Schedule 2 (heading)	Existing bridges crossings	Existing bridge crossings
Schedule 2 J14	J14. Site-specific techniques to be used to stabilise the banks from table drain discharge; and	J14. Site-specific techniques to be used to protect bridge embankments from table drain discharge; and
Schedule 2 J17	J17. Type and stability of running surface on causeway crossings	Delete this condition - relates to J4
Schedule 2	K. Borrow pits & gravel pits	K. Borrow pits & gravel pits active or used for the operation licensed
Schedule 2 K1	K1. Location of borrow pits or gravel pits;	K1. Location of borrow pits or gravel pits to be used
Schedule 2 K2	K2. Site-specific techniques to stabilise borrow pits or gravel pits;	Delete this condition
Schedule 2 K3	K3. Proximity of borrow pits or gravel pits to drainage features; and	Delete this condition
Schedule 2 L1	L1. Volume of timber per hectare to be removed;	Delete this condition
Schedule 2 L3	L3. Net available area of the compartment, age class or roading areas (hectares);	Delete this condition
Schedule 2 L5	L5. Per cent canopy retention	L5. per cent canopy removal (either > 50% or < 50% canopy removal). Forests NSW needs this information to determine the Inherent Hazard Level of the operation.

Condition no.	Existing condition	Proposed new condition
Schedule 2 L6	L6. Felling method (manual or machine);	Delete this condition
Schedule 2 L7	L7. Extraction method (e.g. crawler tractor, wheeled skidder, forwarder);	L7. expected extraction method (e.g. crawler tractor, wheeled skidder, forwarder);
Schedule 2 M3	M3. Loading method.	Delete this condition
Schedule 2 N2	N2. Method of ignition.	Delete this condition

