



NSW Forest Agreements and Integrated Forestry Operations Approvals Implementation Report 2010–2011

**Upper North East, Lower North East, Eden, Southern,
Riverina Red Gum, and Brigalow–Nandewar regions**

© State of NSW, Environment Protection Authority.

The Environment Protection Authority and the State of NSW are pleased to allow this material to be reproduced, for educational or non-commercial use, in whole or in part, provided the meaning is unchanged and its source, publisher and authorship are acknowledged. Specific permission is required for the reproduction of images.

This report was coordinated by the Crown Forestry Policy and Regulation Section of the Environment Protection Authority (EPA), with assistance from National Parks and Wildlife Service, Environment Protection & Regulation Group, and Environment and Heritage Policy and Programs, and the Department of Primary Industries – Forests NSW and Fisheries.

Cover photo: Koreelah State Forest in Far Northern NSW. Jackie Miles. EPA Forestry Section.

Recommended citation:

Environment Protection Authority (EPA) 2013, *NSW Forest Agreements and Integrated Forestry Operations Approvals Implementation Report 2010–2011: Upper North East, Lower North East, Eden, Southern, Riverina Red Gum, and Brigalow–Nandewar regions*, a report prepared by the Minister for the Environment as part of the implementation of the NSW Forest Agreements and integrated forestry operations approvals, NSW Environment Protection Authority, Sydney.

Disclaimer:

The Environment Protection Authority (EPA) has compiled this document in good faith, exercising all due care and attention. The EPA does not accept responsibility for any inaccurate or incomplete information supplied by third parties. No representation is made about the accuracy, completeness or suitability of the information in this publication for any particular purpose. The EPA shall not be liable for any damage which may occur to any person or organisation taking action or not on the basis of this publication. Readers should seek appropriate advice about the suitability of the information to their needs.

Published by:

Environment Protection Authority (EPA)
59–61 Goulburn Street, Sydney
PO Box A290
Sydney South NSW 1232

Report pollution and environmental incidents

Environment Line: 131 555 (NSW only) or info@environment.nsw.gov.au
See also <http://www.environment.nsw.gov.au/askenvironmentlineapp/>

Ph: (02) 9995 5000 (switchboard)

Ph: 131 555 (information & publications requests)

Ph: 1300 361 967 (national parks, climate change and energy efficiency information and publications requests)

Fax: (02) 9995 5999

TTY: (02) 9211 4723

Email: info@environment.nsw.gov.au

Website: www.environment.nsw.gov.au

ISBN 978 1 74359 103 1

EPA 2013/0345

October 2013

Overview

This is the twelfth annual report on the implementation of the NSW Forest Agreements and integrated forestry operations approvals (IFOAs), prepared under section 21 of the *Forestry and National Park Estate Act 1998*.

This publication reports on ecologically sustainable forest management of forestry areas in NSW coastal regions (eastern NSW IFOAs) and achievement of important milestones and undertakings. For this report, coverage of the achievement of milestones and undertakings extends to the Riverina Red Gum region and the Brigalow–Nandewar region. A seventh region, the South Western Cypress, will be reported in future reports.

NSW Forest Agreements and IFOAs provide a strategic and operational framework to manage public forests in NSW, with the overall objective of achieving forest conservation and ecologically sustainable forest management (ESFM).

Progress towards meeting these objectives is achieved partly by regular reporting on:

- achievement of undertakings or milestones, defined in each of the Forest Agreements and IFOAs
- results of monitoring and review of ESFM criteria and indicators for eastern NSW forest regions
- timber production and harvesting as specified in the IFOAs
- compliance of harvesting activities in state forests and other Crown timber lands with the IFOAs.

Implementation of the agreements and approvals is a cooperative undertaking between:

- NSW Environment Protection Authority (EPA)
- Office of Environment and Heritage (OEH) including the National Parks and Wildlife Service (NPWS)
- Forestry Corporation of NSW (formerly Forests NSW)
- Fisheries NSW (now a division within the Department of Primary Industries)

What is reported

This report provides a snapshot of progress on the implementation of the NSW Forest Agreements and IFOAs for the period 1 July 2010 to 30 June 2011.

Chapter 1 provides a summary of results of monitoring important ESFM criteria and indicators for forestry areas in NSW coastal regions.

Chapter 2 outlines compliance with IFOAs.

Chapter 3 provides information on progress of key milestones and undertakings contained within the Forest Agreements and IFOAs.

Streamlined reporting format

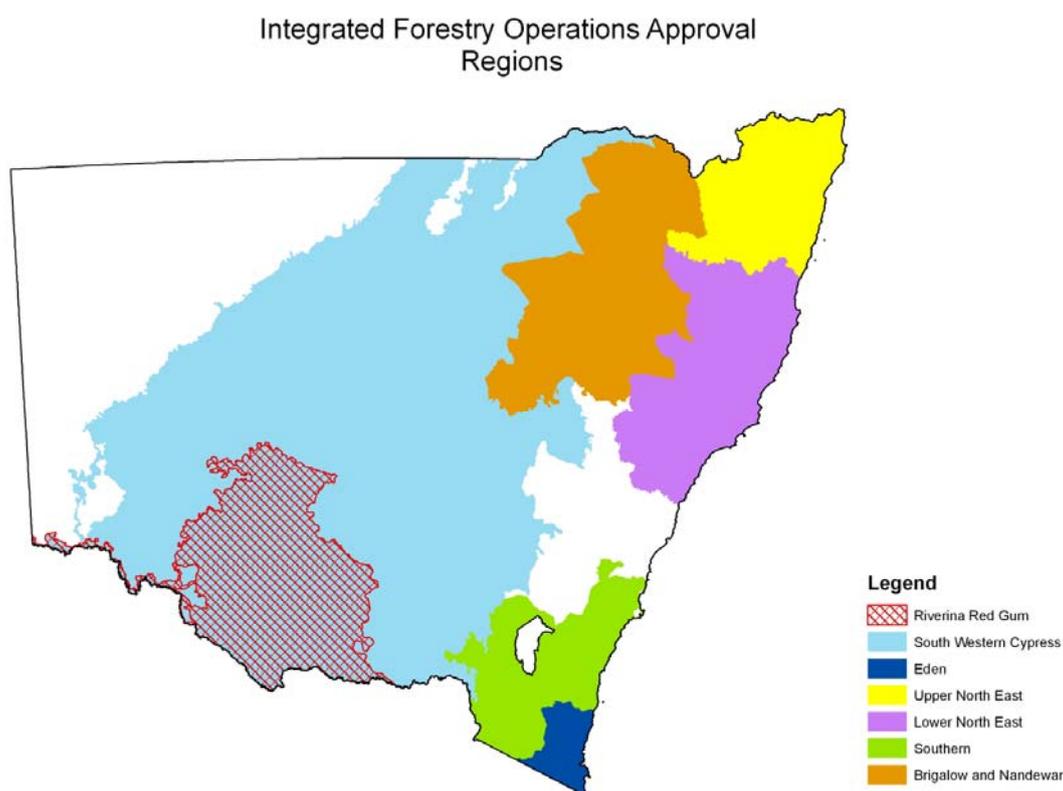
To avoid duplication, this annual report has been streamlined to link with parallel reporting on forests and other comprehensive reviews including the five and ten-year *Review of NSW Forest Agreements and IFOAs* finalised in December 2010

www.environment.nsw.gov.au/resources/forestagreements/ReviewFAandIFOA.pdf

The 2010 *Review of NSW Forest Agreements and IFOAs* identified that many milestones and undertakings had been completed, and some had been delivered through alternative

mechanisms. Most of these will not be discussed in future reviews or annual reports, except where there are significant new announcements.

Also subsequent to the 2010 review, many indicators of sustainable forest management will not be reported annually (except where there have been significant achievements). These include indicators such as forest type, growth stage, and forest contribution to global carbon cycles, which may change only slightly in a year. These will be reported over a longer timeframe.



Note: The Riverina Red Gum region overlaps with the South Western Cypress region. The South Western Cypress IFOA commenced on 1 July 2011. It will be fully reported in 2011–2012 and is included here for reference.

What regions are reported

Previous annual reports focused on the four eastern NSW forestry regions. This year's report now includes reporting on achievement of the milestones in two additional IFOA regions: the Riverina Red Gum and Brigalow–Nandewar.

The forestry regions, mapped above, are:

- four NSW Forest Agreements and IFOAs, covering the Upper North East (UNE), Lower North East (LNE), Eden and Southern regions
- Brigalow–Nandewar IFOA region, including the area under a Community Conservation Area Agreement (CCA Agreement). The Brigalow–Nandewar IFOA commenced on 23 October 2010
- Riverina Red Gum region. The IFOA for Riverina Red Gum commenced on 1 January 2011

Not reported in 2010–2011, but reported in future, will be the South West Cypress region. The South West Cypress IFOA commenced on 1 July 2011.

Key agreements and IFOAs are listed in the tables overleaf.

NSW Forest Agreements and IFOAs in place (coastal regions)

Forest Agreements/IFOA	Signed	In place until
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	31 December 2018
IFOA for the LNE region	21 December 1999	31 December 2018
IFOA for the UNE region	21 December 1999	31 December 2018
IFOA for the Southern region	3 May 2002	31 December 2020

IFOAs established for western forest regions

Agreement/IFOA	Commenced	In place until
Brigalow and Nandewar Community Conservation Area Agreement (CCA Agreement)	11 June 2009	10 June 2016
Brigalow–Nandewar IFOA	23 October 2010	31 December 2025
Riverina Red Gum IFOA	1 January 2011	31 December 2030
South Western Cypress IFOA	1 July 2011	31 December 2025

Agencies and name changes

OEH was formed in April 2011 following structural changes to NSW government departments and agencies. It includes the National Parks and Wildlife Service (NPWS). An independent NSW Environment Protection Authority (EPA) was formed after the 2010–2011 reporting period and so is referred to in this report as part of OEH. Forestry implementation reporting for 2010–2011 was compiled by the Crown Forestry Policy and Regulation Section of the EPA. The Section is now called the Forestry Section of the EPA.

As of 1 January 2013 Forests NSW became a state owned corporation, the Forestry Corporation of NSW. Because this report covers the period 2010–2011, the agency name in use at that time has been retained throughout this document (Forests NSW).

Fisheries NSW is now a division within the Department of Primary Industries in the NSW Trade & Investment cluster.

Contents

- Overview iii
- 1 2010–2011 snapshot of ecologically sustainable forest management 1
 - 1.1 Introduction 1
 - 1.2 Biodiversity 2
 - 1.3 Maintaining productive capacity of forests 3
 - 1.4 Maintaining ecosystem health and vitality 10
 - 1.5 Soil and water resources 12
 - 1.6 Maintenance of forest contribution towards the global carbon cycle 12
 - 1.7 Socio-economic benefits 12
 - 1.8 Legal, institutional and economic frameworks 15
- 2 Compliance with integrated forestry operations approvals 18
 - 2.1 Introduction 18
 - 2.2 New IFOAs 18
 - 2.3 IFOA amendments 18
 - 2.4 OEH compliance program 18
 - 2.5 Compliance results 19
 - 2.6 IFOA region summary 20
 - 2.7 Forests NSW internal compliance program 21
 - 2.8 Private native forestry compliance and enforcement activities 22
 - 2.9 Fisheries 22
- 3 Achievement of milestones and undertakings defined for NSW forest regions 23
- 4 References 25
- Appendix 1: Milestones and undertakings – Coastal IFOAs 26
- Appendix 2: Milestones and undertakings – Brigalow and Nandewar 51
- Appendix 3: Milestones and undertakings – Riverina Red Gum IFOA 59
- Acronyms and abbreviations 62
- Glossary 64

1 2010–2011 snapshot of ecologically sustainable forest management

1.1 Introduction

Monitoring of indicators is an integral component of ecologically sustainable forest management (ESFM). ESFM criteria and indicators were established in the NSW Forest Agreements (for coastal regions) to track changes in key social, economic and environmental values over time.

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 performance indicators reflect these key values.

Reporting against the full ESFM criteria is not required for the western regions, but delivery of timber commitments will be reported in future reports.

Regions reported in 2010–2011

Key ESFM outcomes are reported in this annual report for Upper North East, Lower North East, Eden, and Southern regions.

For the Brigalow–Nandewar and Riverina Red Gum regions, reporting on timber supply will not be required until the next reporting period. The 2011–2012 annual reports for the Riverina Red Gum, and Brigalow–Nandewar regions will include information on forestry operations undertaken in the remainder of 2010–2011 as well as 2011–2012.

The South Western Cypress IFOA commenced on 1 July 2011. It will be reported in subsequent annual reports.

Link to review of the NSW Forest Agreements, IFOAs and ESFM criteria and indicators

A review of NSW Forest Agreements and IFOAs was completed in 2010. The review highlighted that, since the inception of ESFM criteria and indicators, a number of other state-based monitoring and reporting mechanisms have developed. The review recommended that the ESFM criteria and indicators should be aligned across state processes where relevant. They include monitoring and reporting under the NSW State Plan, the NSW State of the Environment Report, the State of the Parks Report and the Forests NSW Annual Report.

A report entitled *ESFM Criteria and Indicators for the Upper North East, Lower North East, Southern and Eden regions of NSW* was in preparation during 2010–2011.

In view of the comprehensive review in 2010, this annual report will only provide information on key ESFM indicators that were subject to greatest change. These include mandatory timber harvesting volumes and wood products, and other indicators for which significant achievements were recorded. ESFM indicators that will be reported on a five-yearly basis are those that may change only slightly in a year and are more meaningfully presented over a longer timeframe.

1.2 Biodiversity

Additions to the national parks estate

The OEH annual overview of performance for 2010–2011 is reported as part of the [Department of Premier and Cabinet Annual Report 2010–2011](#). As at 30 June 2011, 7,077,769 hectares of land were being managed by OEH for conservation. This is an increase of 314,140 hectares compared to 30 June 2010. Similarly, the total area of private land managed for conservation under voluntary agreements increased from 2,062,194 hectares as at 30 June 2010 to 2,069,146 hectares as at 30 June 2011.

Note that some of the areas managed for conservation reported above were outside the NSW Forest Agreement / IFOA regions.

Pertinent to this report, the *National Parks Estate (Riverina Red Gum Reservations) Act 2010* commenced on 1 July 2010, establishing over 100,000 hectares of river red gum reserves. This included 65,922 hectares of national parks, 15,286 hectares of regional parks, and 20,684 hectares of indigenous protected areas.

Native vegetation clearing

The *NSW Annual Report on Native Vegetation* is OEH's comprehensive summary of actions by private and public land managers to conserve and manage native vegetation. The annual report combines three components: the Native Vegetation Report Card, the Woody Vegetation Change Report and the Compliance and Enforcement Report Card. Private Native Forestry approvals, monitoring and compliance is also part of the *NSW Annual Report on Native Vegetation*.

The NSW Annual Report on Native Vegetation for 2010 is published by OEH at: <http://www.environment.nsw.gov.au/vegetation/reports.htm>.

Forest dwelling species – monitoring and survey

NPWS has developed a broad-scale fauna monitoring program known as Wildcount. Wildcount will offer an opportunity to better coordinate fauna monitoring to address priorities and provide better access to data.

Wildcount was approved by the National Parks and Wildlife Directors in 2010 and planning began on the implementation of the program on national parks estate. It was developed in response to the significant data deficiencies that were highlighted in the Fauna Monitoring Evaluation and Reporting (MER) programme undertaken by Scientific Services Division of OEH. This lack of data is an impediment to informed management and constrains the ability of OEH to report on the condition of fauna in native forest habitats as well as other areas.

Forests NSW is committed to maintaining biodiversity across the forest estate as well as detecting changes in biodiversity indicators and applying suitable management responses.

Although plants and animals are routinely surveyed before harvesting in state forests, additional programs monitor population changes in natural landscapes over time and assist Forests NSW to monitor the effectiveness of its forest management. Current monitoring includes a blend of preharvest surveys, targeted research and monitoring of fixed plots across the landscape.

Forest growth stages

Because the areas of forest growth stage categories do not change significantly over short periods, growth stages will not be reported annually. Refer to the previous report (2009–2010) for the most recent compilation of growth stage information.

Case study: Using research to improve management of a threatened species in timber production forests



Field research is an especially important aspect of adaptive management for threatened and cryptic species. A prime example is the threatened eastern pygmy possum, whose ecology is poorly known in forests. Given its cryptic nature, pre-logging surveys and longer-term monitoring have not provided reliable estimates of eastern pygmy possum abundance.

An operational-scale field experiment by scientists at the NSW Forest Science Centre compares home ranges and den use by eastern pygmy possums before and after logging, as well as at control sites and sites that were logged four years previously. Results from radio-tracking eastern pygmy possums have shown that home range size is similar between regrowth and unlogged sites, with home ranges remaining stable after logging. Continued persistence of eastern pygmy possums has been noted in thick regenerating understorey. A wide range of dens was used at all sites, especially hollows in trees and in logs on the ground. Although about half of dens are located in post-logging regrowth areas, substantial numbers of dens are found in unlogged patches.

Photo of eastern pygmy possum by Bradley Law, Forest Science Centre, West Pennant Hills, NSW.

Case study: Monitoring biodiversity in state forests in Western region

Forests NSW, in collaboration with scientists from NSW DPI's Forest Science Centre, piloted a biodiversity monitoring study in the Pilliga forests in north-western NSW. Surveys concentrated on plants, birds and bats. An important component of the work was to investigate the use of cost-effective survey designs and the potential for automated surveys. One pilot study focused on bat detection using automated detection of bat calls.

A proposal for broad-scale biodiversity monitoring was in preparation in 2010–2011, with a view to expanding the program to the remaining forests in Western region, which include both cypress and red gum. The proposal includes a review of the existing design and consideration of a range of biodiversity conservation objectives, targets and thresholds and how the data obtained would feed back into forest management.

1.3 Maintaining productive capacity of forests

Land available for timber production

Forests NSW has implemented a land classification system called Forest Management Zoning (FMZ). The FMZ system is detailed in [Managing Our Forests Sustainably: Forest](#)

[Management Zoning in NSW State Forests](#) (SFNSW 1999)¹. The various FMZs are mapped and can be found appended to Forests NSW ESFM plans².

Table 1 shows the area of state forest tenure in each IFOA region. The table includes native forests (1,780,109 ha in total) and plantation forests (421,648 ha in total).

Table 1: Total areas (ha) of state forests by IFOAs

Brigalow–Nandewar	Red Gum	SW Cypress	Eden	Lower North East	Southern region	Upper North East	Grand Total
274,086	36,775	153,962	206,967	496,098	421,595	440,154	2,201,798

Figure 1 shows the percentage break up of FMZs in all NSW IFOA regions. Land for conservation purposes is classified as FMZ 1, 2 or 3A under the FMZ system. Modified harvesting is permitted in FMZ 3B areas, while FMZ 4 areas are native forest areas available for timber production³. Other zones (e.g. 5, 6, 7 and 8) correlate with hardwood plantations, softwood plantations, non-forestry use zones (i.e. infrastructure, such as power lines and transmission towers), and land for further assessment, respectively.

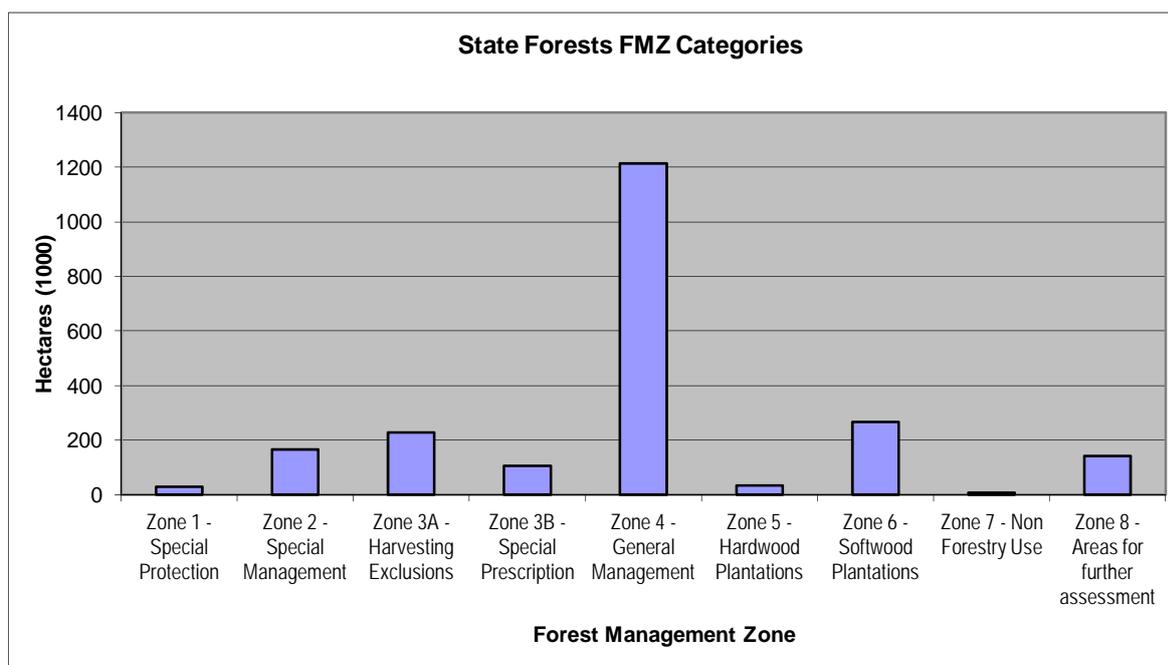


Figure 1: Proportional area of Forest Management Zones in all NSW IFOA regions (western and coastal)

¹ *Managing Our Forests Sustainably: Forest Management Zoning in NSW State Forests* can be found at: www.forestrycorporation.com.au/_data/assets/pdf_file/0003/438402/managing-our-forests-sustainably-forest-mgt-zoning-in-nsw-state-forests.pdf

² ESFM plans can be found at: www.forestrycorporation.com.au/management/sustainable-forest-management/esfm

³ The area of state forest identified as available for harvest (FMZ4) is not representative of the actual 'on ground' area available for harvest. Harvestable areas may be subject to the conditions of the IFOAs, which protect various forest values, such as riparian filter strips and threatened species habitat exclusions. Further operational exclusions may arise due to 'on ground findings', such as unmerchantable forest types, accessibility, rock, and low volume areas, and these are termed 'operational exclusions'.

Timber products compared with sustainable volume

Forests NSW published its report [Forests NSW Yield Estimates for Native Forest Regions](#) in November 2010. The report was a result of the 2009 NSW Auditor-General Performance Audit Report No. 185 'Sustaining Native Forests'. Recommendation 4 of the Auditor-General's report was that Forests NSW publicly report the results for each region of yield estimates for high quality large sawlogs, high quality small sawlogs, low quality logs and pulpwood. The report shows estimated annual yields by broad product category in cubic metres (m³) over the next 100 years, and is available at:

www.forestrycorporation.com.au/data/assets/pdf_file/0007/439414/Forests-NSW-yield-estimates-for-native-forest-regions.pdf

State forest estate – volumes and quantities specified in IFOAs

The western and coastal IFOAs specify the types, volumes and quantities of native forest timber products that Forests NSW is permitted to harvest.

An annual variation from the specified volume of timber products is permissible to accommodate changes in environmental and economic circumstances.

Actual volumes and quantities harvested versus volumes and quantities specified in IFOAs

In the UNE during 2010–2011, 52,226 m³ of high quality large sawlogs and large veneer logs were harvested from Forests NSW native forests. This represents 48% of the permitted volume (109,000 m³ per year, as specified in the UNE IFOA) and is less than the amount harvested in the previous year. Additionally, FNSW supplied 13,557 m³ of poles, piles and girders.

For the LNE region, high quality large sawlogs and large veneer logs harvested from the region during 2010–2011 totalled 86,227 m³, representing 54% of the committed volume of 160,000 m³ per annum, as specified in the LNE IFOA. This is less than the amount harvested in the previous year. Additionally, FNSW supplied 25,876 m³ of poles, piles and girders.

High quality log volumes for Eden in 2010–2011 totalled 19,910 m³, which represented 87% of the committed volume (23,000 m³ in accordance with the Eden IFOA). This is slightly more than the amount harvested in the previous year.

High quality large logs harvested in Southern region totalled 41,057 m³. This volume represents 42% of the permitted volume, based on a permitted volume of 96,500 m³ per year (48,500 m³ from the South Coast sub-region and 48,000 m³ from the Tumut sub-region). The quantities of high quality large logs reported by sub-region, are South-Coast sub-region: 38,135 m³ (79% of committed volume) plus 1082 m³ of poles, piles and girders; and Tumut sub-region: 2922 m³ (6% of committed volume). The decline reported in recent years has been due to a number of factors, including a drop in market demands, and logistical constraints such as scarce availability of haulage contractors.

Figure 2 shows the percentages of committed quota sawlog volumes harvested – all regions (excluding poles and girders).

In 2010–2011, 245,134 tonnes of pulp grade timber were harvested in Eden region, or 71% of the committed volume of 345,000 tonnes (t) per year. Percentages of committed pulp grade timber sold since 1999–2000 are shown in Figure 3. The small decrease in pulp production reflects competitive pressures and some weakness in the market during the reporting period.

As a limitation to the quantity of pulp that may be obtained, the Eden Approval prohibits forest operations (excluding thinning) from being undertaken for the sole purpose of producing pulp grade timber.

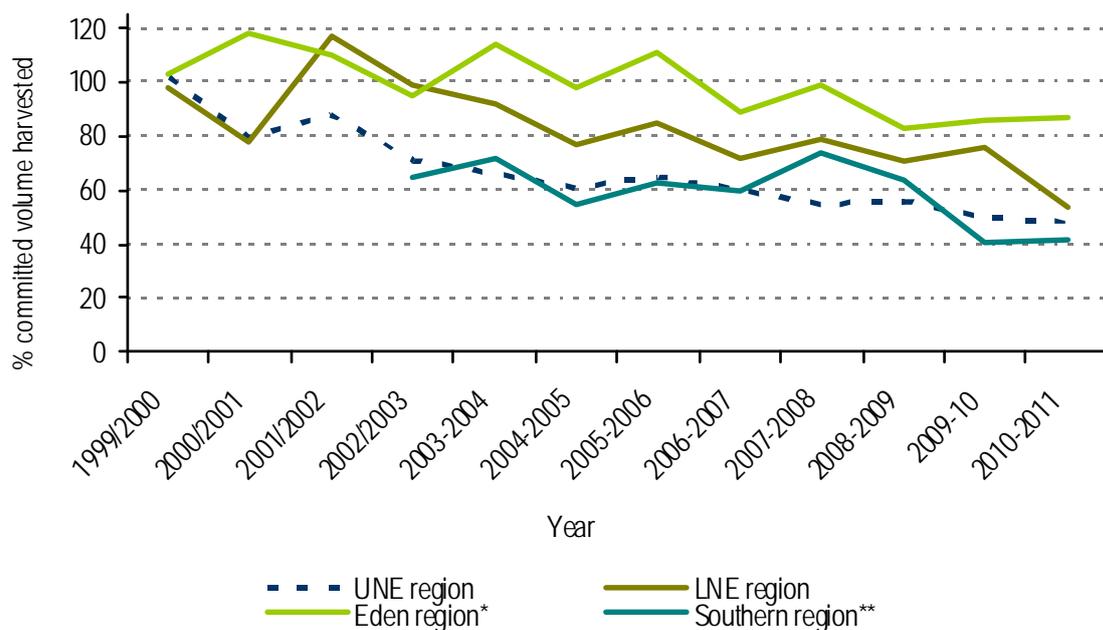


Figure 2: Percentages of log volumes harvested – all regions

* All quota sawlogs harvested from native forest.

** Timber harvesting in Southern region under the terms of NSW Forest Agreements and IFOA began in 2002. South Coast sub-region and Tumut sub-region figures have been combined. Separately, the percentages of committed volumes are 79% in the South Coast sub-region and only 6% in Tumut sub-region.

Source: Forests NSW data

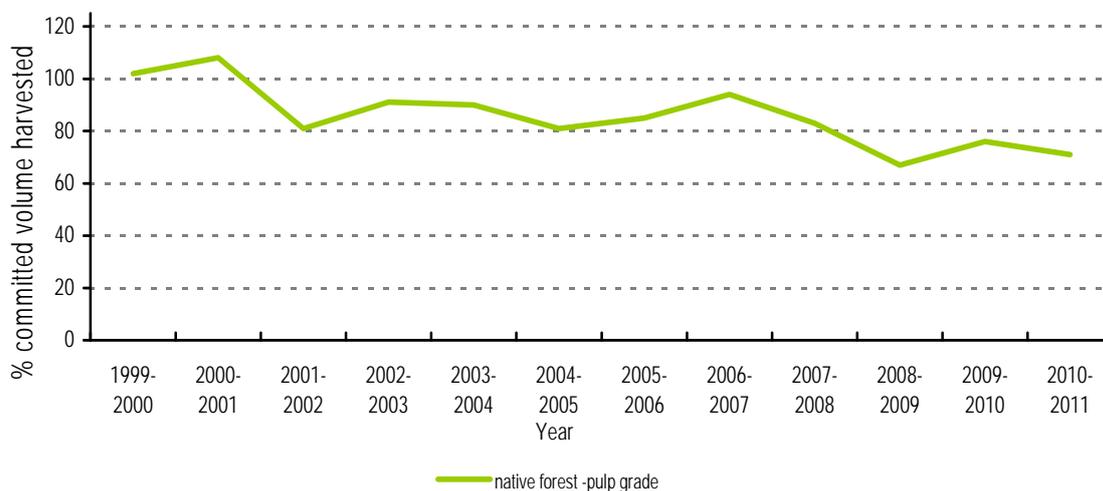


Figure 3: Percentage of pulp grade timber harvested – Eden region only

Source: Forests NSW data

Volumes and quantities not specified in IFOAs

Volumes and quantities of timber produced from softwood plantations and certain timber products produced from hardwood plantations and native forest operations are not specified in IFOAs.

Management of private native forestry

Private native forestry (PNF) is the management of native vegetation on privately owned land for the purpose of obtaining forest products on a sustainable basis. There is an estimated 8.5 million hectares of native forests on private land across NSW. Approximately 5 million hectares are suitable for PNF operations.

The EPA regulates private native forestry (PNF) under the *Native Vegetation Act 2003* and the PNF Code of Practice. The PNF Code is designed to ensure that forest operations improve or maintain environmental outcomes and encourage sustainable management of native forests on private land. Approval through a private native forestry property vegetation plan (PNF PVP) is required to carry out forestry operations on private land. This is a legally binding agreement between a landholder and OEH. PNF PVPs are valid for up to 15 years, giving landowners the security they need to make long-term forest management decisions.

Private native forestry approvals

Private native forestry trends are reported each year in the OEH [NSW Annual Report on Native Vegetation](#).

Taking account of PNF PVPs which have expired between 1 August 2007 and 31 December 2010, a total of 379,211 hectares of private forest have been approved under a PNF PVP for forestry operations. Of these, 79,691 hectares were approved during 2010–2011 (see Table 2). Within this area all identified rainforest, old growth forest, wetlands and, riparian areas, steep slopes, and other environmentally important areas have been protected.

Forestry operations within approved areas may occur on a cyclical basis at any time during the term of the PNF PVP approval (generally 15 years). Only a small percentage of the total approved area will have active forestry operations occurring in the reporting period.

Table 2: Area of PNF PVPs approved between 1 August 2007 and 30 June 2011

Forest type	Area of PNF PVP (ha)				
	2007–08	2008–09	2009–10	2010–11	Total
Northern NSW	63,845	92,390	54,727	58,490	269,452
Southern NSW	4,425	4,943	3,804	5,830	19,002
River Red Gum	18,394	37,367	4,506	11,860	72,127
Cypress and Western Hardwood	3,029	8,184	3,906	3,511	18,630
Totals	89,693	142,884	66,943	79,691	379,211

Table 3: Volumes and quantities of native forest and hardwood plantation timber products – coastal regions (2010–2011)

Log type	Unit	UNE region			LNE region			Southern region			Eden region		
		Native forest	Hardwood plantation	Sum	Native forest	Hardwood plantation	Sum	Native forest	Hardwood plantation	Sum	Native forest	Hardwood plantation	Sum
Veneer*	m ³	3,744	2,244	5,988	1,793	3,159	4,952	181	–	181	–	–	–
High quality large*	m ³	42,973	3,265	46,238	71,549	9,725	81,274	40,876	–	40,876	19,910	–	19,910
High quality small sawlogs	m ³	21,110	2,313	23,423	20,266	3,267	23,533	6,987	–	6,987	1,326	–	1,326
Low quality sawlogs	m ³	57,973	12,231	70,204	105,771	63,591	169,362	26,826	–	26,826	2,246	–	2,246
Poles/piles and girders**	m ³	9,193	4,364	13,557	19,360	6,516	25,876	1,082	–	1,082	–	–	–
Fencing/landscape/sleepers (sawn)	m ³	–	–	–	6,201	243	6,444	13,350	–	13,350	132	–	132
Sub-total	m ³	134,993	24,417	159,410	224,940	86,501	311,441	89,302	–	89,302	23,614	–	23,614
***Pulp grade and chipwood	tonnes	17,734	6,751	24,485	135,360	61,262	196,622	118,985	–	118,985	245,134	–	245,134

*Veneer and high quality large sawlogs harvested from Forests NSW native forests and hardwood plantations comprise quota log volumes. Quota sawlog volumes are reported above.

** Poles and girders have been reported as non-quota in this table.

*** Pulp grade timber. Eden Pulp figures form part of quota requirements under the Eden Forest Agreement and IFOA and are therefore reported as quota in this table. Pulp timber in other regions is reported as non-quota.

Source: Forests NSW data

Case study: Old growth and rainforest quality assurance review on private land

In 2010, the EPA reviewed protocols for the identification of rainforests and old growth forests on private land with approved PNF PVPs in place. This quality assurance process was designed to ensure existing protocols and procedures protect rainforest and old growth forest, and to make improvements where necessary. The review found that the assessment of rainforest was accurate but the assessment of old growth forest was highly variable.

The EPA has made considerable progress in implementing the review recommendations, including establishing a public register of assessments strengthening the application of the protocols for assessing old growth forests, increasing resources for field work needed to confirm the presence of old growth forests, and the use of improved aerial imagery. A process to peer review old growth and rainforest assessments for a sample of PVPs has also commenced.

Industry & Investment NSW – reporting on plantations

This indicator is a measure of the capacity of forests to meet society's demand for timber products.

Plantations authorised under the PR Act – annual volumes removed

Plantations approved under the *Plantations and Reafforestation Act 1999* (PR Act) since 2001 are listed in Table 4. Overall figures for timber volumes and other products supplied from plantations are not routinely collected.

Table 4: Area (hectares) of plantations approved under the PR Act

Year	North Coast	Hunter	South Coast
2001–2002	919	134	1,038
2002–2003	3,425	118	322
2003–2004	2,915	200	1,523
2004–2005	8,060	2,233	4,397
2005–2006	123,457	1,664	2,033
2006–2007	14,038	438	1,826
2007–2008	14,567	2,506	584
2008–2009	10,283	2,434	809
2009–2010	1,833	538	36
2010–2011	1,098	193	173

Plantations established by Forests NSW – native and softwood

No new hardwood plantations (first rotation) were established on previously cleared land by Forests NSW in 2010–2011. Forests NSW does not clear native forests to establish plantations.

Three hundred and fifty-two hectares of new softwood plantations (first rotation) were attributed to age class 2010, which means that they were planted during the 2010 planting season.

1.4 Maintaining ecosystem health and vitality

The effect of feral animals, invasive pests and weeds on ecosystem health on public lands is a continuing concern for land managers. The problem requires sustained, long-term management. Feral animals, animal pests, and noxious or environmental weeds can cause financial losses to agriculture, forestry and other natural resource industries, and can damage areas of environmental and cultural significance.

Critical agents reported by Forests NSW and NPWS

Surveys of forest health are conducted annually in eucalypt and pine plantations, and in native forests, and cover most of the estate managed by Forests NSW.

Lerp psyllids have caused adverse impacts in eucalypt plantations and some native forests through defoliation. The creiis psyllid (*Creiis lituratus*) caused severe damage to *Eucalyptus dunnii* plantations on the North Coast, but affected areas in 2011–2012 were a relatively small proportion of the plantation estate (<1%). *Cardiaspina* psyllids (*Cardiaspina fiscella* & *C. maniformis*) caused canopy damage to plantations of *E. grandis* and also native forest areas, again on the North Coast.

Myrtle rust

Myrtle rust is a newly described fungus that is closely related to the Eucalyptus/Guaya rusts. These rusts are serious pathogens which affect plants belonging to the family Myrtaceae including Australian natives like bottle brush, tea tree, and eucalypts (Department of Premier and Cabinet 2011). Myrtle rust is likely to impact on a range of industries reliant on Myrtaceae (including forestry, native cut-flowers, tea tree oil production) as well as the natural environment.

During the reporting year, OEH developed a plan of management for myrtle rust on national parks estate. The plan aims to slow the establishment of myrtle rust on national park estate and minimise the impact of myrtle rust on threatened species and ecological communities.

OEH and Forests NSW also supported research into myrtle rust to help inform management decisions. OEH worked with the Australian Network for Plant Conservation Inc to roll out a myrtle rust training program in June 2011 for 271 participants in regional areas.

Bell miner associated dieback

Bell miner associated dieback (BMAD) continued to be an issue in native forest areas for both OEH and Forests NSW. Small areas of the plantation estate (managed by Forests NSW) were also becoming affected. See also BMAD case study.

Weeds

There are over 340 weed species currently identified as impacting biodiversity across NSW. Many of these weeds are listed in Key Threatening Processes under the *NSW Threatened Species Conservation Act 1995*. That is, these weeds are placing the most threatened native species and ecological communities of NSW at risk.

Regional weed strategies continue to provide land managers and other stakeholders with a strategic approach to widespread environmental weed management across NSW. In 2011 NSW DPI and OEH developed the [Statewide framework for biodiversity priorities for widespread weeds](#) in collaboration with the 13 catchment management authorities (CMAs) in NSW. Because most weeds listed as key threatening processes in NSW are widespread they are unlikely to be totally eradicated. The focus of the framework is on reducing the current impacts to biological assets rather than actions solely associated with

eradication, prevention, reducing spread, or improving control techniques. The resultant priority sites provide investment guidance for each CMA region with respect to widespread weeds and biodiversity conservation. See regional approaches at www.dpi.nsw.gov.au/agriculture/pests-weeds/weeds/publications/cmas.

Case study: Forests NSW – Experimental trial on bell miner associated dieback

In the state's north east, Forests NSW began silvicultural trials to combat one form of eucalyptus dieback, known as bell miner associated dieback (BMAD). Dieback occurs when trees respond to acute stress by reducing their crown. The bell miner is a species of native bird that is increasing its range in key productive forests affected by this form of dieback.

Forests NSW began trialing whether silvicultural treatments, including fire treatments, could restore healthy forests and whether post harvesting treatment could help improve forest health and prevent further dieback.

BMAD has been increasing dramatically throughout Australia in the last 100 years and is closely associated with infestation by the weed lantana and an absence of low intensity fire treatments. Mount Lindesay, near the Queensland border, was selected as a trial site because it has a range of dieback conditions, contains forest types most commonly affected by BMAD, and has good access and highway visibility. In addition, bell miners have been in the area for many years, with the old Bellbird Highway Rest Area nearby. The stands range from low to high quality and are variable in their age and structure. Regeneration in some areas has been suppressed by the exotic weed lantana.

There is a long history of harvesting and silvicultural operations in Mount Lindesay State Forest. Before the 1950s, the forest is reported to have been extensively grazed and burnt to maintain grass cover. During the 1970s and 1980s, selective harvest silviculture supplied timber for many uses ranging from furniture to girders.

Some areas within the forest were to be harvested, managed for fire, and planted during the trial. Other areas would remain unharvested.

Results would be of interest to all partners in the BMAD working group, including Forests NSW, the Office of Environment and Heritage, the North Coast Environment Council Inc, the North East Forest Alliance and private land holders.

Foxes and wild dogs

The NSW fox threat abatement plan (TAP) was initiated in 2001 and established fox control at more than 50 priority sites across nearly one million hectares of public and private lands (in many areas of the state, not just NSW IFOA regions). As reported in the [OEH annual overview of performance](#) for 2010–2011, the fox TAP was reviewed in 2009 and a revised plan was prepared in 2010. The plan was finalised for implementation from January 2011.

Wild dogs also threaten the survival of native fauna, and have contributed to the decline of many species of reptiles, mammals and birds, and cause considerable losses to livestock. Forests NSW worked closely with other public land management agencies during the reporting period, as well as private landowners, to develop and implement effective control programs to reduce the environmental and economic cost of wild dogs and foxes.

1.5 Soil and water resources

Native forestry operations in state forests are authorised under integrated forestry operations approvals (IFOAs) that list specific conditions for protecting the environment. Environment Protection Licences (EPLs) issued under the *Protection of the Environment Operations Act 1997* (POEO Act) aim to ensure that practical measures are taken to protect local waters from diffuse source pollution that may arise from forestry activities.

Fisheries Licences (FLs) issued under s. 220ZW of the *Fisheries Management Act 1994* authorise the carrying out of forestry operations as described in the IFOA that are likely to result in:

- a) harm to a threatened species, population or ecological community
- b) damage to critical habitat
- c) damage to habitat of a threatened species, population or ecological community.

In 2010–2011, 27,484 ha of native forest were subject to harvest operations. All of these areas were formally assessed for risk of soil erosion under the requirements of the IFOAs and Forests NSW internal monitoring and compliance. For compliance information relating to soil and water see Chapter 2 of this report *Compliance with integrated forestry operations approvals*.

In 2010–2011, 14,068 ha of softwood plantation was harvested or thinned, while 875 ha of hardwood plantation was harvested or thinned. Up to 36,931 ha of the FNSW estate was subject to prescribed burns. Forests NSW reported that all of these areas were formally assessed for risk to soil erosion. Additionally, appropriate FNSW field staff and contractor operators were trained, assessed and accredited in compliance with FNSW and regulatory requirements associated with soil and water protection.

OEH was developing a field guide *Erosion and sediment control on unsealed roads* due for public release in 2011–2012. The aim of the field guide is to provide field staff with practical guidance on soil erosion and sediment control practices that improve asset management and minimise the amount of sediment entering waterways.

1.6 Maintenance of forest contribution towards the global carbon cycle

This criterion is not reported annually but may need to be compiled on a five-yearly basis (for example at 2014-2015). The previous [annual report \(2009–2010\)](#) provided information on Forests NSW carbon accounting system, Industry and Investment NSW completion of its three-year Climate Action Grant project 'The greenhouse footprint of wood products in NSW', and an OEH Greenfleet reforestation initiative.

Total standing volume of CO₂ and other carbon indicators are charted in the [Forests NSW 2011–2012 annual report](#).

1.7 Socio-economic benefits

State forests

Across NSW there were a total of 803 FTE (Full Time Equivalent) positions associated with state forests as at June 2011, excluding casual employees. In total around 6,000 people in NSW were employed directly through state forest related businesses, and Forests NSW estimated that nearly double that number of jobs were supported indirectly. More broadly the timber processing industry contributes around \$1.6 billion per annum to the state economy. Other dependent businesses include ecotourism ventures, beekeeping (apiarists) and grazing for livestock.

Significant timber mill contracts

A significant agreement entered into during the year was a \$32 million, five-year supply agreement with South East Fibre Exports for 150,000 tonnes a year of low quality log products.

Supporting tourism

Forests NSW expanded its commitment to supporting tourism on state forests in the reporting period, and encouraging commercial recreation businesses to operate within forests.

During 2010–2011 two operators were selected to establish commercial recreation businesses. One was an adventure ropes course at Cumberland State Forest (Sydney region, and not under a NSW Forest Agreement) and the other an educational course through the tree tops at Bruxner Flora Reserve near Coffs Harbour.

A new \$600,000 viewing platform was being built at Coffs Harbour's Sealy Lookout. More than 50,000 tourists a year visit the popular lookout and the new 20 metre long suspended walkway 10 metres above the ground would offer spectacular views of Coffs Harbour, the Solitary Islands Marine Park and about 100 kilometres of coastline.

An occupation permit has been formalised with Coffs Harbour Cycle Club over Pine Creek State Forest where the club has been using a network of close to 100 kilometres of tracks and trails for many years. It is regarded as one of the best single tracks in Australia with events attracting more than 300 cycling enthusiasts. The occupation permit transfers responsibility for maintenance and management of the network to the mountain bike club.

Cultural heritage – Forests NSW

Forests NSW worked with Aboriginal people during the reporting period to protect cultural heritage and empower people through participation in management programs and processes.

In Central region a memorandum of understanding between Forests NSW and the Anaiwan Elders saw Forests NSW funded site improvements undertaken, including the installation of two water tanks and dual flush toilets, and the pouring of a slab for a shelter.

During the year Southern region signed a co-management agreement with Ulladulla Local Aboriginal Land Council (LALC) on an area of state forest that contains significant Aboriginal art sites. The agreement opens the way for use of the area in a possible LALC ecotourism venture.

Southern region also signed an agreement with Eden LALC on a Land and Sea Country Plan that will see the LALC develop a group of rangers active throughout their boundaries for Forests NSW, NPWS, the shire council and Landcare groups, as well as the Southern Rivers Catchment Management Authority. The intention is that collectively these land management agencies can give a number of Aboriginal people full time work undertaking weed clearing along rivers and beaches, hazard reduction burning for Forests NSW and NPWS, as well as other works for Landcare and the council.

National park estate

Employment

For NPWS, across NSW there was a total of around 1746 FTE (Full Time Equivalent) positions as at June 2011, as well as a number of dependent businesses including ecotourism ventures and beekeeping.

Business projects supporting visitor experiences

Business projects progressed during 2010–2011 that will provide new visitor experiences in national parks while contributing to local and regional economies included:

- securing leases for the newly renovated café building at the Pass in Cape Bryon State Conservation Area (UNE region) and the café and function centre at the renovated Audley Dance Hall in Royal National Park. The Pass Café was already operational and the Audley Café and Function Centre was expected to open in December 2011
- preparing an expression of interest for recreational and business opportunities associated with the Light to Light Walk and Green Cape Light station in Ben Boyd National Park (Eden)
- granting a new lease to Ardent Leisure Trust to operate Akuna Bay.

Mountain biking

In response to growing public demand for mountain biking opportunities, OEH undertook extensive community consultation throughout the year to inform its approach to the management of mountain biking in national parks and reserves.

The process began with the release of a discussion paper, *Sustainable mountain biking in NSW national parks*, in September 2010, which examined ways in which new mountain biking opportunities could be provided while protecting park conservation values and minimising disruption to other park visitors.

The paper generated 2310 comments and 191 submissions. Five public forums were held around NSW and three targeted meetings with conservation groups. A final report on the findings of the public consultation was due for release in September 2011, along with the new Sustainable Mountain Biking Strategy and revised cycling policy.

Upgrades to park facilities

During 2010–2011 upgrades to park facilities continued. Examples of major works include:

- a new suspension bridge in Dorrigo National Park (LNE). The 50-metre Crystal Shower Falls bridge allows visitors to see the falls in a new light and walk behind the curtain of the waterfall
- a \$25,000 upgrade project at Zenith Beach in Tomaree National Park (LNE). A viewing platform was constructed and upgrades were made to the coastal walking track from Big Rocky to Fingal Bay
- construction of a new toilet block in the Congo Camping Ground in Eurobodalla National Park (South Coast). Works were carried out to improve the environmental disposal of effluent.

Audio tours

In 2010–2011 OEH launched its first two audio tours that can be downloaded to personal music devices before visiting national parks, from the OEH website:

- The first audio tour, released in December 2010, guides visitors through each section of the Bradleys Head to Chowder Bay walk in Sydney Harbour National Park.
- The second tour is for visitors undertaking the 32 kilometre Light to Light Walk between Green Cape and Boyds Tower, south of Eden in Ben Boyd National Park (Eden).

Audio tours enable OEH to provide information innovatively and flexibly with minimal impact on the natural environment, and more are being developed across NSW.

Cultural heritage – NPWS

In another project Eden LALC was working with Forests NSW and NPWS on developing a walking trail that connects the coast at Eden to the high country around Mount Kosciuszko. The track known as the Bundian Way is based on the old travel route used by the Aboriginal people to connect with each other for trade from the high country to the coast, and for the coastal people to travel up and feast on the Bogong moths which settle in the mountains at certain times of the year. It is hoped this will bring tourists from around the country and the world to walk the trail and visit the LALC owned areas along the route, to provide much needed tourism work and money to the local Aboriginal and non-Aboriginal people of the area. The route was mapped out during the year and work was to continue on camping areas, signage and safety management systems over the coming year.

See also achievement of milestones in Appendix 1 relating to joint management and ventures with Aboriginal people.

1.8 Legal, institutional and economic frameworks

Legislation

New environmental legislation passed during the financial year that is important to forest management included:

- Fisheries Management (General) Regulation 2010 – commenced 1 September 2010
- *National Park Estate (Riverina Red Gum Reservations) Act 2010* – commenced 1 July 2010
- *National Park Estate (South-Western Cypress Reservations) Act 2010* – commenced 1 January 2011.

Environmental Management Systems (EMS)

Refer to Appendix 1 for reporting on Milestone 1 – Environmental Management Systems.

Plans of management and ESFM plans

Refer to Appendix 1, reporting on Milestones 2.1 and 2.3.

Annual reports – State of the Parks and SEEing report

No OEH State of the Parks report was produced for 2010–2011.

The Forests NSW SEEing report was published as part of the Forests NSW Annual Report 2010–2011.

New or revised policies or circulars for the financial year

Forests NSW

The following policies and publications were formalised in the reporting period:

- A revised good neighbour policy was formalised by Forests NSW. The policy outlines responsibilities Forests NSW has as a land manager in dealing professionally with neighbours.
- A Non-Aboriginal Cultural Heritage Management Policy and Guidelines were developed by Forests NSW, which set the minimum standards to locate places of non-Aboriginal cultural heritage, to assess their significance and impacts, and to manage them appropriately.

- Operational Guidelines for Aboriginal Cultural Heritage Management were released by Forests NSW. They set out the policy and practices of Forests NSW for protecting and managing Aboriginal cultural heritage.
- Forests NSW reviewed its policy on public access to documents. Although Forests NSW made a range of documents publicly available, further proactive release of Forests NSW documents came about through the introduction of the *Government Information (Public Access) Act 2009*.
- A number of other procedures related to forest practices were released during the reporting period.

NPWS

The following policies were formalised in the reporting period:

- Seizure and Disposal of Animals Policy
- Tree Risk Management Policy and Procedures
- Uniform and Associated Personal Protective Equipment Policy (PWG)
- [Vehicle Access – General Policy](#)
- [Vehicle Access – Specific Issues Policy](#)
- [Visitor Accommodation Policy](#).

The *Watercraft Policy Statement* was repealed and replaced by the *Vehicle Access – Specific Issues Policy*.

Community involvement

During 2010–2011 over 290,000 people visited 21 locations throughout the state (not only IFOA regions). About 92,000 were school students participating in curriculum based learning activities. Approximately 60% or more of these were conducted in forested parks and reserves. Discovery rangers and guides led interpretation walks through coastal forest, tall forest, rainforests, alpine and woodlands in 14 NPWS regions. The program includes regular seasonal tours, school holiday activities, community groups and special events as well as community education on regional priorities.

During the September school holidays 2010, Discovery staff and a mobile interpretation trailer engaged communities and visitors in the river red gum country at places like Moama, Deniliquin, Hay and Griffith. Other activities include 2WD and 4WD tag-along tours, and kayak or bicycle tours, which provide a variety of visitor experiences and access points to forests and bushland. Visitors are often led by Aboriginal staff sharing their culture and knowledge of the forest. Spotlight tours are popular giving visitors the opportunity to experience the nocturnal forest life.

Three rainforest centres at Minnamurra, Sea Acres and Dorrigo are popular destinations and provided a focus for celebration of the International Year of Forests (IYF) in 2011.

The Discovery for Schools program engages students in outdoor, hands-on experiences and fieldwork, fulfilling identified curriculum outcomes. The program also provides classroom reference and support materials, such as the NSW Rainforest Teachers' Kit, including a booklet 'Under the Canopy' published in 2011. This and other teacher kits are found on the OEH website at

www.environment.nsw.gov.au/edresources/TeachersKits.htm.

Key research conducted this financial year

Forest NSW research focuses on resource development and sustainability. Research includes threatened species protection, timber, sequestered carbon, bioenergy, enhanced biodiversity and salinity mitigation. The 2010–2011 Forest Science Centre Annual Report may be found at: www.dpi.nsw.gov.au/research/forestry. See also the case study that follows.

Case study: Applying new technologies in forest mapping

During 2010–2011 Forests NSW was in the process of replacing traditional methods of forest mapping with newer imagery. Most features within forests such as species, tree heights and the location of streams and roads have previously been identified using stereo photographs or actual ground survey and inspection.

LiDAR, short for 'light detection and ranging', is an airborne laser scanning technology and works on similar principles to radar. LiDAR sensors emit high-repetition, short-duration laser pulses at a target and measure the return reflection time to gauge target distance and bearing.

LiDAR has been tested to show tree heights and to accurately determine features such as drainage lines, roads and slopes to assist in harvest planning and increasingly in the actual mechanical harvesting operation. LiDAR accuracy can be within 2 metres variance on the horizontal plane and 60 to 70 centimetres on the vertical plane.

LiDAR is providing an accurate picture of the location of tall trees, streams and old tracks made during previous harvests. All this information is important to ensure the best safety, environmental and economic outcomes when planning and implementing harvest operations.

Further emerging applications under review include determining canopy height, stand basal area, stand density, successional growth stage, vegetation classification, canopy cover, vertical and horizontal vegetation structure, change detection, height growth, fauna habitat, storm damage assessment, forest fuel characteristics and regeneration survey. Key applications that Forests NSW has been actively investigating over the past nine years include topographic mapping, catchment management, wood resource assessment, carbon accounting, harvest planning, and forest health and fuel assessment.

2 Compliance with integrated forestry operations approvals

2.1 Introduction

Integrated forestry operations approvals (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 non-licence terms and terms of licences under the *Protection of the Environment Operations Act 1997* [Environment Protection Licences (EPLs)], *Threatened Species Conservation Act 1995* [Threatened Species Licences (TSLs)] and the *Fisheries Management Act 1994* (Fisheries Licences). Threatened Species Licences and Environment Protection Licences are administered by EPRG (part of OEH), and Fisheries Licences are administered by DPI–Fisheries. An IFOA enables authoritative, unambiguous and consistent environmental regulation of native forest harvesting operations. There are seven IFOAs currently in place; they cover each NSW forest region.

2.2 New IFOAs

IFOAs signed since the previous reporting period are:

- Brigalow–Nandewar IFOA, signed on 23 October 2010
- Riverina Red Gum IFOA, signed on 1 January 2011
- South Western Cypress IFOA, signed on 1 July 2011 (to be reported in 2011–2012)

2.3 IFOA amendments

No IFOAs were amended during the reporting period.

2.4 OEH compliance program

The role of OEH in the management of forestry operations is to protect the aquatic environment from water pollution and protect threatened species and their habitats. Compliance with the conditions set out in the Environment Protection Licences (EPL) and Threatened Species Licences (TSL), issued to Forests NSW, are the key means by which this is achieved. These licences are contained within the Integrated Forestry Operations Approvals (IFOA) for the Upper North East, Lower North East, Southern (including Tumut), Eden regions, Brigalow Belt South and Riverina Red Gum regions.

TSL coverage is mandatory in all active native forestry operations. In the Upper North East, Lower North east, Southern and Eden regions, EPL coverage is required for certain logging operations in accordance with Schedule 1 of the *Protection of the Environment Operations Act 1997*. For other logging operations in these regions Forests NSW may exercise its right not to seek EPL Coverage. These operations are still subject to section 120 of the *Protection of the Environment Operations Act 1997* (POEO Act) that prohibits the pollution of waters.

Summary of auditing program

To determine Forests NSW compliance with licence conditions and other relevant legislative requirements OEH developed an active audit program of Forests NSW forestry operations. The audit program ensured that Forests NSW was taking the required measures to protect the environment through planning and operational activities.

Non-compliance with conditions of the licences were dealt with through meetings with senior Forests NSW officers, issuing feedback or warning letters, clean-up notices, penalty notices or prosecution action as appropriate to the circumstances.

Between 1 July 2010 and 30 June 2011, OEH undertook 28 audits of Forests NSW pre-operational planning and operations in forest regions covered by an IFOA. OEH identified a total of 630 non-compliances with the IFOAs, and 14 additional POEO Act offences.

2.5 Compliance results

Total non-compliances

OEH identified 245 non-compliances with EPL conditions, including:

- failure to protect areas of stream exclusion
- incorrect or inadequate drainage structures on roads and snig tracks
- incorrect or inadequate drainage structures at drainage feature crossings
- administrative errors, including failure to complete planning requirements
- incomplete or insufficient recording of Environment Protection Licence breaches
- waste left at logging sites.

OEH identified 385 non-compliances with the TSL conditions, including:

- failure to protect riparian habitat
- lack of or inadequate marking of exclusions zone and habitat features
- incomplete or insufficient pre-logging and pre-roading surveys for threatened species
- failure to protect retained habitat and recruitment trees
- inadequate selection of habitat and recruitment trees
- failure to exclude forestry operations from old growth forest
- incomplete or insufficient recording of Threatened Species Licence breaches.

Range of regulatory tools to achieve compliance

A range of regulatory tools help achieve good compliance outcomes. Such tools include education and training, guideline and policy development, remedial or correction action requests and legislative reforms. Where compliance issues are identified, OEH takes appropriate regulatory action.

Not all identified breaches however, present the same level of environmental risk or warrant the same regulatory response. Many non-compliances are of an administrative nature. Such breaches included Forests NSW not completing forms correctly, not recording all relevant details in harvesting documents, or not including all information required on registers. Although these kinds of non-compliances may not result in environmental harm, OEH raised the issues with FCNSW to assist ongoing improvement.

In instances where identified breaches posed potential or actual environmental harm, OEH took strict enforcement action, including issuing penalty notices and in some instances, commencing proceedings against FCNSW in the Land and Environment Court.

On 8 June 2011, OEH prosecuted Forests NSW in the Land and Environment Court for potential harm to the critically endangered smoky mouse (*Pseudomys fumeus*). Forests NSW was fined \$5600.

Between 1 July 2010 and 30 June 2011, OEH issued Forests NSW a total of 12 penalty notices, 11 of which involved pollution of waters offences under s. 120 of the POEO Act 1997. OEH also issued one penalty notice under the *National Parks and Wildlife Act 1974* in relation to a breach of the Threatened Species Licence involving harvesting in old growth forest exclusion zone.

Forests NSW was also issued with eight warning letters and four advisory letters in relation to identified breaches. It should be noted that OEH generally issued Forests NSW with one warning letter for each relevant audit. As such, one warning letter may include reference to numerous breaches.

During the 2010–2011 financial year, OEH issued Forests NSW three clean-up notices and also required that Forests NSW seek soil conservation advice in five instances and undertake remedial works in three instances.

2.6 IFOA region summary

Upper North East region (UNE)

In the UNE region OEH conducted six proactive audits and two reactive audits as a result of community complaints.

The audits identified a total of 58 non-compliances with licence conditions in the UNE IFOA region, 18 of these non-compliances related to the EPL requirements and 40 non-compliances with TSL conditions.

As a result of the audits, OEH provided verbal feedback, requested remedial work in one instance and issued one warning letter and one advisory letter to Forests NSW outlining the issues of non-compliance identified. Forests NSW were also issued with two penalty notices for the Upper North East region.

Lower North East region (LNE)

In the LNE region OEH conducted five proactive audits and one reactive audit. These audits identified 154 non-compliances of EPL best practice conditions and 305 non-compliances with the TSL.

As a result of these auditing activities in the LNE forest region, OEH provided feedback, sent one advisory letter, issued two warning letters and one clean-up notice, requested Forests NSW seek soil conservation advice and undertake remedial works on two occasions. Forests NSW were also issued with six penalty notices for the Lower North East region.

Southern region

OEH conducted one proactive audit and four reactive audits in the Southern region. These audits identified 31 non-compliances with the EPL and five non-compliances with TSL.

As a result of these audits, OEH provided feedback, sent one advisory letter, issued two warning letters to Forests NSW regarding non-compliance with licence conditions, and requested soil conservationist advice on one occasion. Forests NSW were also issued with two penalty notices for the Southern region.

Tumut sub-region

OEH conducted one reactive audit in the Tumut sub-region. As a result of this audit, OEH provided feedback and requested that Forests NSW seek soil conservation advice. Regulatory work in relation to this audit was ongoing as of 30 June 2011.

Eden region

OEH conducted two proactive audits and six reactive audits in the Eden region. These audits identified 42 non-compliances with the EPL and 35 non-compliances with the TSL.

As a result of these audits, OEH provided feedback to Forests NSW, sent one advisory letter, issued three warning letters and two clean-up notices, and requested Forests NSW seek soil conservation advice in one instance. Forests NSW were also issued with two penalty notices for the Eden region.

OEH also prosecuted Forest NSW in the Land and Environment Court for potential harm to the critically endangered smoky mouse (*Pseudomys fumeus*) in the Eden region. Forests NSW were fined \$5600.

Brigalow Belt South region

The Brigalow–Nandewar IFOA was signed on 23 October 2010. No audit and compliance work occurred in 2010–2011 financial year in this region.

Riverina Red Gum region

The Riverina Red Gum IFOA was signed on 1 January 2011. No audit and compliance work occurred in the 2010–2011 financial year in this region.

2.7 Forests NSW internal compliance program

Forests NSW published the number of non-compliance incidents (NCI) identified by Forests NSW supervisors (that are recorded as requiring corrective action) annually. Table 5 summarises the NCIs recorded in [Forests NSW Annual Report 2010–2011](#) in the four years to 2011.

The guidelines for reporting non-compliance changed in the three years prior to 2010–2011. Non-compliances that could be resolved within 24 hours and did not relate to systematic failures were no longer recorded in the NCI reporting system.

Table 5: Number of non-compliance incidents (NCI) recorded by Forests NSW supervisors that required corrective action, 2007–2011

Type of incident	2007–2008	2008–2009	2009–2010	2010–2011
Soil erosion and water quality	318	28	143	135
Flora and fauna	89	93	93	103
Fish habitat and passage	0	0	38	67
Other NCI issues (e.g. safety)	689	434	319	72
Total	1096	555	593	377

2.8 Private native forestry compliance and enforcement activities

OEH continues to implement a PNF monitoring and compliance strategy, and undertakes operational inspections, audits and investigations. This is supported by education, training and extension activities. Consistent with previous years, identified non-compliance issues were commonly associated with operation of roads and snig tracks, including road drainage feature crossings, and inadequate identification or protection of riparian areas. OEH is continually working with landholders and contractors to improve operational best practice, including identifying features to be protected before logging, and minimising disturbance.

At the time of the reporting period, the annual *NSW Annual Report on Native Vegetation* was OEH's comprehensive summary of actions by private and public land managers to conserve and manage native vegetation. PNF compliance and education campaigns for 2010 were reported by calendar year (rather than financial). The 2011 report (calendar year) was in preparation at the time of compiling this report. From 2011–2012 the *NSW Annual Report on Native Vegetation* will be reported by financial year. All available reports are published by OEH at: www.environment.nsw.gov.au/vegetation/reports.htm.

The PNF training program aims to facilitate a shift towards sustainable private native forestry in NSW by training landholders and logging contractors on how to comply with the PNF Code. Training is focused on the protection of biodiversity and cultural values of forests, improving forest management and harvesting techniques, soil and water protection, and occupational health and safety (OH&S) standards.

2.9 Fisheries

Compliance with the Fisheries Licences contained in the IFOAs is audited by DPI–Fisheries.

Offences and issues under investigation for the 2010–2011 reporting period were as follows:

- four breaches of the Fisheries Licence recorded in Yabbra State Forest in the Upper North East region
- two penalty notices issued (\$500 each) and two formal cautions made under s. 221D(3) of the *Fisheries Management Act 1994* (Contravene condition of a licence)
- one compliance inspection was undertaken during the period.

3 Achievement of milestones and undertakings defined for NSW forest regions

What are milestones?

Milestones record the tasks (and their timing) that address the better management of forested areas. Examples of topics for milestones are:

- developing environmental management systems (EMS)
- preparing management plans for areas of high conservation value
- reporting harvested timber volumes and other forest products such as firewood
- coordinating approaches to land management issues, such as pest, weed and feral animal control
- entering joint venture initiatives with local landholders and Aboriginal people
- monitoring criteria and indicators
- developing strategies with stakeholders to provide cooperative management opportunities
- preparing management plans for tourism and recreation within forest areas.

What are undertakings?

Undertakings are other tasks agreed between state agencies that are listed in approvals or licences. They include:

- documents to be prepared, such as a policies, roading plans and grazing management plans
- training to be provided
- monthly reports and annual reports
- systems for providing public access to documents.

Coastal Forest Agreements and IFOAs

Appendix 1 reports on 2010–2011 progress of milestones specified in the NSW Forest Agreements for the UNE, LNE, Eden and Southern regions. Appendices 2 and 3 report progress of undertakings specified in the Riverina Red Gum and Brigalow–Nandewar IFOAs.

Recent detailed information on progress against the milestones is provided in the report *Review of New South Wales Forest Agreements and Integrated Forestry Operations Approvals, Upper North East, Lower North East, Eden and Southern regions 2010*, available at:

www.environment.nsw.gov.au/resources/forestagreements/ReviewFAandIFOA.pdf

Appendix 1 does not duplicate this work but updates it where necessary. Only ongoing milestones will continue to be reported on in future annual reports. Completed milestones and those no longer applicable will not be reported unless there are significant updates or changes.

Brigalow and Nandewar Community Conservation Area Agreement (CCA Agreement) and Brigalow–Nandewar IFOA

Milestones and undertakings in the Brigalow and Nandewar region are set out in:

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

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

The achievement of milestones and undertakings is reported in Appendix 2.

Riverina Red Gum IFOA

Undertakings in the Riverina Red Gum region are set out in:

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

The achievement of milestones and undertakings is reported in Appendix 3.

South Western Cypress IFOA

Undertakings in the South Western Cypress region are set out in:

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

The achievement of milestones and undertakings was not reported in 2010–2011 because the IFOA commenced July 2011.

4 References

- Commonwealth of Australia 1992, *National Forest Policy Statement: a new focus for Australia's forests*, Commonwealth of Australia, Canberra.
- Commonwealth of Australia 1996, *National Strategy for the Conservation of Australia's Biological Diversity*, Commonwealth of Australia, Canberra.
- Commonwealth of Australia 1997, *Nationally Agreed Criteria for the Establishment of a Comprehensive, Adequate and Representative Reserve System for Forests in Australia*, Commonwealth of Australia, Canberra.
- Department of Environment and Climate Change 2008, *New South Wales National Parks Establishment Plan 2008: Directions for building a diverse and resilient system of parks and reserves under the National Parks and Wildlife Act*, Department of Environment and Climate Change, Sydney.
- Department of Environment, Climate Change and Water 2010, *Review of NSW Forest Agreements and Integrated Forestry Operations Approvals*, NSW Department of Environment, Climate Change and Water, Sydney.
- Department of Premier and Cabinet 2011, *Premier & Cabinet: Annual report 2010–11*, includes the annual report for the Office of Environment and Heritage, NSW Department of Premier and Cabinet, Sydney.
- Forests NSW 2011, *Forests NSW Annual Report 2010–11: Social, environmental and economic performance*, NSW Department of Primary Industries.
- Forests NSW 2011, *Forests NSW: Facts and figures 2010–11*, NSW Department of Primary Industries.
- Natural Resource Management Ministerial Council 2005, *Directions for the National Reserve System — A Partnership Approach*, Commonwealth of Australia, Canberra.
- NSW DPI and OEH 2011, *Biodiversity priorities for widespread weeds*, report prepared for the 13 catchment management authorities (CMAs) by NSW Department of Primary Industries and Office of Environment and Heritage, Orange.
- SFNSW 1999, *Managing Our Forests Sustainably: Forest Management Zoning in NSW State Forests*, State Forests of NSW, Sydney, available at www.forestrycorporation.com.au/data/assets/pdf_file/0003/438402/managing-our-forests-sustainably-forest-mgt-zoning-in-nsw-state-forests.pdf

Appendix 1: Milestones and undertakings – Coastal IFOAs

This Appendix reports on 2010–2011 progress of milestones and undertakings specified in the NSW Forest Agreements for the UNE, LNE, Eden and Southern regions. Progress has been reported using one of three descriptors shown in the table below. Milestones shaded in grey are not reported unless there are significant updates – includes *Complete* and *Not applicable* below.

Descriptor	Meaning
Complete	Where a process/system or document has been completed. The 2010 <i>Review of New South Wales Forest Agreements and Integrated Forestry Operations Approvals, Upper North East, Lower North East, Eden and Southern regions</i> , determined that these would 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. Consistent with the 2010 review, these milestones will not 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.

Progress of milestones and undertakings specified in the NSW Forest Agreements for the UNE, LNE, Eden and Southern regions

Report milestone number	Milestone	Five and ten-year review conclusion / recommendation	Progress for 2010–2011
1. Environmental Management Systems			
Milestone 1.1	Complete and implement Forests NSW Environmental Management System (EMS) Refer to UNE, LNE and Eden Forest Agreements (FAs) section 2.1.1, Att 3, Att 4; Southern Forest Agreement (FA) section 2.1.1, Att 2, Att 3, Att 6 (2)(c)	Complete Progress to be reported	The Forests NSW AFS and EMS certification continue to be retained. Forests NSW Forest Management System continues to be certified under the ISO 14001:2004 and the Australian Forestry Standard (AS 4708:2007). Scheduled surveillance and recertification audit continues to occur for recertification purposes and the next recertification audit is scheduled for 2012. Key EMS initiatives were reported in the Review of NSW Forest Agreements and Integrated Forestry Operations Approvals (2010). Continuous improvement has resulted in better forest management outcomes.
Milestone 1.2 Agency: NPWS	Preparation of National Parks and Wildlife (NPWS) EMS	Ongoing Progress to be reported	No updates for NPWS. Information provided for the Review of NSW Forest Agreements and Integrated Forestry

Report milestone number	Milestone	Five and ten-year review conclusion / recommendation	Progress for 2010–2011
	Refer to UNE, LNE and Eden FAs section 2.1.2, Att 3; Southern FA section 2.1.2, Att 6 (2)(b)		Operations Approvals (2010) is the most current information.
2. Management planning			
Milestone 2.1 Agency: NPWS	Plans of management for the NPWS estate Refer to UNE, LNE and Eden FAs section 2.3.2, Att 8; Southern FA section 2.3.2	Ongoing Progress to be reported	Of the 399 reserves in the UNE and LNE regions, 209 have plans of management adopted by the NSW Minister for the Environment and 58 draft plans have been publicly exhibited. Of the 18 reserves in the Eden region, 15 have plans of management adopted by the NSW Minister for the Environment and one draft plan has been publicly exhibited. Of the 127 reserves in the Southern region, 93 have plans of management adopted by the NSW Minister for the Environment and a further 17 draft plans have been publicly exhibited.
Milestone 2.2	Release and adoption of NSW Biodiversity Strategy Refer to UNE, LNE and Eden FAs section 2.4.1 and Att 8; Southern FA section 2.4.1, Att 6 (2)(d)	Complete Not reported	
Milestone 2.3 Agency: FNSW	Forests NSW to produce ESFM plans Refer to UNE, LNE, Eden FAs section 2.1.1; Southern FA sections 2.2.1, 4.3, Att 6 (1), Att 2 (a)	Complete Forests NSW ESFM plans can be found at: www.forestrycorporation.com.au/management/sustainable-forest-management/esfm A coastal ESFM plan review process has commenced.	
Milestone 2.4 Agency: FNSW	Report on meeting targets in ESFM plans Refer to UNE, LNE, Eden, Southern FAs section 2.2.6	Ongoing Progress to be reported	NSW is continuing to report on the current suite of ESFM criteria and indicators for NSW Forest Agreement regions. These indicators have been reported on annually since 1999 and are the same as the 'Sustainability Indicators' described in NSW Forest Agreements. Forests NSW also continues to report, at a statewide scale, performance across a range of social, environmental, economic and sustainability areas through the 'Seeing Report' www.forestrycorporation.com.au/resourc

Report milestone number	Milestone	Five and ten-year review conclusion / recommendation	Progress for 2010–2011
			es/pubs).
Milestone 2.5 Agency: FNSW and NPWS	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 FA section 6.16	Ongoing Formation of the working group still being sought	The Crown Forestry Section of OEH will take the lead in progressing discussions on management and tenure of areas of state forests that are isolated from the productive state forests. NPWS and Forests NSW are involved. No progress reported for 2010–2011.
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 FAs section 2.4.4.5; Southern FA 2.4.5.6	Complete Not reported	
Milestone 2.7 Agency: FNSW	Working plans for flora reserves to be incorporated into ESFM plans Refer to UNE and LNE FAs section 2.2.2; Eden FA section 2.2.2; Southern FA sections 2.2.2, 2.3.2	Ongoing Progress to be reported	All existing flora reserves on state forests have management plans. Management plans will be progressively prepared for new reserves. Model plans (document templates) have been issued to guide future preparation of management plans.
Milestone 2.8 Agency: FNSW	Working plans for informal reserves to be incorporated into ESFM plans Refer to UNE, LNE and Eden FAs section 2.3.3; Southern FA section 2.3.3	Ongoing Progress to be reported	Model plans have been issued for regions to develop plans for informal reserves and areas managed by prescription. The working plans are being completed, and Forests NSW estimates that most plans will be developed by 2013.
Milestone 2.9	Guidelines for areas managed by prescription to be incorporated into ESFM plans Refer to UNE, LNE, Eden and Southern FA section 2.3.3	Complete Not reported	
Milestone 2.10	Implement the FMZ system and provision of maps Refer to UNE and LNE FAs section 2.2.2; Eden FA section 2.2.2; Southern FA section 2.2.2; UNE, LNE, Eden	Complete Not reported	

Report milestone number	Milestone	Five and ten-year review conclusion / recommendation	Progress for 2010–2011
	FAs Att 5		
Milestone 2.11	Creation of special management zones under section 21A of the <i>Forestry Act 1916</i> Refer to UNE, LNE, Eden FAs section 2.3.1; Southern FA section 2.3.1	Complete Not reported unless there are significant updates	
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 FAs section 6.16.2; Eden FA section 6.16.1	Complete Not reported	
Milestone 3.2 Agency: Fisheries	Aquatic reserves declared under the <i>Fisheries Management Act 1994</i> that affect forestry operations in the UNE, LNE, Eden or Southern regions Refer to LNE, UNE, Eden, Southern FAs section 2.3.4	Ongoing Progress to be reported	No new aquatic reserves declared in the reporting period.
Milestone 3.3 Agencies: NPWS with FNSW	Upgrading of FMZs, reviewing mineral objections and lands for further consideration (FURCONS) Refer to UNE and LNE FAs sections 2.3.1, 2.3.3, 6.16.2; Eden FA section 6.16.1; Southern FA section 2.3.3	Ongoing Progress to be reported	Six hectares of former state forest land was reserved in the Werakata State Conservation Area, near Newcastle (Lower North East region).
4. Crown reserves and assessment of Crown land			
Milestone 4.1 Agency: NPWS	Management and five-year review of Crown reserves/state conservation areas Refer to UNE, LNE and Eden FAs section 2.3.3; UNE and LNE FA section 2.3.3; Eden FA section 2.2.3; Southern FA section 2.3.3	Ongoing Progress to be reported	No further Crown reserves remain out of those identified to be converted to state conservation areas. NPWS's next five-year review of Crown reserves and state conservation areas will be completed in 2013.
Milestone 4.2 Agency:	Assessment of Crown land Refer to UNE and LNE	Ongoing Progress to be	The 2400 ha mentioned in the Review document were gazetted on 21 May 2010 (note this is outside the 2010–

Report milestone number	Milestone	Five and ten-year review conclusion / recommendation	Progress for 2010–2011
NPWS	FAs section 6.16.2	reported	2011 reporting period).
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 FAs sections 2.4.4.2, 2.4.4.3; Southern FA section 2.4.5.4	Complete Not reported because process exists; however, significant progress may be reported for interest	
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 FAs sections 2.4.3, 2.4.4.1; Southern FA sections 2.4.4, 2.4.5.1	Complete Not reported	
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 FAs sections 2.4.4.1, 2.4.4.2; Southern FA sections 2.4.5.1, 2.4.5.2, 2.4.5.3	Complete Not reported	
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 FAs section 2.4.3; Southern FA section	Complete Not reported	

Report milestone number	Milestone	Five and ten-year review conclusion / recommendation	Progress for 2010–2011
	2.4.4		
Milestone 5.5	Milestone 5.5 Refinement of models to identify Hastings River mouse habitat Refer to UNE and LNE FAs section 2.4.3	Not applicable Not reported	
Milestone 5.6	Milestone 5.6 Continued implementation of joint management plans, such as Pine Creek koala management plan Refer to UNE, LNE, FAs 2.4.3	Not applicable Not reported	
6. Pest, weed and feral animal control			
Milestone 6.1	Wild dog control on land transferred to NPWS estate Refer to UNE and LNE FAs section 6.16.3; Eden FA section 6.16.2	Complete Readers can refer to regional pest management strategies published by NPWS www.environment.nsw.gov.au/pestsweeds/regionPestManagement.htm	
Milestone 6.2 Agency: FNSW	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 FAs section 2.4.2; Southern FA section 2.4.3	Ongoing Progress to be reported	Regional grazing plans are being progressively prepared based on the approved model. Three regions have completed plans and the remaining are at draft stage.
Milestone 6.3	Cooperation on weed control, including incorporating into regional ESFM plans and plans of management Refer to UNE and LNE FAs section 2.12; Eden FA section 2.11; Southern FA section 2.12, Att 6 (2)(m)	Complete Not reported here Readers can refer to SEEing report – now part of the Forests NSW Annual Report 2010–2011	

Report milestone number	Milestone	Five and ten-year review conclusion / recommendation	Progress for 2010–2011
Milestone 6.4	Cooperation on feral animal control, including incorporating into regional ESFM plans and plans of management Refer to UNE and LNE FAs section 2.12; Eden FA section 2.11; Southern FA section 2.12, Att 6 (2)(m)	Complete Not reported here	
Milestone 6.5	Cooperation between agencies on other forest health issues, such as bell miner associated dieback Refer to UNE, LNE, Southern FAs section 2.12; Eden FA section 2.11	Complete There is significant public interest in this issue and cooperation is ongoing. Significant updates will be reported in Chapter 1	
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 FAs section 2.10; Eden FA section 2.9; Southern FA section 2.10; Southern FA Att 6 (2)(l)	Complete Not reported	
Milestone 7.2	Forests NSW/NPWS to develop cooperative arrangements such as joint regional recreation and tourism plans Refer to UNE and LNE FAs section 2.13.1; Eden FA section 2.12.1; Southern FA section 2.13.1	Not applicable These are no longer considered necessary since individual agency actions are taking place. See also pages 23 and 24 of the Review of NSW Forest Agreements and Integrated Forestry Operations Approvals (2010)	
Milestone 7.3	Carbon sequestration opportunities associated with revegetating sites within reserves in the UNE region Refer to UNE FA section 2.13.2	Not applicable Not reported	

Report milestone number	Milestone	Five and ten-year review conclusion / recommendation	Progress for 2010–2011
Milestone 7.4 Agencies: OEH who chairs Occupation Permit Taskforce (NPWS, FNSW, and NSW Farmers)	Occupation permits on state forests - formation of committee and phasing out of permits Refer to UNE, LNE, Eden FAs section 2.3.3; Southern FA section 2.3.3	Ongoing	No progress reported since the Review of NSW Forest Agreements and Integrated Forestry Operations Approvals (2010) The review report summarised early progress made to phase out occupational permits on land transferred to NPWS in the UNE, LNE and Southern regions.
Milestone 7.5	Plantation areas within national parks estate to be rehabilitated by harvesting, prepare works programs and rehabilitation plans Refer to UNE and LNE FAs sections 3.3, 6.16.1, Att 11 – 30 June 2001, within six months of harvesting, ongoing	Not applicable Not reported	
Milestone 7.6	NPWS and Forests NSW to prepare an MOU on joint usage of roads and trails Refer to UNE FA section 2.13.5 – 1 January 2000; LNE FA section 2.13.4 – 1 January 2000; Eden FA section 2.12.4 – 1 January 2000; Southern FA section 2.13.4 – 31 December 2002	Not applicable Not reported	
8. Private land			
Milestone 8.1 Agency: OEH Vegetation mapping	Identification of private land of conservation priority Refer to UNE and LNE FAs section 2.9.1 – 1 January 2000; Southern FA section 2.9 – 30 June 2002	Ongoing Progress to be reported	Processes in place for identifying private land of conservation priority are listed in the Review of NSW Forest Agreements and Integrated Forestry Operations Approvals (2010) . The information will continue to be updated in subsequent reports.
Milestone 8.2	Regional vegetation management committees/plans under the <i>Native Vegetation Conservation Act 1997</i> Refer to UNE and LNE FAs section 2.9.1; Southern FA Att 6 (2)(e), Att 6 (3 point 4)	Not applicable Not reported	

Report milestone number	Milestone	Five and ten-year review conclusion / recommendation	Progress for 2010–2011
Milestone 8.3	Establish a committee to promote conservation on private lands Refer to UNE and LNE FAs section 2.9.1; Eden FA section 2.8.1; Southern FA section 2.9	Complete Not reported	
Milestone 8.4	Conservation mechanisms including voluntary mechanisms Refer to UNE and LNE FAs section 2.9.1, Att 7; Eden FA section 2.8.1, Att 7; Southern FA section 2.9, Att 5	Complete Not reported	
Milestone 8.5 Agency: FNSW	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 FA Att 6 (3)	Ongoing Progress to be reported	The Review of NSW Forest Agreements and Integrated Forestry Operations Approvals (2010) summarised programs and arrangements by state agencies and non-government organisations, including marketing and pricing, to assist use and management of private forest resources. No further update provided by Forests NSW for 2010–2011.
Milestone 8.6 Agency: FNSW	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 FA Att 6 (3 point 1)	Ongoing Progress to be reported	The NSW Annual Report on Native Vegetation summarises actions by private forestry land managers, with the help of OEH, to conserve and manage native vegetation. A 2010 report (calendar year) is available at: www.environment.nsw.gov.au/vegetation/reports.htm
Milestone 8.7	Private forest inventory to be undertaken to determine the basis of wood product yield from private land. Refer to Southern FA Att 6 (4)	Not applicable Not reported. Stakeholder interest in private native forest timber resource is noted and updates may be relevant in future reports	
9. Private native forestry and plantations			
Milestone 9.1	Code for private native forestry to be put into place Refer to Southern FA Att 6 (3, points 2 and 3)	Complete Not reported, although Code review should be noted	

Report milestone number	Milestone	Five and ten-year review conclusion / recommendation	Progress for 2010–2011
Milestone 9.2	Code of practice for plantations to be put into place Refer to Southern FA Att 6 (3 point 3); Southern FA Att 6 (3 point 5); Southern FA section 2.2.3	Complete Not reported	
10. World heritage and wilderness			
Milestone 10.1 Agency: NPWS	Review of CERRA World Heritage Areas to identify any additional rainforest to be included Refer to UNE and LNE FAs section 2.7	Ongoing Progress to be reported	The Gondwana Rainforests of Australia World Heritage Area (extension to an existing property) was added to Australia's Tentative List In May 2010 (http://whc.unesco.org/en/tentativelists/5541/) Agreement is to be reached between the NSW, Qld and Australian governments regarding the preparation of a nomination document including provision of resources and consultation processes.
Milestone 10.2 Agency: NPWS	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 FAs section 2.7; Eden FA section 2.6; Southern FA section 2.7	Ongoing Progress to be reported	No updates, information provided for the Review of NSW Forest Agreements and Integrated Forestry Operations Approvals (2010) and the 'Milestone and IFOA table with responses' is the most current information.
Milestone 10.3	Placing a wilderness assessment report on public exhibition, and 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 FAs section 2.5, Att 8 (point 4); Southern FA section 2.5	Complete Not reported	
Milestone 10.4	Altering the NSW FAs and IFOA to provide for the protection of wild rivers Refer to UNE, LNE and Southern FAs section 2.6; Eden FA section 2.5	Not applicable	

Report milestone number	Milestone	Five and ten-year review conclusion / recommendation	Progress for 2010–2011
11. Cultural heritage			
Milestone 11.1	Cultural heritage guidelines for state forests and manage cultural values Refer to UNE and LNE FAs section 2.8, Att 8 (point 6); Eden FA section 2.7 Att 8 (point 5); Southern FA section 2.8	Complete Not reported	
Milestone 11.2	Finalisation of Forests NSW policy on indigenous and non-indigenous cultural heritage Refer to UNE and LNE FAs section 2.8; Eden FA section 2.7; Southern FA section 2.8	Complete Not reported	
Milestone 11.3	Managing cultural values including NPWS reviewing its cultural heritage guidelines Refer to UNE, LNE FAs section 2.8 and Att 8; Eden FA section 2.7 and Att 8; Southern FA section 2.8	Complete But future reporting may be justified to reflect ongoing management and review by NPWS	
Milestone 11.4	Report on cultural heritage performance Refer to UNE, LNE, Southern FAs section 2.8; Eden FA section 2.7	Complete Not reported	
Milestone 11.5	Updating section 170 register including sites of state significance Refer to UNE, LNE and Southern FAs section 2.8; Eden FA section 2.7	Complete Not reported	
Milestone 11.6	NPWS to review indigenous cultural heritage management processes to provide a landscape-based system Refer to UNE and LNE FAs section 2.8; Eden FA section 2.7; Southern FA section 2.8	Complete Not reported	

Report milestone number	Milestone	Five and ten-year review conclusion / recommendation	Progress for 2010–2011
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 FAs section 2.8 – ongoing	Complete AHIMS has been developed but significant updates may be reported	
12. Aboriginal interests			
Milestone 12.1	Assessment of all national parks estate to determine if any could be added to Schedule 14 of the NPW Act Refer to UNE and LNE FAs section 5.1.1; Southern FA section 5.1.1	Not applicable Report only significant updates.	
Milestone 12.2 Agency: FNSW	Forests NSW and NPWS to prepare strategies for Aboriginal involvement in forest management Refer to UNE, LNE and Eden FAs section 5.1.3; Southern FA section 5.1.3	Now complete	FNSW strategies for aboriginal involvement in forest management are detailed in the regional ESFM plans. These plans were publicly exhibited for consultation including with Aboriginal communities. Similarly, milestone 12.3 below was achieved through strategies identified in the ESFM plans. Both milestones were effectively completed with the release of the ESFM plans.
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 FAs section 5.1.3; Southern FA section 5.1.3	Complete Not reported	
Milestone 12.4 Agencies: NPWS, FNSW continued...	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 FAs section 5.1.1; UNE and LNE FAs section 5.1.1; Southern FA section 5.1.1	Ongoing Not reported unless significant updates	There are currently 13 formal joint management arrangements (including leases, ILUAs and MOUs) in place with Aboriginal communities that are formalised under the <i>National Parks and Wildlife Act 1974</i> within the Forest Agreement areas. There are also a number of Joint Management Agreements under negotiation. For 2010–2011: The Gumbaaynggirr Aboriginal people and the Nambucca Valley community gathered to celebrate the rightful handing back of land to traditional owners and the creation of the state's

Report milestone number	Milestone	Five and ten-year review conclusion / recommendation	Progress for 2010–2011
Milestone 12.4 continued			<p>sixth Aboriginal owned park – Gaagal Wanggann (South Beach) National Park (LNE).</p> <p>OEH and Tumut Brungle Gundagai Area Aboriginal Community (TBGAAC) celebrated the signing of a MOU for the northern end of Kosciuszko National Park and reserves within the existing Tumut Brungle Land Council Area. As part of the memorandum, a strategic plan was developed for the national parks estate, focusing on cultural awareness, access to country, employment, training and education, and recognition and respect. A nine person Aboriginal Executive Committee for this MOU was appointed by the Head of NPWS.</p> <p>The Saltwater People of Taree and OEH signed an agreement to enter into an MOU for the purpose of:</p> <ul style="list-style-type: none"> • recognising that the Saltwater People have a cultural association with the Saltwater National Park and part of Khappinghat Nature Reserve • enabling the Saltwater People to continue to practise their indigenous culture, cultural activities and camp at Saltwater National Park in accordance with national parks legislation, and • providing a framework for co-management of Saltwater National Park and part of the Khappinghat Nature Reserve between the Saltwater Tribal Council and OEH. <p>The Native Title Claims NC95/4 (NG6013/98) and NC95/5 (NG6014/98) were lodged with the National Native Title Tribunal and registered on 22 June 1995. Since that time, the Parties have worked together to reach agreement on the matters outlined in Recital A. Accordingly, this MOU formally acknowledges OEH and the Saltwater Tribal Councils' commitment to work in partnership.</p> <p>The MOU is evidence of the good faith of the Parties to work together in the spirit of reconciliation and co-operation (LNE).</p> <p>An MOU was agreed at a meeting at Grassy Head on 26 March 2010 between DECCW (now OEH) and Yarriabini National Park Aboriginal Consultative Group to formally acknowledge DECCW's commitment to work in partnership with the Group as representatives of the surrounding Aboriginal communities in the management of Yarriabini NP and the adjoining Yarriabini SCA in UNE region.</p>

Report milestone number	Milestone	Five and ten-year review conclusion / recommendation	Progress for 2010–2011
Milestone 12.5 Agencies: NPWS, FNSW	Joint ventures with local Aboriginal communities and development of project plans Refer to UNE, LNE and Eden FAs section 5.1.1; Southern FA section 5.1.1	Ongoing Not reported unless significant updates	<p>OEH collected and recorded oral histories from Aboriginal community members and produced publications, such as the Hunter Pathways.</p> <p>Eden Local Aboriginal Land Council and elders groups to complete stage 2 of the Bundian Way Traditional Walking Track Project – NPWS has provided planning and logistical support to the Aboriginal community for project and ground truthing and inspection exercises (Southern).</p> <p>NPWS support new Alps Traditional Owner Reference Group and encourage linkages with Aboriginal Working Groups – meetings held in Canberra on 27 October 2011; four Elders attended to represent the region. Plans are being developed for the next first peoples gathering (Southern).</p> <p>NPWS support the Bila Yalbillinga indigenous project initiative – waiting for documentation from Bila Yalbillinga, prior to authorising activity and commencing project (Southern).</p> <p>Cultural heritage site restoration works involving Batemans Bay LALC in both Murramarang and Clyde River NPs (Southern).</p> <p>Aboriginal employment as part of the region's Discovery program within all FA areas.</p>
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 FAs section 5.1.1; Southern FA section 5.1.1	Complete Not reported	
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 FAs section 5.1.2; Southern FA section 5.1.2	Not applicable Not reported	

Report milestone number	Milestone	Five and ten-year review conclusion / recommendation	Progress for 2010–2011
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 estate to represent and manage Aboriginal cultural heritage on state forests and national parks estate respectively. The committee will be involved in the development of terms of reference and a plan of management Refer to Southern FA section 5.1.4.1	Complete Not reported	
Milestone 13.2	Specified enterprise development on state forests within Hume and Riverina regions of Forests NSW Refer to Southern FA section 5.1.4.2	Ongoing Progress to be reported only if new opportunities arise	The Review of NSW Forest Agreements and Integrated Forestry Operations Approvals (2010) summarised initiatives. No further progress reported from Forests NSW in 2010–2011.
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 FA section 5.1.4.3 – 31 December 2006	Complete Not reported	
Milestone 13.4	Zone to be created to protect Aboriginal cultural heritage within Hume and Riverina regions Refer to Southern FA section 5.1.4.3	Complete Not reported	

Report milestone number	Milestone	Five and ten-year review conclusion / recommendation	Progress for 2010–2011
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 FA section 5.1.4.4	Ongoing Progress to be reported only if new opportunities arise	The Review of NSW Forest Agreements and Integrated Forestry Operations Approvals (2010) summarised initiatives. No further progress reported from Forests NSW in 2010–2011.
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 FA section 5.1.4.5	Complete Not reported	
Milestone 13.7 Agency: NPWS	Specified employment and training opportunities with NPWS Refer to Southern FA section 5.1.4.6	Ongoing Progress to be reported	The Aboriginal trainee interpretative assistant program (jointly funded by DECCW) that was established in the Tumut region visitor centre is an ongoing program with a new trainee recruited each financial year.
14. Supply arrangements			
Milestone 14.1 Agency: FNSW	Consultation on timber arrangements through the development of plans of operation Refer to UNE, LNE and Eden FAs section 3.4; Southern FA section 4.3	Complete This is a recurring process and will not need to be reported.	Forests NSW regions consult with stakeholders, such as industry and neighbours, in the development of annual plans 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 FAs section 3.2	Complete Not reported	

Report milestone number	Milestone	Five and ten-year review conclusion / recommendation	Progress for 2010–2011
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 FAs section 3.2	Complete Not reported	
Milestone 14.4 Agency: FNSW	Review legislation and policies relevant to the allocation and pricing of hardwood logs from state forests Refer to UNE, LNE and Eden FAs Att 8	Progress to be reported	Forests NSW reports no new developments for 2010–2011.
15. Supplementing timber supply			
Milestone 15.1 Agency: FNSW	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 FAs sections 2.9.2, 3.3, 3.6, 6.16.2, Att 10; Eden FA section 2.8.2; Southern FA section 3.3.3, 3.6	Ongoing Progress to be reported	In 2010–2011 Forests NSW obtained 7045 m3 of supplementary timber supply. Of this, 2246 m3 was high quality logs.
Milestone 15.2 Agency: FNSW	Development of a process to consider unmet targets prior to land purchases Refer to UNE and LNE FAs section 6.16.2; Southern FA section 3.3.3	Ongoing Progress to be reported	The Review of NSW Forest Agreements and Integrated Forestry Operations Approvals (2010) summarised initiatives to consider unmet targets before land purchases. Forests NSW also noted that, as an alternative to purchasing land, it continues to source additional timber by purchasing timber rights.
Milestone 15.3 Agency: FNSW	Establishment of plantations Refer to UNE FA section 3.2; LNE FA sections 3.1, 3.3, 3.6; Southern FA section 3.6, Att 8	Ongoing Progress to be reported	No new establishment of hardwood plantations in 2010–2011 by Forests NSW.
16. FRAMES improvement, inventory, sustainable yield, volume review			
Milestone 16.1 Agency: FNSW	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 Progress to be reported	No further progress to report. It was also reported in detail in the Review of NSW Forest Agreements and Integrated Forestry Operations Approvals (2010).

Report milestone number	Milestone	Five and ten-year review conclusion / recommendation	Progress for 2010–2011
Milestone 16.2 Agency: FNSW	Inventory system for regrowth forests for Eden; improvement to inventory in UNE, LNE and Southern Refer to UNE, LNE and Eden FAs section 3.5, Att 8; Southern FA section 3.5, Att 6 (6)(e)	Ongoing Progress to be reported	Significant progress was made to report on Milestones 16.2 to 16.7 during this period as part of Forests NSW's response to the Auditor General's Report . The outcomes of the review will be published at: www.forests.nsw.gov.au/resources/pubs/corporate/auditor-generals-performance-audit-of-native-forest-and-hardwood-plantation-operations .
Milestone 16.3 Agency: FNSW	Commission and publish an independent review of the FRAMES system, including improvements applying to South Coast and Tumut subregions Refer to Southern FA Att 6 (8 point 1)	Ongoing Changed to ongoing Needs complete review for South Coast and Tumut	Forests NSW reported no new developments for 2011–2011.
Milestone 16.4 Agency: FNSW	Monitoring FRAMES through comparison of actual versus predicted volumes Refer to UNE, LNE, Eden FAs section 3.5; Southern FA section 3.5, Att 6 (6)(f), Att 6 (7 point 12)	Ongoing Progress to be reported	Forests NSW reported no new developments for 2011–2011.
Milestone 16.5 Agency: FNSW	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 FAs section 3.1; Southern FA Att 6 (8)	Ongoing Progress to be reported	Forests NSW reported no new developments for 2011–2011.
Milestone 16.6 Agency: FNSW	Complete and publish independent audits of sustainable yield Refer to Southern FA Att 6 (8 point 3)	Ongoing Progress to be reported	Forests NSW reported no new developments for 2011–2011.
Milestone 16.7 Agency: FNSW	Review of wood supply/timber volumes Refer to UNE and LNE FAs sections 3.2, 3.5	Complete But continuous monitoring has been called for in industry submissions	Forests NSW reported no new developments for 2011–2011.

Report milestone number	Milestone	Five and ten-year review conclusion / recommendation	Progress for 2010–2011
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 FAs sections 3.2, 3.5; Southern FA section 3.2, 3.5, Att 6 (6)(d)	Complete Not reported	
Milestone 17.2	Preparation of eco field guides Refer to UNE and LNE FAs section 2.2.4; Southern FA sections 2.2.4, 4.3	Complete Not reported	
Milestone 17.3	Forest Practices Code: Part 5 – Wildlife Management in Native Forests Refer to UNE, LNE, Eden and Southern FAs section 2.2.4, Att 6	Not applicable Not reported	
Milestone 17.4 Agency: FNSW	Establishing demonstration areas in the Southern region, as an aid for field supervisor training Southern FA sections 2.2.8, 4.2, Att 6 (2)(o)	Ongoing Progress to be reported on Southern region (previously completed for UNE, LNE)	Forests NSW reports that adequate field training is being provided in Southern region. The demonstration areas will be established only if there is a need to further train field staff.
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 FAs section 2.2.8; Southern FA section 2.2.8, Att 6 (2)(p)	Complete Not reported	

Report milestone number	Milestone	Five and ten-year review conclusion / recommendation	Progress for 2010–2011
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 FA Att 6 (6)(c)	Complete Not reported	
Milestone 17.7	Internal audit system to ensure consistent standards and reporting on results, review processes Refer to UNE, LNE, Eden, Southern FAs section 2.2.5 – ongoing; Southern FA Att 6 (2)(n)	Complete Not reported	
Milestone 17.8	Harvest plans to be prepared Refer to UNE, LNE, Eden, Southern FAs section 2.2.3	Complete Not reported	
Milestone 17.9	Notification about forestry operations Refer to UNE, LNE and Eden FAs section 2.2.7; Southern FA section 2.2.6	Complete Not reported	
Milestone 17.10 Agency: OEH	Liaison by Forests NSW with PlanningNSW, NPWS and EPA on proposed forestry operations not covered by a forest agreement or IFOA including environmental assessment and evaluation Refer to UNE, LNE, Eden FAs, Southern FA section 2.2.7	Ongoing Progress to be reported	This occurs when required. Forests NSW did not report significant liaison with key agencies during the reporting period 2010–2011.

Report milestone number	Milestone	Five and ten-year review conclusion / recommendation	Progress for 2010–2011
18. External auditing processes and reporting results, review processes			
Milestone 18.1	External auditing processes and reporting results, review processes Refer to Southern FA Att 6 (2)(n)	Complete Not reported	
19. Charcoal provisions in NSW Forest Agreements			
Milestone 19.1	Charcoal provisions Refer to Southern FA section 3.3.2	Not applicable Not reported	
20. Staff training, employment and industry initiatives			
Milestone 20.1	Staff and contractors of Forests NSW and NPWS 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 FAs section 2.1.1, 2.1.2; Eden FA sections 2.1.1, 2.1.2, 3.6; Southern FA section 2.1.1, 2.1.2, Att 6 (2)(k)	Complete Not reported	
Milestone 20.2	Enhance opportunities for industry development and employment in forest-based industries Refer to UNE, LNE and Eden FAs – section 3.6 and Att 10, Southern FA – section 3.6, Att 8	Complete Not reported	

Report milestone number	Milestone	Five and ten-year review conclusion / recommendation	Progress for 2010–2011
21. Community awareness and education			
Milestone 21.1	<p>Providing ongoing formal participation to raise awareness and understanding of ESFM and how it can be achieved in NSW forests</p> <p>Refer to UNE, LNE and Eden FAs Att 8; Southern FA Att 6 (2)(g)</p>	<p>Complete</p> <p>Not reported</p>	
Milestone 21.2	<p>Department of Planning, NPWS, EPA and NSW Fisheries must devise and implement a coordinated complaint handling and response system for any IFOA</p> <p>Refer to UNE, LNE and Eden FAs section 6.15; Southern FA section 6.15</p>	<p>Complete</p> <p>Not reported</p>	
22. Community consultation — informing the public			
Milestone 22.1	<p>Additional reporting mechanisms by NPWS (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</p> <p>Refer to UNE, LNE, Eden and Southern FAs sections 4.2, 4.3, 4.5, and 2.2.6</p>	<p>Complete</p> <p>Not reported</p>	
Milestone 22.2	<p>Project reports to be publicly available including FRAMES</p> <p>Refer to Southern FA section 2.11.3; Southern FA Att 6 (5)</p>	<p>Complete</p> <p>Not reported</p>	
Milestone 22.3	<p>Availability of Forest Agreements and IFOAs including online</p> <p>Refer to Southern FA section 6.11</p>	<p>Complete</p> <p>Not reported</p>	

Report milestone number	Milestone	Five and ten-year review conclusion / recommendation	Progress for 2010–2011
Milestone 22.4	Public notice and availability of agreements assessment documents and reports Refer to UNE, LNE and Eden FAs section 6.11; Southern FA section 6.2; Southern FA section 6.11	Complete Not reported	
23. Reporting and monitoring			
Milestone 23.1 Agency: OEH	Monitoring and reporting of criteria and indicators Refer to UNE and LNE FAs section 2.11.2, Att 9; Eden FA section 2.10.2, Att 9; Southern FA section 2.11.2, Att 7	Ongoing Progress to be reported	National Montreal Implementation Group (MIG) indicators were finalised in 2008 and published at: http://adl.brs.gov.au/forestsaustralia/framework/indicator.html The NSW Review of NSW Forest Agreements and Integrated Forestry Operations Approvals was finalised in 2010. The review recommended: <ul style="list-style-type: none"> • publication of a separate report entitled ESFM Criteria and Indicators for the Upper North East, Lower North East, Southern and Eden regions of NSW • that ESFM reporting should be extended to five-yearly. Extension of the reporting timeframe will allow changes in forest values over time to be reported more meaningfully and will align NSW EFSM criteria and indicator reporting with other RFA states, such as Victoria and Tasmania.
Milestone 23.2	Annual reports on forest agreements and tabling reports Refer to UNE, LNE, Eden, Southern FA section 6.9	Ongoing Progress to be reported	Annual reports on the implementation of the NSW Forest Agreements have been completed and tabled up to and including the current report: 2010–2011. Progress for all regions is compiled into one annual report. The annual reports provide progress on: <ul style="list-style-type: none"> • achievement of milestones in the NSW Forest Agreements • monitoring of key ESFM criteria and indicators by Forests NSW and DECCW each financial year • compliance with the IFOAs.
Milestone 23.3	Trial and assessment of criteria and indicators including preparation of evaluation framework Refer to UNE and LNE FAs section 2.11.2; Eden FA section 2.10.2; Southern FA section 2.11.2	Complete Not reported	

Report milestone number	Milestone	Five and ten-year review conclusion / recommendation	Progress for 2010–2011
24. Research and data management			
Milestone 24.1	Data management agreement and archive Refer to UNE, LNE, Eden FAs section 6.13; Southern FA section 6.13	Complete Not reported	
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 FAs section 2.11.3; Eden FA section 2.10.3; Southern FA section 2.11.3	Not applicable Not reported	
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 FAs Att 8; Southern FA Att 6 (2)(h)	Complete Not reported	
Milestone 24.4	Improving the coordination and effective use of resources allocated to research for ESFM in NSW Refer to Southern FA Att 6 (2)(f)	Complete Not reported	
Milestone 24.5	Research projects on former state forests Refer to UNE and LNE FAs section 2.11.3; Eden FA section 2.10.2; Southern FA section 2.11.3	Complete Not reported	
Milestone 24.6	A compendium of NSW forest research must be prepared Refer to UNE and LNE FAs section 2.11.3, Eden FA section 2.10.3, Southern FA section 2.11.3	Ongoing Not reported unless significant updates	No progress to report in 2010–2011.

Report milestone number	Milestone	Five and ten-year review conclusion / recommendation	Progress for 2010–2011
Milestone 24.7 Agency: FNSW	Operational research trial Refer to Eden FA section 3.1	To be reported Filter strip trial not conducted	Forests NSW was proposing a trial in the Eden region to assess the merits of selective harvesting of filter strips and any associated impacts. The project is dependent on timber supply and has currently been deferred.
Milestone 24.8 Agency: FNSW	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 FA Att 6 (6)(a)	Ongoing To be reported	FNSW has a Forest Management System that integrates all regulatory and non-regulatory requirements to achieve best forest management outcomes. As part of the continuous improvement process FNSW continues to develop and enhance tools to better manage forests at an operational scale.
Milestone 24.9 Agency: FNSW	Develop by the end of 2010, a model to predict recruitment and maintenance of habitat trees over time Refer to Southern FA Att 6 (6)(b)	Ongoing To be reported	Forests NSW reported no further developments in 2010–2011.

Appendix 2: Milestones and undertakings – Brigalow and Nandewar

Report milestone number	Milestone	Recommended timing	Progress for 2010–2011
Community Conservation Area Agreement Undertakings 4.1 and 13.2	Community Conservation Area Agreement The Community Conservation Council will review the Community Conservation Area Agreement in consultation with the Community Conservation Advisory Committees after seven years. The Council may develop amendments or a replacement Agreement consistent with the Act.	10 June 2016	This undertaking is due by 2016.
Community Conservation Area Agreement Undertaking 10.1	Plans of management (OEH) OEH to develop plans of management for zones 1, 2 and 3 of the community conservation area in consultation with the Community Conservation Advisory Committees.	Ongoing	Of the 62 reserves under zones 1, 2 and 3, four draft plans have been publicly exhibited.
Brigalow Nandewar Green Firewood Strategy	Reporting on Green Firewood Strategy Annual reporting (to the Community Conservation Council) by FNSW on progress and implementation of Brigalow–Nandewar Green Firewood Strategy.	Within 60 days of the end of each financial year	Forests NSW reporting and funding reconciliation prepared and submitted to the Environmental Trust for 2010–2011.
IFOA clause 9(5)	Soil assessor training DECC approval of soil assessor training course(s).	When required	OEH approved soil assessor training has been conducted in Brigalow–Nandewar region since 2009–2010.
IFOA clauses 29(1) and (5)	Proposed new TSC Act listings DECC required to notify FNSW of proposed new TSC Act listings relevant to forestry operations.	When required	No update reported. This is an ongoing task as listings become apparent.

Report milestone number	Milestone	Recommended timing	Progress for 2010–2011
IFOA clauses 37(1) to (5)	<p>37. Sustainable yield study for hardwood species</p> <p>(1) Forests NSW is to conduct (over the first five years of the term of this approval) a study of the sustainable yield for logs and other timber products from tableland hardwood and western hardwood species (other than western ironbark trees) in the Brigalow–Nandewar region for the remainder of the term of this approval.</p> <p>See IFOA for full undertakings 37 (1) to (5).</p>	Study to be undertaken within the first five years of commencement of the IFOA (by October 2015)	No action taken in 2010–2011 on a sustainable yield study.
IFOA clauses 41(1) to (7)	<p>41. Travelling stock reserves</p> <p>(1) Forests NSW to assess or determine matters when deciding whether to carry out, or authorise the carrying out of, a logging operation in which timber on a travelling stock reserve (within the meaning of the <i>Rural Lands Protection Act 1998</i>) that is Crown-timber land is to be cut and removed.</p> <p>(4) Forests NSW is to prepare a plan for managing logging operations on travelling stock reserves in the Brigalow–Nandewar region within 12 months of the commencement of this approval. The plan is to include measures, in relation to each forested area within a travelling stock reserve that Forests NSW identifies as having high conservation value (under subclause (1) or otherwise), for ensuring that the environmental attributes that contribute to the high conservation value of the area are maintained or improved.</p> <p>Continued...</p>	Forests NSW plan for managing logging operations on travelling stock reserves in the Brigalow–Nandewar region is to be prepared within 12 months of the commencement of the approval.	No progress was made by Forests NSW in drafting a plan of management in 2010–2011.

Report milestone number	Milestone	Recommended timing	Progress for 2010–2011
IFOA clauses 41(1) to (7) continued	41. Travelling stock reserves, cont. (6) Forests NSW may not carry out, or authorise the carrying out of, any logging operations on land within a travelling stock reserve until it has forwarded its draft plan for managing those operations to DECCW and considered any written comments DECCW may provide regarding the contents of the plan within two months of receiving it. See IFOA for full undertakings 41(1) to (7).	See above.	See above.
IFOA clauses 44(1) to (3)	44. Assessment of regeneration in silvicultural management (1) Forests NSW must assess the extent and nature of regeneration in areas of land within the Brigalow–Nandewar region that are logged during the term of this approval. Assessments must be carried out on a regular and periodic basis. See IFOA for full undertakings 44 (1) to (3).	The first such assessment is to be completed by the end of 2013	First assessment due 2013.
IFOA clauses 46 (1) to (3)	46. Pest animal management plan – review and amendment (1) Forests NSW must review the pest animal management plan applying to state forests within the Brigalow–Nandewar region, regularly and periodically (and at least every five years from the date of its approval for implementation). Accordingly, the Pest Animal Management Plan 2006 Western Region NFOB (referred to in clause 45) must be reviewed by 30 June 2011. See IFOA for full undertakings 46(1) to (3).	The Pest Animal Management Plan 2006 Western Region NFOB (referred to in clause 45) must be reviewed by 30 June 2011	No action reported in 2010–2011.

Report milestone number	Milestone	Recommended timing	Progress for 2010–2011
IFOA clauses 49 (1) to (3)	49. Weed management plan – review and amendment Forests NSW must review the weed management plan applying to state forests within the Brigalow–Nandewar region, regularly and periodically (and at least every five years from its approval for implementation). Accordingly, the Weed Management Plan 2006 Western Region NFOB (referred to in clause 48) must be reviewed by 30 June 2011. See IFOA for full undertakings 49 (1) to (3).	The Weed Management Plan 2006 Western Region NFOB (referred to in clause 48) must be reviewed by 30 June 2011	No action reported in 2010–2011.
IFOA clauses 52 (1) to (3)	52. Grazing management plan – review and amendment (1) Forests NSW must review its grazing management plan applying to state forests within the Brigalow–Nandewar region, regularly and periodically (and at least every five years from the date of its approval for implementation). Accordingly, the Grazing Management Plan 2006 Western Region NFOB (referred to in clause 51) must be reviewed by 30 June 2011. See IFOA for full undertakings 52 (1) to (3).	The Grazing Management Plan 2006 Western Region NFOB (referred to in clause 51) must be reviewed by 30 June 2011	No action reported in 2010–2011.

Report milestone number	Milestone	Recommended timing	Progress for 2010–2011
IFOA clause 55	<p>55. Burning operations management plan – preparation of first plan</p> <p>Forests NSW must prepare (and approve for implementation) a burning operations management plan that complies with clause 54 within 12 months of the commencement of this approval. Forests NSW is to invite DECCW and DII (Fisheries) to provide comments on a draft of the plan, and is to take into account any comments made by those agencies (within a reasonable time) in finalising the plan.</p>	Plan is to be finalised within 12 months of commencement	Forests NSW has prepared a draft burning operations management plan but it has not been finalised.
IFOA clauses 57 (1) to (3)	<p>57. Burning operations management plan – review and amendment</p> <p>(1) Forests NSW must review the burning operations management plan applying to state forests within the Brigalow–Nandewar region, regularly and periodically (and at least every five years from the date of its approval for implementation).</p> <p>See IFOA for full undertakings 57 (1) to (3).</p>	Regularly and periodically – and at least every five years from the date of its approval for implementation	No action reported in 2010–2011.
IFOA clauses 60 (1) to (3)	<p>60. Road and fire trail management plan – review and amendment</p> <p>(1) Forests NSW must review the road and fire trail management plan applying to the Brigalow–Nandewar region, regularly and periodically (and at least every five years from its approval for implementation). Accordingly, the Road Management Plan 2006 Western Region NFOB must be reviewed by 30 June 2011.</p> <p>See IFOA for full undertakings 60 (1) to (3).</p>	Regularly and periodically and at least every five years from its approval for implementation	No action reported in 2010–2011.

Report milestone number	Milestone	Recommended timing	Progress for 2010–2011
IFOA clauses 80 to 88	<p>80. Annual reports on forestry operations</p> <p>(1) Forests NSW is to provide DECCW and DII (Fisheries) with a report on forestry operations undertaken in the Brigalow–Nandewar region in each financial year. The information that must be included in the annual report is set out in clauses 81 to 87.</p> <p>See IFOA for full undertakings 80 to 88.</p>	<p>The annual report for a financial year is to be provided to EPA and NSW Fisheries by 1 September in the next financial year (A copy of each annual report under this Division is to be kept by Forests NSW for the remainder of the term of this approval.)</p>	<p>The annual report for all western IFOA regions for the period 2010–2011 was not completed during the reporting period. However, the IFOA allows this information to be included with the 2011-2012 report.</p>
IFOA clauses 149 to 151	<p>149. Species management plans for certain threatened plant species</p> <p>Forests NSW is to prepare a species management plan for each of the following threatened species of plant to assist in identifying, managing and controlling any adverse impacts of forestry operations on the species:</p> <p>(a) <i>Bertya</i> sp. A Cobar-Coolabah (also named <i>Bertya</i> opponents)</p> <p>(b) <i>Diuris tricolor</i></p> <p>(c) <i>Pomaderris queenslandica</i></p> <p>(d) <i>Pterostylis cobarensis</i></p> <p>(e) <i>Swainsona recta</i></p> <p>(f) <i>Swainsona sericea</i>.</p> <p>See IFOA for full undertakings 149–151.</p>	<p>Within 12 months of the commencement approval and to be submitted to DECCW</p>	<p>Progress on this item is reported in the 2011-2012 report.</p>
IFOA clauses 152 to 154	<p>152. Monitoring plans for plant species</p> <p>To review and approve the development of FMPs for the following species: <i>Acacia jucunda</i>, <i>Monotaxis macrophylla</i>, <i>Phebalium glandulosum</i> subsp. <i>eglandulosum</i>.</p> <p>See IFOA for full undertakings 152–154.</p>	<p>Within 12 months of the commencement approval and to be submitted to DECCW</p>	<p>Progress on this item is reported in the 2011-2012 report.</p>

Report milestone number	Milestone	Recommended timing	Progress for 2010–2011
IFOA clauses 149, 152 and 259	Approved plans Intention to amend IFOA to give effect to approved plans under clauses referred to above. This will result in amendment and ultimately omission of clause 259.	Potentially within 12 months of the commencement approval	Subject to finalisation of actions 149 and 152.
IFOA clause 155	155. Strategic monitoring and assessment program Forests NSW is to develop and undertake a strategic monitoring and assessment program in the Brigalow–Nandewar region: (a) to improve knowledge of the habitat requirements of threatened species within the region, and (b) to monitor populations of native animals and plants within the region and assess the extent to which any changes in population levels may be attributable to forest management and practice. See IFOA for full undertaking 155.	Forests NSW is to develop the strategic monitoring and assessment program in consultation with DECCW before the end of the 12 month period following the commencement of this approval	Forests NSW has prepared a strategic monitoring plan but it has not been finalised.
IFOA clauses 158 and 159	Give effect to species management plans Approval of monitoring plan for <i>Polygala linariifolia</i> and <i>Tylophora linearis</i> .	Not stated	Forests NSW submitted draft SMPs to EPA in 2010–2011 and these are being reviewed.

Report milestone number	Milestone	Recommended timing	Progress for 2010–2011
IFOA clauses 233 (1) to (4)	<p>Auditing methodology for the retention of trees</p> <p>(1) Forests NSW is to develop, in consultation with DECCW, a methodology for auditing compliance with the requirements for the retention of trees for the purposes of this Part (namely, clauses 197 (2), 198, 199, 200, 206 and 216). Forests NSW is to endeavour to have in place an auditing methodology (approved by DECCW) within 12 months of the commencement of this approval.</p> <p>See IFOA for full undertaking 233 (1) to (4).</p>	Within 12 months of the commencement approval	Forests NSW has consulted with EPA but has not yet finalised methodology.

Appendix 3: Milestones and undertakings – Riverina Red Gum IFOA

IFOA Clauses	Detail	Timeframe	Responsibility	Progress for 2010–2011
26	Five year review of approval, consideration on min. basal area retention, new TSC act listings, drainage protection features	Jan 2016	'Ministers' (both agencies)	This milestone is due by January 2016.
27(2)	Set terms of reference for a review of the sustainable amount of residue that may be produced from early thinning (other than in Western Lands Lease)	Prior to 1 July 2012 – review will be conducted from 1 July 2012 to 31 December 2012	Joint Forests NSW and OEH review conducted by independent scientific panel (membership mutually agreed by DGs) – joint funded	Action commenced (falls due in the 2011–2012 period).
27(6)	Set terms of reference for a review of the maximum amount of residue that may be produced from logging in Western Lands Leases	Joint Terms of Reference by 31 Dec 2012 for the first review period 1 January 2014 – 31 December 2019 Forests NSW must send draft copy to OEH by June 2013 Forests NSW in consultation with OEH must produce agreed recommendations for any amendments by 30 Sept 2013	Joint Terms of Reference between Forests NSW (lead) and OEH (review) with joint recommendations required	Action commenced (the first draft of terms of reference falls due in the 2012–2013 period).
28(2,3)	Trial of optimal basal area retention rates	To feed into 5 year review (cl. 26) i.e. before Jan 2016 Also part of Riverina Red Gum Structural Adjustment Package Agreements – to feed into Adaptive Mgt Program (by June 2013)	Forests NSW (lead) must consult with OEH as to the area selected and parameters of the trial	This milestone is due in 2013.
29(1)(a)	Develop a methodology for auditing compliance with tree retention requirements under clauses 42–45 and 179	To be undertaken within 12 months of commencement (due 1 January 2012)	Forests NSW (lead) in consultation with OEH Requires OEH written approval to have effect	To be reported in 2011–2012.
29(1)(b)	Develop a methodology for calculating dbhob using stump dimensions (clause 191)	To be undertaken within 12 months of commencement (due 1 January 2012)	Forests NSW (lead) in consultation with OEH Requires OEH written approval to have effect	This milestone is due before 1 January 2012.

IFOA Clauses	Detail	Timeframe	Responsibility	Progress for 2010–2011
30(1)	Develop a methodology for targeted survey for regent parrot	Before 29 July 2011	Forests NSW (lead) in consultation with OEH Requires OEH written approval to have effect	No progress reported but an alternative proposal is being developed and will be reported in 2011–2012.
31	Develop a field protocol for measuring distances specified in clauses 104, 105 and 106	To be undertaken within 12 months of commencement (due 1 January 2012)	Joint Forests NSW, Fisheries and OEH	Progress to be reported in 2011–2012.
47 (4)(6) and (7)	Forests NSW must prepare a plan for managing operations on travelling stock reserves. OEH and Rural Lands Protection Board (RLPB) to be consulted	To be undertaken within 12 months of commencement (due 1 January 2012) OEH to comment on Forests NSW draft plan within 2 months of receiving draft	Forests NSW (lead) and OEH and RLPB consulted	Progress to be reported in 2011–2012.
50 (1–4)	Forests NSW must assess the extent and nature of regeneration in areas of land logged during the approval. OEH to be consulted regarding assessment of regeneration in silvicultural management	To be undertaken before carrying out the first assessment, which is due 31 December 2013	Forests NSW (lead) and OEH consulted	Progress to be reported in 2013–2014 or earlier.
61	OEH and Fisheries to be invited to comment on a draft burning operations management plan	Plan is to be finalised within 12 months of commencement (due by 1 January 2012)	Forests NSW (lead) OEH and Fisheries consulted	Progress to be reported in 2011–2012.
71	Forests NSW must prepare annual programs of operations for financial year	First one due 1 July 2011	Forests NSW (lead) forward to OEH and Fisheries	Annual programs for 11–12 submitted 4/8/2011
82	Forests NSW to provide monthly advice on operations	Monthly reports commenced on 1 April 2011	Forests NSW (lead)	The process of reporting is in place and reporting continues as per the requirements of the IFOA.
91	Annual report for financial year must be given to OEH and Fisheries	By 1 Sept in next financial year (i.e. first report due 1 Sept 2012)	Forests NSW (lead) Must be given to OEH and Fisheries	Progress to be reported in 2011–2012 and 2012–2013.
138, 140–143	New threatened species records notification	Within 3 months of the new record being made or 2 working days for spp. listed in cl. 140	Forests NSW – must notify OEH	Action was not required for 2010–2011.

IFOA Clauses	Detail	Timeframe	Responsibility	Progress for 2010–2011
238–243	In addition to the annual report required (s.91) Forests NSW must prepare and give OEH an annual return relating to the EPL	Calendar years – from 1 st year within 60 days of end of year (i.e. 1 March 2012)	Forests NSW – must submit to OEH	Progress to be reported in 2011–2012.

Acronyms and abbreviations

API	Aerial photograph interpretation
AFCS	Australian Forest Certification Scheme
AFS	Australian Forestry Standard
AHIMS	Aboriginal Heritage Information Management System
BMAD	Bell miner associated dieback
BRIMS	Bushfire Risk Information Management System
BVMPs	Branch Visitation Management Plans
CAPs	Catchment Action Plans
CMA	Catchment management authority
COG	Candidate old growth
CRA	Comprehensive regional assessment
CRAFTI	Comprehensive regional assessment aerial photo interpretation
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DAFF	Commonwealth Department of Agriculture, Fisheries and Forestry
DECC	Former NSW Department of Environment and Climate Change
DEH	Commonwealth Department of Environment and Heritage. As of 3 December 2007, DEH became known as DEWHA (Department of the Environment, Water, Heritage and the Arts)
DLWC	Former Department of Land and Water Conservation, now part of the Department of Planning and the Department of Natural Resources
DNR	Department of Natural Resources
DMR	Department of Mineral Resources
DPI	Department of Primary Industries
DOG	Disturbed old growth
EFT	Equivalent full-time (employees)
EMS	Environmental Management System
EPRG	Environment Protection and Regulation Group (part of OEH)
EPA	Environment Protection Authority
EPL	Environment Protection Licence
ESFM	Ecologically sustainable forest management
FA	Forest Agreement
FMZ	Forest management zoning system
FRAMES	Forest Resource and Management Evaluation System
FISAP	Forest Industry Structural Adjustment Package
GERI	Great Eastern Ranges (Alps to Atherton) Initiative
GIS	Geographic Information System
HCVOG	High conservation value old growth

HHIMS	Historic Heritage Information Management System
IFOA	Integrated Forestry Operations Approval
ILUA	Indigenous Land Use Agreement
IUCN	International Union for Conservation of Nature
LHPAs	Livestock Health and Pest Authorities (RLPBs before 1 January 2009)
LNE	Lower North East
MIG	Montreal Process Implementation Group
NFMS	Native Forest Management System
NFPS	Joint State Commonwealth National Forest Policy Statement
NPWS	National Parks and Wildlife Service (now encompassed within NPWS of OEH)
NRAC	Natural Resources Advisory Council
OEH	Office of Environment and Heritage, a division of the NSW Department of Premier and Cabinet
PAS	Priorities Action Statement
PMP	Park Management Program
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
RACU/RACD	Former Resource and Conservation Unit of the former DECC and former Resource and Conservation Division
RACAC	Resource and Conservation Assessment Council
RFA	Regional Forest Agreement
RLPB	Rural Lands Protection Board. As of 1 January 2009, RLPBs became known as LHPAs (Livestock Health and Pest Authorities)
RVMP	Regional Vegetation Management Plan
PR Act	<i>Plantations and Reafforestation Act 1999</i>
PIN	Penalty infringement notices
SEEing Report	Social, Environmental and Economic Report
SEEDS	Social, Economic and Environmental Database developed by Forests NSW
TSL	Threatened Species Licence
UNE	Upper North East
VCA	Voluntary Conservation Agreement (as per the <i>National Parks and Wildlife Act 1974</i>)
VDS	Visitor Data System
Wildlife Atlas	Atlas of NSW Wildlife

Glossary

biodiversity – The variety of life forms (the different plants, animals and microscopic organisms), the genes they contain, and the ecosystems they form.

CAR reserve system – The national reserve system, or CAR reserve system, aims to ensure the protection of a range of forest values. The acronym ‘CAR’ defines the goals of the reserve system: *comprehensive* – full range of forest communities recognised by an agreed national scientific classification at appropriate hierarchical levels; *adequate* – the maintenance of ecological viability and integrity of populations, species and communities; *representative* – those sample areas of the forest that are selected for inclusion in reserves should reasonably reflect the biotic diversity of the communities.

The establishment of a CAR reserve system is one of a number of arrangements put in place as a result of the joint State–Commonwealth *National Forest Policy Statement* (NFPS) (Commonwealth of Australia 1992). All Australian governments, as signatories to both the *National Strategy for the Conservation of Australia’s Biological Diversity* (Commonwealth of Australia 1996) and the NFPS, endorsed the goal of a CAR system of reserves for Australia. The CAR system is activated within the *Directions for the National Reserve System — A Partnership Approach* (Natural Resource Management Ministerial Council 2005). Priorities for building the OEH reserve system in each biogeographic region of NSW are identified in the *NSW National Parks Establishment Plan 2008* (DECC 2008).

carbon sequestration – Carbon sequestration in terrestrial ecosystems can be defined as the net removal of carbon dioxide from the atmosphere into long-lived pools of carbon, such that the carbon dioxide originally in the atmosphere effectively can no longer physically or chemically act as atmospheric carbon dioxide. The pools can be living, above-ground biomass (e.g. trees); products with a long, useful life created from biomass (e.g. timber); living biomass in soils (e.g. roots and microorganisms); or deeper subsurface environments such as depleted oil and gas reservoirs, un-mineable coal seams, deep saline formations or deep ocean.

Comprehensive Regional Assessment (CRA)/ Regional Forest Assessment (RFA) – Assessments made by NSW Government and Australian Government agencies and community stakeholders that looked closely at the impacts of changes to forest use and management on the environment, economy and community. The CRAs and RFAs included assessments of natural, cultural, social and economic values.

dedicated reserve – Reserve equivalent to the International Union for Conservation of Nature (IUCN) Protected Area Management Categories I, II, III, IV, as defined by the IUCN Commission for National Parks and Protected Areas (1994). Dedicated reserves include, but are not limited to, national parks estate under the *National Parks and Wildlife Act 1974* and flora reserves under the *Forestry Act 1916*. Status of reserves requires action by Parliament in accordance with legislation for reservation or revocation.

ecological community – An assemblage of species occupying in a particular area.

ecologically sustainable forest management (ESFM) – The management of forests so that they are sustained in perpetuity for the benefit of society, by ensuring that the values of the forests are not lost or degraded for current and future generations.

ecosystem – Communities of organisms and their physical environment interacting as a unit. See ‘forest ecosystem’.

ecosystem health – The state of an ecosystem’s processes (energy, nutrient, hydrological and biological processes), which maintains the vitality of the system.

ecosystem vitality – The ability of an ecosystem to perpetuate itself.

Environment Protection and Regulation Group (EPRG) of OEH – Leads the state's response to regulating a diverse range of activities that can affect the health of the NSW environment and its people. 'Regulation' is delivered by using a mix of tools, including education, partnerships, licensing and approvals, audit, enforcement and economic mechanisms. The group generally works outside the protected conservation areas and focuses on the areas where populations and economic activity interact with the environment.

filter strip – A strip of vegetation or groundcover along each side of a watercourse/drainage line, retained for the purposes of retarding or reducing lateral flow of runoff and sediment movement into the watercourse/drainage line and reducing the risk of channel and streambank erosion.

forest – A vegetation type dominated by woody vegetation having a mature, or potentially mature, stand height exceeding six metres, with an overstory canopy cover greater than 20%.

forest ecosystem – Native vegetation overstory of trees with greater than 20% canopy cover. Forest ecosystems were mapped and defined during the CRAs in terms of floristic composition in combination with substrate and position within the landscape. The **JANIS report** identified forest ecosystems as the primary surrogate for biodiversity in CRAs.

Forest Management Zone (FMZ) – A land classification system that sets out management intent across state forests and differentiates between those areas of state forest set aside for conservation and those areas available for timber harvesting and other activities.

Forest Resource and Management Evaluation System (FRAMES) – Forests NSW statewide forest resource inventory, growth modelling, simulation and harvest scheduling system for the NSW public native forest resource.

forest type – A class in the hierarchy of vegetation classification of forests characterised by the taxonomic and/or structural composition of canopy trees (usually by a dominant species).

gazettal – The formal process by which land becomes part of the NSW national parks estate, announced by a notice published in the *NSW Government Gazette*.

habitat – The living space of a species or community, providing a particular set of environmental conditions.

Informal reserve – A reserve that contains, and is managed for, conservation values that contribute to the CAR reserve system, and meets the principles for *Informal reserves* as described in the **JANIS report**.

JANIS report – The report by the Joint Australian and New Zealand Environment and Conservation Council (ANZECC)/Ministerial Council on Forestry, Fisheries and Aquaculture (MCFFA) National Forests Policy Statement Implementation Sub-committee, titled *Nationally Agreed Criteria for the Establishment of a Comprehensive, Adequate and Representative Reserve System for Forests in Australia* (Commonwealth of Australia 1997).

native forest – Any locally indigenous forest community containing the full complement of native species and habitats normally associated with that community, or having the potential to develop those characteristics.

National Parks and Wildlife Service (OEH) – Manages NSW protected areas, including national parks, wilderness areas and marine parks for conservation, education and public enjoyment. The group also forms partnerships with communities to protect biodiversity and cultural heritage on private and other public lands.

national parks estate – In this report, this refers to any area, within the Forest Agreement regions, of national park (NP), nature reserve (NR), state conservation area (SCA), regional park (RP), Aboriginal area, historic site or karst conservation reserve (KCR) managed by the National Parks and Wildlife Service of OEH. See also **reserve**.

OEH estate – Land acquired, reserved or dedicated under the *National Parks and Wildlife Act 1974*. ‘OEH estate’ may also refer to land declared as aquatic reserve under the *Fisheries Management Act 1994*, or marine park under the *Marine Parks Act 1997*, when managed by OEH. OEH estate was called ‘NPWS estate’ in the RFAs.

old growth – Forest that is ecologically mature and has little disturbance by activities such as logging, building roads or clearing. The definition focuses on forest in which the upper layer or overstory is in the late-mature to over-mature growth phases.

plantation – Intensively managed stands of trees of either native or exotic species, created by the regular placement of seedlings or seed.

public forest – Any forest on Crown land for which management responsibility has been delegated to government agencies, local governments or other instrumentalities.

regions – Relates to NSW Forest Agreement regions (UNE, LNE, Southern and Eden regions).

reserve – Land identified for conservation or related purposes on a range of tenures, including Crown land, state forest and national parks estate. Includes informal reserves and **dedicated reserves**.

snig track – A track along which snigging equipment (i.e. wheeled or tracked vehicles) travels.

species – A group of organisms that are biologically capable of breeding and producing fertile offspring with each other but not with other organisms in other groups.

state forest – Land dedicated under the *Forestry Act 1916*.

State Protected Land – Mapped areas of steep land (generally over 18 degrees), mapped environmentally sensitive land, and riparian land along prescribed streams.

sustainable yield – The long-term estimated wood yield from forests that can be maintained from a given region in perpetuity under a given management strategy and suite of sustainable-use objectives.

tenure – Title to land as controlled by legislation.

threatened species – Any species of plant or animal listed under Schedule 1 (endangered species), Schedule 1A (critically endangered species) or Schedule 2 (vulnerable species) of the *Threatened Species Conservation Act 1995*, or Schedule 4 (endangered species), Schedule 4A (critically endangered species) or Schedule 5 (vulnerable species) of the *Fisheries Management Act 1994*.

Threatened species, threatened populations, and threatened ecological communities profiles are available at www.environment.nsw.gov.au/threatenedspecies/

threatening process – A process that threatens, or may have the capability to threaten, the survival or evolutionary development of species, populations or ecological communities. These include processes listed as key threatening processes under Schedule 3 of the *Threatened Species Conservation Act 1995* and Schedule 6 of the *Fisheries Management Act 1994*.