



# **NSW Forest Agreements and Integrated Forestry Operations Approvals Implementation Report 2011–2012**

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

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Cover photo: Murray Valley Regional Park (formally Boomanoomana State Forest) in the Riverina Red Gum region of NSW. David Finnegan, OEH, supplied by OEH Photo Library.

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PO Box A290  
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## Overview

This is the thirteenth 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*<sup>1</sup>.

This publication reports on ecologically sustainable forest management (ESFM), compliance with environmental conditions, and achievement of important milestones and undertakings in NSW coastal forest regions (eastern NSW IFOAs). It also compiles information about timber harvesting, compliance, and the achievement of milestones and undertakings for the Riverina Red Gum, Brigalow–Nandewar, and South Western Cypress regions (western NSW IFOAs).

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 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 2011 to 30 June 2012.

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

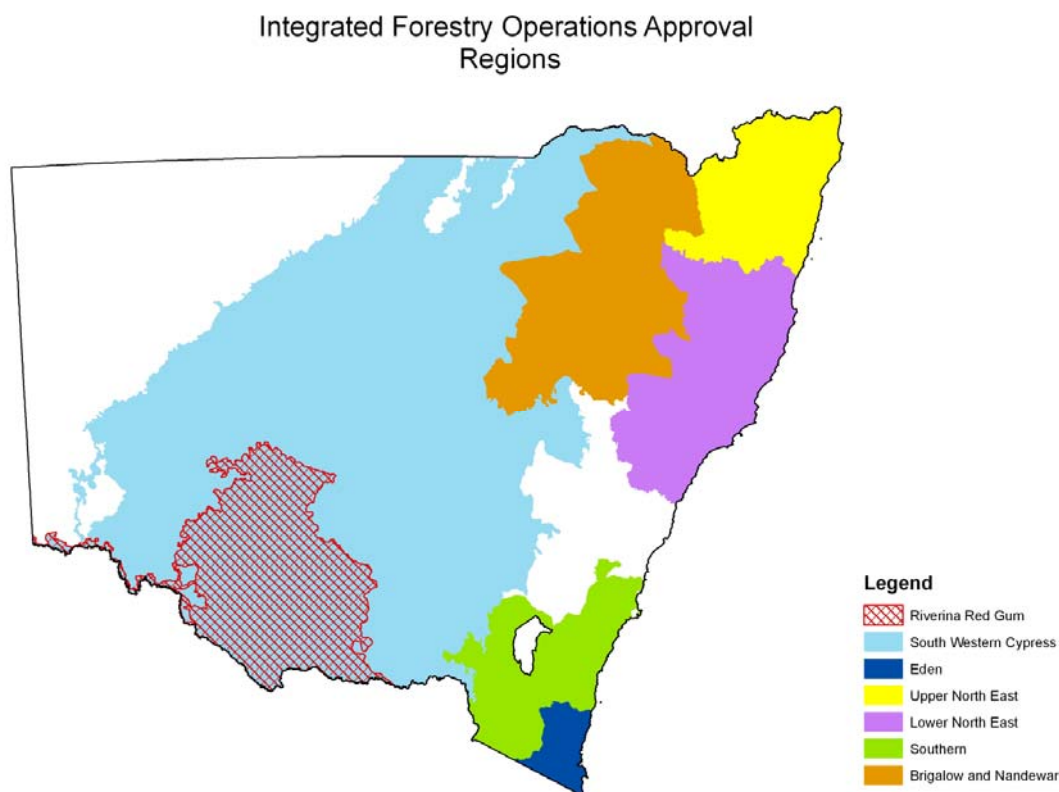
To avoid duplication, this annual report has been streamlined to link with parallel reporting on forests and other comprehensive reviews including the five and ten-year *Review of NSW Forest Agreements and IFOAs* finalised in December 2010  
[www.environment.nsw.gov.au/resources/forestagreements/ReviewFAandIFOA.pdf](http://www.environment.nsw.gov.au/resources/forestagreements/ReviewFAandIFOA.pdf)

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<sup>1</sup> Since 2012, the Forestry Act 2012. See footnote 1

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 and is reported this year

## What regions are reported

This report includes reporting on compliance, achievement of ESFM and achievement of milestones in the four eastern NSW forestry regions; and compliance, timber harvesting and achievement of milestones in the three western IFOA regions.

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

- South Western Cypress region. The South Western Cypress IFOA commenced on 1 July 2011.

### 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), a key contributor to this report.

An independent NSW Environment Protection Authority (EPA) was established on 29 February 2012. Some of the roles relating to regulation and compliance, milestones and undertakings in the IFOAs moved to the EPA (from OEH). Forestry implementation reporting for 2011–2012 was compiled by the EPA Forestry Section.

As of 1 January 2013 the former Forests NSW became a state owned corporation, the *Forestry Corporation of NSW*. Because this report covers the period 2011–2012, 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.

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# 1 2011–2012 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.

Together, the NSW Forest Agreements, integrated forestry operations approvals (IFOAs) and ESFM criteria and indicators represent a significant step forward in promoting ecologically sustainable forest management, sustainable timber supply, community consultation and Aboriginal involvement in forest management in NSW.

Reporting against ESFM criteria is not required for the western regions, but delivery of timber commitments is reported for each western IFOA region.

### Review of ESFM criteria and indicators

The 2010 [Review of NSW Forest Agreements and IFOAs](#) identified that the ESFM criteria and indicators were also under review. A report entitled *ESFM Criteria and Indicators for the Upper North East, Lower North East, Southern and Eden regions of NSW* (to be published) will introduce the revisions. Also proposed is that the reporting timeframe for all ESFM criteria and indicators be extended to five years.

The current annual report provides information on a snapshot of ESFM criteria and indicators that are subject to greatest annual change. These include mandatory timber harvesting volumes and wood products, and other indicators for which significant achievements are recorded.

### Regions reported in 2011–2012

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

The current annual report also presents information on timber production and forestry operations undertaken in the Riverina Red Gum, and Brigalow–Nandewar, and South Western Cypress IFOA regions. Because the Riverina Red Gum and Brigalow–Nandewar IFOAs commenced during 2010–2011, the current annual report also presents information on timber production and forestry operations undertaken during 2010–2011 from the commencement dates.

## 1.2 Biodiversity

### Additions to the national parks estate

The OEH annual overview of performance for 2011–2012 is reported as part of the [Department of Premier and Cabinet Annual Report 2011–2012](#). As at 30 June 2012, 7,079,706 hectares of land were being managed by OEH for conservation. This is an increase of 1937 hectares compared to 30 June 2011. At 30 June 2012, there were 344

conservation agreements protecting a total area of 135,854 hectares. During the year, 34 new conservation agreements were established over a total area of 5807 hectares. Note the land areas managed for conservation or under conservation agreements are statewide and include areas outside of the forest regions.

### **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*.

At the time of writing, the 2011–2012 report was being finalised and will be available at: [www.environment.nsw.gov.au/vegetation/reports.htm](http://www.environment.nsw.gov.au/vegetation/reports.htm)

### **Forest dwelling species – monitoring and survey**

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 pre-harvest surveys, targeted research and monitoring of fixed plots across the landscape.

A pilot year of the broad-scale fauna monitoring program known as WildCount was successfully planned and implemented by NPWS in 2011–2012. Remote motion sensitive cameras were deployed at 198 sites across eastern NSW and acoustic recording units deployed at 30 of these sites. One hundred and nine species were recorded by cameras in this first year. The data collected permitted occupancy modelling for 16 species to assist in understanding species distribution trends over time. In addition to the primary objective of broad-scale monitoring for widespread and common species, the pilot program recorded two threatened species from locations with presumed extinctions and provided images used in the WilderQuest program, which encourages children's exploration of the natural environment.

In 2012 National Parks and Wildlife Directors approved a second year of the WildCount survey for implementation in 2013. The 2013 survey will build on the baseline dataset collected in 2012 and expand the program off NPWS estate. WildCount was developed in response to the significant data deficiencies that were highlighted in the Fauna Monitoring Evaluation and Reporting (MER) program undertaken by Scientific Services Division of OEH. This lack of broad-scale, long-term monitoring data is an impediment to informed management and constrains the ability of OEH to report on condition of fauna populations in native forests habitats as well as other areas.

### **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 2009–2010 and 2010 Review report for the most recent compilation of growth stage information.



### **Case study: Detecting bats in state forests in Western Region NSW**

Forests NSW continued to trial biodiversity monitoring in the Pilliga forests in north-western NSW. One of the studies aimed to determine the optimal sampling effort for ultrasonic detection of bats.

To detect bats, six microphone detectors (Anabat) were set in forest areas at a series of grid-points. Each detector was set for two nights to remotely record the passing echolocation calls of bats for each night. Detectors were set on roads and dry stream beds (which are known flyways), but also away from known flyways.

Forests NSW used newly developed software to automate the process of bat call identification. The software used a regional identification key, developed by DPI researchers, to identify bat species. When the calls were identified the project provided species presence/absence information and information on bat habitat use.

About 21,000 bat calls were recorded at five sampling points. The identification key identified 69% of calls to 15 bat species. Three detectors set for two nights provided a high level of certainty for determining occupancy for most species in the Pilliga forests. The addition of an extra detector provided a more sensitive measure for detecting changes in species' activity and habitat use.

Plant and animal pre-harvest surveys are routinely undertaken by trained Forests NSW staff to meet regulatory conditions for harvesting in state forests. A typical outcome when a threatened species is detected might be to establish harvesting exclusion zones around the sightings or habitat. However, one-off surveys of individual wildlife species before harvesting do not enable population changes to be monitored across the entire landscape over time, and do not take into account forest management after harvesting. This preliminary work by Forests NSW Western Region is supporting a blend of pre-harvest surveys, targeted research and monitoring of fixed plots across the landscape.

An important component of the survey pilots has been to investigate the use of cost-effective survey designs and the potential for the use of automated survey techniques. A proposal for broad-scale biodiversity monitoring is currently in preparation.

## **1.3 Maintaining the 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). The FMZs are mapped and can be found appended to Forests NSW ESFM Plans<sup>2</sup>.

Table 1 shows the area of state forest tenure in each IFOA region. The table includes native forests (1,813,464 ha) and plantation forests (388,203). The plantation forest total includes Goulburn Sub Region of 44,667 ha (not listed separately in the table).

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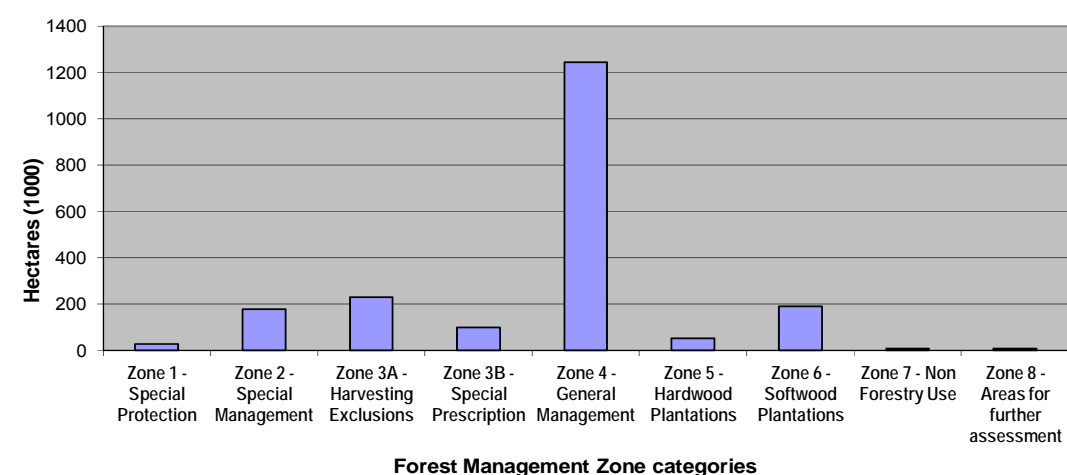
<sup>2</sup> ESFM plans can be found at: [www.forestrycorporation.com.au/management/sustainable-forest-management/esfm](http://www.forestrycorporation.com.au/management/sustainable-forest-management/esfm)

**Table 1: Total areas (ha) of state forests by IFOA region and forest tenure**

IFOA region	Native Forests Operations Branch	Planted Forests Operations Branch	Total state forest in IFOA region
Southern	268,211	153,769	421,980
Brigalow–Nandewar	274,887	1,600	276,487
Eden	164,210	42,753	206,963
Lower North East	480,147	17,427	497,574
Riverina Red Gum	36,775	–	36,775
South Western Cypress	153,464	–	153,464
Upper North East	416,927	23,542	440,469
Non IFOA	18,843	104,445	123,288
<b>Total for all regions</b>	<b>1,813,464</b>	<b>388,203*</b>	<b>2,157,000</b>

\* Includes Goulburn sub-region of 44,667 ha (not listed separately in the table).

Figure 1 shows the total number of hectares of each FMZ category present across 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 production<sup>3</sup>. 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)**

<sup>3</sup> 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'.

## **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. Actual versus specified volumes (or tonnage) harvested are reported below.

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

### **Timber harvested in coastal IFOA areas**

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

In the UNE during 2011–2012, 68,044 m<sup>3</sup> of high quality large sawlogs and large veneer logs were harvested from Forests NSW native forests. This represents 62.4% of the permitted volume (109,000 m<sup>3</sup> per year, as specified in the UNE IFOA) and is more than the amount harvested in the previous year. Additionally, FNSW supplied 14,707 m<sup>3</sup> of poles, piles and girders.

For the LNE region, high quality large sawlogs and large veneer logs harvested from the region during 2011–2012 totalled 99,686 m<sup>3</sup>, representing 62.3% of the committed volume of 160,000 m<sup>3</sup> per annum, as specified in the LNE IFOA. This is more than the amount harvested in the previous year. Additionally, FNSW supplied 12,573 m<sup>3</sup> of poles, piles and girders.

High quality log volumes for Eden in 2011–2012 totalled 18,598 m<sup>3</sup>, which represented 80.9% of the committed volume (23,000 m<sup>3</sup> in accordance with the Eden IFOA). This is a decrease on the amount harvested in the previous year.

High quality large logs harvested in Southern region totalled 42,014 m<sup>3</sup>. This volume represents 43.5% of the permitted volume, based on a permitted volume of 96,500 m<sup>3</sup> per year (48,500 m<sup>3</sup> from the South Coast sub-region and 48,000 m<sup>3</sup> from the Tumut sub-region). The quantities of high quality large logs reported by sub-region, are South Coast sub-region: 39,824 m<sup>3</sup> (82.1% of committed volume) plus 208 m<sup>3</sup> of poles, piles and girders; and Tumut sub-region: 2397 m<sup>3</sup> (5% of committed volume). This is slightly more than the amount harvested last year.

Figure 2 shows the percentages of committed quota sawlog volumes harvested (excluding poles and girders) for each coastal region.

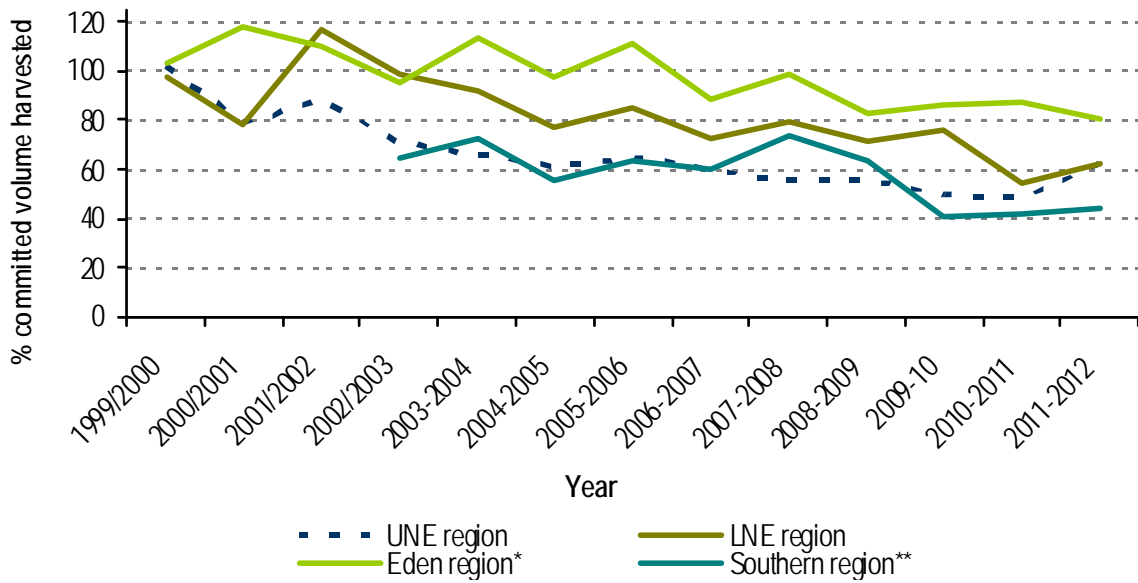
In 2011–2012, 232,296 tonnes of pulp grade timber were harvested in Eden region, or 67.3% of the committed volume of 345,000 tonnes (t) per year. Percentages of committed pulp grade timber sold from Eden region since 1999–2000 are shown in Figure 3. The small decrease in pulp production reflects competitive 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.

#### **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.

In 2011–2012, around 430 000 m<sup>3</sup> of non-specified logs were harvested from Forests NSW native forests and hardwood plantations across all coastal FA and IFOA regions. Additionally around 300 000 tonnes of non-specified pulp grade timber was produced across all coastal regions (see Table 2 for further detail).

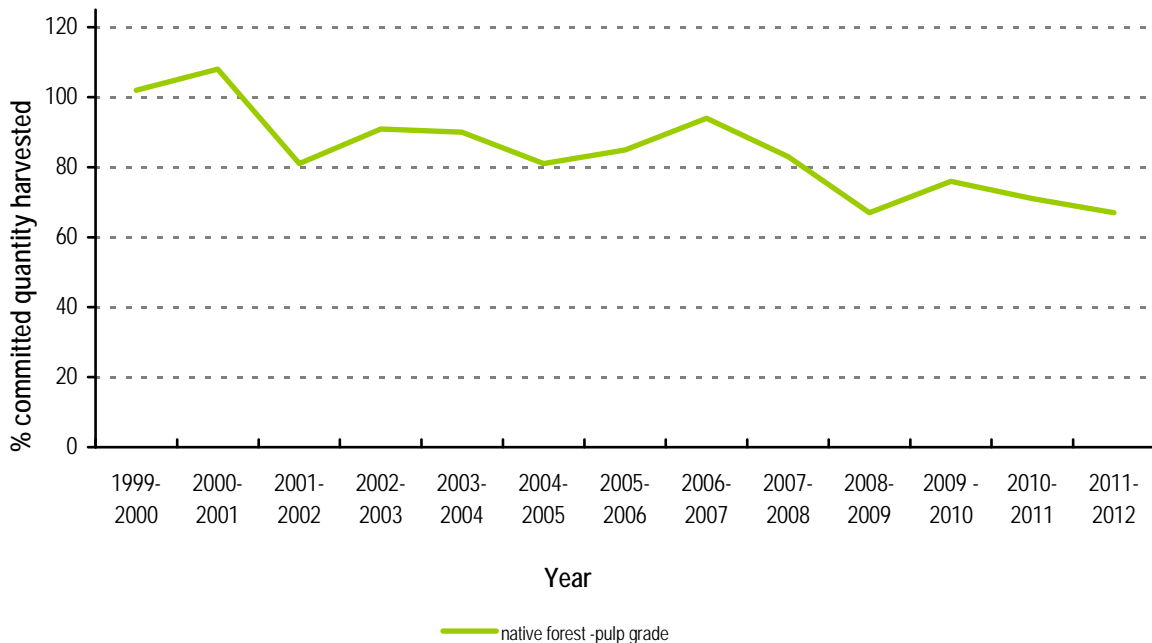


**Figure 2: Percentages of log volumes harvested – all coastal regions**

\* 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 82.1% in the South Coast sub-region and only 5% in Tumut sub-region.

Source: Forests NSW data



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

Source: Forests NSW data

**Table 2: Volumes and quantities of native forest and hardwood plantation timber products – coastal regions (2011–2012)**

Log type	Unit	Southern region		Eden region		LNE region		UNE region	
		South Coast sub-region	Tumut sub-region	Native forest	Hardwood plantation	Native forest	Hardwood plantation	Native forest	Hardwood plantation
Large veneer*	m <sup>3</sup>	280	73		–	1,563	743	4,532	123
High quality large*	m <sup>3</sup>	39,337	2,324	18,598	–	89,362	8,018	62,126	1,263
Small veneer	m <sup>3</sup>	1	23	0	0	842	2,501	2,344	43
High quality small sawlogs	m <sup>3</sup>	7,703	2	2,510	–	25,591	2,312	27,720	657
Low quality sawlogs	m <sup>3</sup>	22,635	760	3,348	–	118,770	44,086	64,880	2,904
Large poles/piles and girders**	m <sup>3</sup>	208	0	0	–	7,995	4,578	6,572	614
Small poles/piles and girders	m <sup>3</sup>	333	0	0	0	13,840	6,181	7,020	501
Fencing/ landscape/ sleepers (sawn)	m <sup>3</sup>	28,966	0	920	–	14,394	222	46	0
<b>Sub-total</b>	m <sup>3</sup>	99,462	3,183	25,377	–	272,358	68,641	175,241	6,104
***Pulp grade and chipwood	tonnes	88,815	756	232,396	–	170,077	33,955	6,599	3,690

\* Veneer and high quality large sawlogs harvested from Forests NSW native forests and hardwood plantations comprise quota log volumes.

\*\* Poles, piles and girders that meet quota specifications have been reported separately in this report and have not been added to the quota amount harvested reported

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

Source: Forests NSW data

## Forestry operations in western IFOA areas

### Burning operations in western forests

The IFOAs for the South Western Cypress, Brigalow–Nandewar, and Riverina Red Gum regions require annual reporting on burning operations.

For 2011–2012, Forests NSW carried out prescribed burning over 2124 ha of Pilliga East State Forest, in the Brigalow–Nandewar region.

No burning operations were carried out in the South Western Cypress or Riverina Red Gum regions.

### Information about grazing in western forests

An annual report is required to specify the total area within state forests in the South Western Cypress, Brigalow–Nandewar, and Riverina Red Gum regions over which grazing of domestic stock was authorised by Forests NSW (whether under new or existing grazing permits or forest leases) in the year.

This information for 2011–2012 is presented in Table 3.

**Table 3: Information about grazing operations in western IFOA regions 2011–2012**

IFOA area	Activity	Area (ha)
Brigalow–Nandewar	Grazing	7,596
South Western Cypress	Grazing northern	4,002
	Grazing southern	33,882
Riverina Red Gum	Grazing	1,830

### Timber volumes harvested in western forests

Under western IFOAs, an annual report is to specify the nature of forest products operations authorised under the *Forestry Act 1916* in that year and, to the extent to which the information is available, the quantity of each forest product authorised to be taken under the Act in that year.

This information is presented below and summarised in Table 4.

Note that the Brigalow–Nandewar IFOA and the Riverina Red Gum IFOA commenced in 2010–2011. Timber volumes and quantities obtained in 2011–2012 and the relevant months of 2010–2011 are reported below for completeness.

**Riverina Red Gum region:** The Riverina Red Gum IFOA identifies average yearly allocations and sets 20-year limits for high quality large logs and residue logs, but does not set maximum annual limits.

During 2011–2012 and the previous period January–June 2011, 5448 m<sup>3</sup> of high quality large sawlogs were harvested from native forests in the Riverina Red Gum region. During only the period 2011–2012, 4825 m<sup>3</sup> of high quality large sawlogs (including large veneer logs) were harvested from native forests in the Riverina Red Gum region. This was 9% above the annual average volume of high quality sawlogs (4413 m<sup>3</sup>) for the licence period. The IFOA does not restrict harvesting above the average volume as long as the 20-year limit of 90,253 m<sup>3</sup> is not exceeded over the life of the IFOA.

Data shows 6175 m<sup>3</sup> of low quality sawlogs were obtained in the Riverina Red Gum region (6752 m<sup>3</sup> when including the previous period January–June 2011). No upper limit is specified in the Riverina Red Gum IFOA. Low quality sawlogs can be a by-product of high quality large sawlog operations or early thinning operations.

During the 2011–2012 period and the preceding six months, 22,734 t of residue was harvested from operations associated with the production of high quality sawlogs. The quantity for 2011–2012 only was 15,299 t, which was 13% below the annual average volume of 17,533 t for the licence period. A further 23,454 t of residue grade log was harvested from western lease areas during the 2011–2012 period and the preceding six months. The quantity for 2011–2012 only was 12,362 t, being 69% of the 18,000 t annual average identified as being available from western leases.

The Riverina Red Gum IFOA permits early thinnings operations to be carried out in Riverina state forests for the purpose of producing red gum residue. A maximum amount is set in the IFOA for each year from 2009 to 2013. Under this product category 37,517 t of residue grade log were harvested during the reporting period and the preceding six months. The quantity for 2011–2012 only was 28,138 t, which exceeded by 13% the permitted maximum allocation of 25,000 t for that year.

**Brigalow–Nandewar region:** The Brigalow–Nandewar IFOA identifies average yearly allocations and specifies maximum annual limits for white cypress logs, western ironbark logs, and firewood. For other logs and products the IFOA specifies maximum annual limits. The IFOA also allows the harvesting of products of trees, shrubs and other vegetation (other than timber) that are of economic value, such as broombush.

In 2011–2012 (and the nine months of 2010–2011 after the IFOA commenced), 42,719 m<sup>3</sup> of cypress logs were harvested in the Brigalow–Nandewar IFOA region. The quantity for 2011–2012 only was 21,032 m<sup>3</sup>, representing 48% of the annual average permitted volume (44,000 m<sup>3</sup>). During 2011–2012 and the preceding nine months, 1533 m<sup>3</sup> of ironbark sawlog and fencing timber was harvested (below specified limits).

In 2011–2012 and the nine months prior, 5439 t of firewood was harvested under the conditions of the Brigalow–Nandewar IFOA. During the reporting period 2011–2012 only, 3016 m<sup>3</sup> of firewood was processed in the Brigalow–Nandewar IFOA region, which was 31% of the 9800 m<sup>3</sup> average yearly allocation.

**South Western Cypress region:** The South Western Cypress IFOA identifies average yearly allocations and specifies maximum annual limits for white cypress logs. For timber products other than logs and residual timber (such as craft wood and vine posts) the IFOA specifies maximum annual limits. Logging operations are permitted for the purpose of producing up to 6000 t of residue timber in any one financial year from early thinning white cypress or bull oak trees (being trees of the species *Allocasuarina luehmannii*) carried out in accordance with the IFOA. No forestry operations are permitted for the purpose of producing firewood in areas already covered by the Riverina Red Gum IFOA (but firewood permits may be issued to individuals).

During 2011–2012, 18,278 m<sup>3</sup> of cypress logs were harvested representing 82% of the average annual allocation (22,390 m<sup>3</sup>). No sawlog harvesting was undertaken on NSW western lands leases during the period. Logging operations for the purposes of producing timber products other than logs and residue recorded 107 m<sup>3</sup> harvested. Logging operations for the purpose of producing residue timber reported 13 t being harvested (below specified limits).

A summary of timber products obtained from state forests and Western Lands leases covered by the three Western IFOAs is presented in Table 4.

**Table 4: Information about logging operations undertaken in 2011–2012. The volumes and quantities reported for Brigalow–Nandewar and Riverina Red Gum regions include months in 2010–2011 after the IFOAs commenced.**

Product	Volume (m <sup>3</sup> ) / quantity (t)	Estimated harvest area (ha)
<b>Brigalow–Nandewar</b>		
Cypress log	42,719 m <sup>3</sup>	4,727
Ironbark log	865 m <sup>3</sup>	1,901
Timber products (including ironbark and cypress fencing)	668 m <sup>3</sup>	
Firewood (not including permits under the <i>Forestry Act 1916</i> )	5,439 t	
Firewood permits issued – see IFOA cl. 82.	No reporting provided	No reporting provided
Didgeridoo	0	0
Broombush	483 t	Area not provided
<b>SW Cypress</b>		
Cypress log	18,278 m <sup>3</sup>	3,704
Cypress log (western lands leases)	0	
Residue	13 t	
Timber products (other than logs and residue timber, such as craftwood and vine posts, from white cypress trees)	107 m <sup>3</sup>	
Firewood permits issued – see IFOA cl. 82.	No reporting provided	No reporting provided
Didgeridoo	0	0
<b>Riverina Red Gum</b>		
High quality saw log	5,448 m <sup>3</sup>	749
Low quality sawlog	6,752 m <sup>3</sup>	
Residue	22,734 t	
Early thinnings	37,517 t	735
Residue (western lands leases)	23454 t	823

### 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 five million hectares would be considered as suitable for PNF operations although most of this is not used for this purpose.

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](#).

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.

Between the amendment of the Native Vegetation Regulation 2005 on 1 August 2007 and June 2012, 2284 PVPs have been approved for PNF, covering 451,376 hectares of private forest (Table 5). In 2011–2012 72,165 hectares were approved, under 474 new PNF PVPs. Within this area all rainforest, old growth forest, wetlands, heathlands and many other environmentally important areas have been protected.

**Table 5: Area of PNF PVPs approved between August 2007 and June 2012**

Forest type	Area of PNF PVPs (ha)*					
	2007–08	2008–09	2009–10	2010–11	2011–12	Total
Northern NSW	63,845	92,390	54,727	58,490	58,730	<b>328,182</b>
Southern NSW	4,425	4,943	3,804	5,830	3,093	<b>22,095</b>
River Red Gum	18,394	37,367	4,506	11,860	4,664	<b>76,791</b>
Cypress and Western Hardwood	3,029	8,184	3,906	3,511	5,678	<b>24,308</b>
<b>Totals</b>	<b>89,693</b>	<b>142,884</b>	<b>66,943</b>	<b>79,691</b>	<b>72,165</b>	<b>451,376</b>

\* These figures include areas of PNF PVPs which have expired.

### 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 6. Overall figures for timber volumes and other products supplied from plantations are not routinely collected.

#### Plantations established by Forests NSW – native and softwood

No new hardwood plantations (first rotation) were established on previously cleared land by Forests NSW in 2011–2012. Forests NSW does not clear native forests to establish plantations.

Two hundred and six hectares of new softwood plantations (first rotation) were planted during the 2011 planting season.

**Table 6: 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
2011–2012	1,998	1	18

## 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.

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.

### NSW Invasive Species Plan

The [NSW Invasive Species Plan](#) provides the framework for the coordinated management of pest animals and weeds across various land tenures and will guide invasive species management in NSW to 2015. [NSW Department of Primary Industries](#) is a lead agency for this plan and the Office of Environment and Heritage (OEH) is a key partner in its implementation and has a lead role regarding pest threats to the environment.

The NSW Invasive Species Plan has four goals:

- prevent the establishment of new invasive species
- eliminate or prevent the spread of new invasive species
- reduce the impacts of widespread invasive species
- ensure NSW has the ability and commitment to manage invasive species.

Actions identified in the plan have been developed specifically to align with the reporting requirements for the [NSW Natural Resources Monitoring, Evaluation and Reporting Strategy](#).

## **Pest management on the OEH estate**

OEH manages pests on its estate (such as national parks and nature reserves) and also develops and implements strategies for invasive species that threaten biodiversity. OEH management is focused on areas where native animals and plants are the most threatened, other park values are affected, or where pests are likely to affect neighbouring lands.

Pest management on the OEH estate is coordinated through:

- threat abatement plans such as those for the [fox](#) and [bitou bush](#)
- [biodiversity priorities for widespread weeds](#)
- the [management plan for myrtle rust on the national parks estate](#)
- [regional pest strategies and other management plans](#)
- the [NSW Threatened Species Priorities Action Statement](#).

For detailed information on controlling pests on the OEH estate, see the OEH publication: [Protecting our national parks from pests and weeds](#).

### **Regional strategies**

During 2011–2012 OEH developed 14 region-specific strategies, which outline specific local pest management priorities. As part of the process of developing these strategies, a comprehensive stakeholder and community consultation process was undertaken from August to November 2011, to identify areas of interest and issues which needed to be addressed.

Fifteen regional consultation forums were held across NSW and were attended by more than 380 stakeholders.

Following regional forums, a state-level stakeholder roundtable forum was held on 15 November 2011. It was hosted by the Minister for the Environment and attended by high level representatives from government departments and non-government organisations involved in pest management across NSW.

The strategies were placed on public exhibition from December 2011 to February 2012. OEH considered submissions as part of the finalisation of the strategies.

During the year high priority pest and weed actions from these strategies were implemented. Key areas included a focus on new and emerging weeds, wild dog control and cooperative feral animal programs in conjunction with Livestock Health and Pest Authorities.

As presented in 2010–2011 a revised NSW Fox Threat Abatement Plan (TAP) was finalised in 2011 and will be implemented in upcoming years.

### **Myrtle rust**

The management plan for myrtle rust on the national parks estate was developed and the implementation of a number of the actions has occurred on NPWS estate. For example, monitoring has been undertaken at two treatment sites: Wambina Nature Reserve and Mill Creek (Dharug National Park). Monitoring has also occurred at Wyrabalong National Park, Jiliby State Conservation Area and Tuggerah Nature Reserve. In one region any new myrtle rust infections in other reserves have been mapped and some preliminary surveys done, particularly targeting key threatened Myrtaceae.

### Case study: Myrtle rust – a new disease with devastating potential



Photo: Myrtle rust; Angus Carnegie, NSW Department of Primary Industries

In April 2010 a myrtaceous rust was detected by a cut-flower grower on the Central Coast of NSW (Carnegie et al. 2010). It was subsequently identified as *Uredo rangellii*, a member of the eucalyptus/guava rust (*Puccinia psidii*) complex, and determined to be an exotic plant pest (it is now generally accepted that the exotic rust in Australia is *Puccinia psidii* and commonly referred to as myrtle rust). Myrtle rust is recognised as a significant threat to Australia's native Myrtaceae and has been listed as a key biosecurity threat in several industry and national biosecurity plans. The exotic rust in Australia (myrtle rust) is regarded as a strain of eucalyptus rust (Carnegie & Cooper 2011).

An emergency response was established to determine whether it was technically feasible to eradicate myrtle rust (Carnegie & Cooper 2011). The response included surveys of a large number of nurseries, residential gardens and bushland sites, tracing plant movements to and from nurseries, destruction of diseased material, and quarantine zones established in local government areas and on infected premises, as well as restrictions on interstate plant movements. However, by December 2010 the rust had been detected on a large number of properties (nurseries and private gardens), had spread to native bush and been identified on a large number of hosts. It was determined that myrtle rust was now established in Australia and the emergency response was stood down.

Government and industry bodies are now in the process of working towards a transition to management phase. Myrtle rust is likely to impact on a range of industries reliant on Myrtaceae (including forestry, native cut-flower, tea tree oil production), as well as the native environment.

Myrtle rust is now considered established along the east coast from Batemans Bay in southern NSW to Cairns in Queensland, including several World/National Heritage-listed national parks, and has been found on over 220 plant species during survey. The rust is currently most active and damaging in subtropical NSW and Queensland. Severe impact has been observed in several rainforest species, such as *Rhodamnia rubescens* (brush turpentine) and *Rhodomyrtus psidioides* (native guava), native stands of *Melaleuca quinquenervia* (broad leaved paperbark) and some amenity species (e.g. *Syzygium jambos*, rose apple). The number of host species affected and the level of damage and impact is expected to increase. Although detected in eucalypt plantations in NSW, myrtle rust is currently not causing significant impact to plantation forestry.

Current research is investigating the epidemiology and impact in the native environment, identifying resistance in a range of Myrtaceae, taxonomic questions and control options. Myrtle rust is here to stay, so we need to 'learn to live with it' and manage it to reduce the potential impact on native flora and fauna.

### **Bell miner associated dieback**

Bell miner associated dieback (BMAD) continued to be an issue in native forest areas for both OEH and Forests NSW.

### **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](http://www.dpi.nsw.gov.au/agriculture/pests-weeds/weeds/publications/cmas).

## **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 section 220ZW of the *Fisheries Management Act 1994*, also contain measures for protecting aquatic values.

In 2011–2012, 22,921 ha of native forest across NSW 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 2011–2012, 14,024 ha of softwood plantation was harvested or thinned, while 908 ha of hardwood plantation was harvested or thinned. Despite wet conditions, 28,451 ha was treated with hazard reduction burning. In addition to this, Forests NSW continued to preserve and improve, in accordance with good forestry practice, the soil resources and water catchment capabilities of lands under its management.

OEH developed a field guide [Erosion and sediment control on unsealed roads](#), which was publicly released in the 2011–2012 reporting period. 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 global carbon cycle**

This criterion is not reported annually but total standing volume of CO<sub>2</sub> 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 733 FTE (Full Time Equivalent) positions associated with NSW-wide state forests as at June 2012, excluding casual employees. In addition to this, Forests NSW engaged more than 100 contract companies employing about 1400 people during the reporting period, primarily in the harvesting and haulage of timber products. Forests NSW estimates that over 12,000 people are employed in forestry and forest products industries. More broadly the timber processing industry contributes nearly \$1 billion per annum to the state economy. NSW forestry operations are distributed across regional NSW and include planting and regeneration, planning and managing timber harvesting and marketing and delivering timber to a wide range of customers located within NSW, across Australia and overseas.

### Major new contracts

Forests NSW awarded \$75 million of new harvest and haulage contracts for plantation grown softwood log products in the Monaro region over a six-year period. Note the Monaro region includes a small area of Goulburn sub-region which is not reported under IFOA reporting.

A tender for harvesting capacity was conducted for south coast and tablelands native forests with 34,000 m<sup>3</sup> of timber volume awarded for up to eight years, providing security of employment for our contractors and their employees and certainty around investing in new technology and equipment.

### Tourism strategy 2012–2015

The [Forestry Corporation of NSW Tourism Strategy 2012–2015](#) provides direction for the development of state forests as a desirable visitor destination, considering both non-commercial/community recreation areas and commercial tourist opportunities.

In pursuit of its vision and goals for tourism on state forest, Forests NSW has determined the following focus areas for action, each of which will be reported against via indicators in a related action plan:

- be safe and sustainable
- improve understanding of tourism assets
- better manage tourism assets
- improve understanding of visitors
- better manage visitor experiences
- better promote state forests as a visitor destination
- realise commercial nature-based tourism opportunities
- embrace innovation and new ideas
- improve visitors' understanding of Forests NSW and state forests.

The complete strategy is available at <http://www.forestrycorporation.com.au/resources/policies>.

A number of Forests NSW natural tourist attractions are listed in the [Forestry Corporation Annual Report 2011–2012](#).

## **Cultural heritage – Forests NSW**

Forests NSW continued to work in partnership with local Aboriginal communities to ensure ongoing access to forests for cultural purposes. Through the MOU between Forests NSW and the Anaiwan Elders in Central Region, Forests NSW continued to fund site improvements at the Riamukka camp, for which the Anaiwan hold an occupation permit, with the erection of a shelter that is used for cultural gatherings and teachings.

In the reporting year, the Black Fellows Hand Trail in Newnes State Forest near Lithgow was returned to its traditional name of Maiyingu Marragu Trail (meaning ‘peoples with hands’). It was a result of the partnership between the traditional owners of the Newnes State Forest area, the Mingaan people (part of the Wiradjuri Nation) and Forests NSW Macquarie Region. The trail leads to the Maiyingu Marragu Aboriginal place.

As part of the Koondrook-Perricoota Forest Flood Enhancement Works near Barham on the NSW/Victorian border, an Indigenous Partnership Program was established to consult with local traditional owner groups and land councils over cultural heritage issues associated with the construction of the project. During 2011–12, several meetings were held with the Joint Indigenous Group of traditional owners and land councils to discuss cultural heritage issues, in particular the management of burial sites within the construction zone.

Southern Region continued to work closely with Eden Local Aboriginal Land Council (LALC) on their Bundian Way project, a cultural track that stretches from Twofold Bay up to the Snowy Mountains. Along the way there will be two camping areas within Forests NSW managed land.

Refer to the [Forestry Corporation Annual Report 2011–2012](#) for a larger list of initiatives.

## **National parks estate**

### **Employment**

For NPWS, across NSW there was a total of 1771 (paid FTE) positions as at June 2012, as well as a number of dependent businesses including ecotourism ventures and beekeeping.

### **Business projects supporting visitor experiences**

#### *NSW River Red Gums Nature Tourism Action Plan*

In March 2012 the Minister for the Environment launched the NSW River Red Gums Nature Tourism Action Plan. The plan, developed with extensive consultation, identifies opportunities for communities and visitors to the regions to access, experience and enjoy the magnificent forests, rivers and wetlands. A further funding commitment in 2012–2013 will underpin the implementation of the plan.

Projects completed include:

- site establishment and visitor facilities provided for day use and camping at Quicks Beach, Edwards River and Barooga
- visitor profiling and research
- interpretation of research and development
- access and car parking for reed bed bird hide.

A copy of the NSW River Red Gum Nature Tourism Action Plan and further information on developments in the Riverina Forests can be found at [www.riverredgums.nsw.gov.au](http://www.riverredgums.nsw.gov.au).

OEH has developed increased tourism within national parks through targeted regional marketing campaigns and visitor experience development.

### *Mountain biking strategy*

In late 2011, the Minister for the Environment released the OEH Sustainable Mountain Biking Strategy, following extensive community consultation. During October 2011 OEH delivered community biking events within 13 parks and reserves across the state and opened a single track for mountain bikes in Glenrock State Conservation Area.

### *International Year of the Forest campaign*

The campaign focused on eight key regional centres and ran from September to December 2011. Campaign achievements included:

- all 'Yoga in the Rainforest' events were booked, and remained a permanent activity in Sea Acres National Park
- 52 per cent increase in Facebook 'likes'
- new forest themed products from six NPWS licensed operators
- 5634 visits to the 'Forests' page during the campaign period.

### *Upgrades to park facilities*

Upgrades to park facilities continued during 2011–2012. Examples of major works include:

**Campground upgrade at Broughton Island in Myall Lakes National Park** – Three timber camping platforms and two grassed camping sites were constructed to provide safe, sustainable and equitable camping on the island. The timber camping platforms limit disturbance to breeding seabirds, provide a flat surface for camping, and minimise maintenance requirements.

**\$600,000 upgrade of Sea Acres Rainforest Centre** – These upgrade works were the first major works in a national park to trial new Sustainability Assessment Criteria Guidelines, with the project resulting in improved efficiencies in energy and water use.

**Development of a new group camping area at Illaroo, Yuraygir National Park** – Illaroo campground was expanded to create a new node that allows families, school groups or commercial tours to relax in an area that is exclusive to their group.

**Upgrade to visitor facilities in Cape Byron State Conservation Area** – Visitor facilities at The Pass, Wategos Beach, Tallow Beach and Captain Cook car park within Cape Byron State Conservation Area have been upgraded to make them more environmentally sustainable and user friendly.

**Upgrade to cabins in Mount Kaputar National Park** – The historic cabins at Dawsons Spring at the top of Mount Kaputar National Park have been upgraded to increase their functionality and improve the visitor experience.

### **Cultural heritage – NPWS**

The Bundian Way Management Committee (BWMC) was formed to develop the Bundian Way walking track project. The committee comprises Aboriginal people, local community members and local agencies.

Highlights and achievements for 2011–2012 included:

- report on a survey of the Bundian Way 2010–2011 (author John Blay) completed in 2011
- Elders and people with affiliations to the walking track project invited to share their cultural knowledge and provide input into the planning for the project
- a feasibility study completed for the Bundian Way by TRC tourism consultants in April 2012.

More achievements relating to joint management and ventures with Aboriginal people can be found under Milestones 12 and 13 in Appendix 1.



## 1.8 Legal, institutional and economic frameworks

### Legislation

New environmental legislation passed during the financial year that is important to forest management included the *National Parks and Wildlife Legislation Amendment (Reservations) Act 2011* (commenced 25 October 2011). There were no changes to legislation under which Forests NSW operates during 2011–2012.

### 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, 2.4, 2.7 and 2.8.

### Annual reports – State of the Parks and Seeing report

No OEHS 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](#).

### Draft Native Vegetation Regulation

The statutory review of the Native Vegetation Regulation 2005 commenced in September 2011. The focus of the review is on balancing agricultural production opportunities with sustainable natural resource management and environmental protection. To deliver on this challenge the review aims to cut red tape, improve service delivery, increase transparency and simplify the assessment framework. The review is examining the Native Vegetation Regulation, related Environmental Outcomes Assessment Methodology and Private Native Forestry Code of Practice. Following the close of public consultation a final Regulation will be developed based on the feedback received.

### Other new or revised policies or circulars for the financial year

#### Forests NSW

The Forestry Corporation of NSW Tourism Strategy 2012–2015 was released in mid 2012. See Section 1.7 Socio-economic benefits in this report.

The following forest management related policies or circulars were revised or newly published:

- FPC 2012/01 – Implementing Silviculture in LNE and UNE
- FPC 2012/02 – Plans of Logging Operations
- FPC 2012/04 – Standard Operating Conditions on Mass Movement-Prone Geologies in Northern NSW
- FPC 2012/05 – Use of Temporary Snig/Extraction Track Slash Crossings of Drainage Features in Native Forest Logging Operations
- P2011/05 – Stakeholder Engagement Policy
- P2012/02 – Forest Contractor and Operator Licences.

#### *Key research conducted this financial year*

The Forest Science Centre, NSW DPI provides research and development services to Forests NSW under a memorandum of understanding. There are four main programs: Forest Biosecurity and Resource Assessment; Forest Ecology; New Forests; and Biometric Services.

Research is also performed by the Forests NSW Land Management & Forestry Services branch, and Forests NSW is a partner of the Bushfire Cooperative Research Centre (CRC) and supporting partner of the CRC for Forestry.

Forestry research can be found at [www.dpi.nsw.gov.au/research/forestry](http://www.dpi.nsw.gov.au/research/forestry).

#### **NPWS**

The following policies have been revised or are new:

- Managing Parks Prior to a Plan of Management Policy (17.1.2) – revised June 2011
- Roads Policy – new August 2011
- Possum Management Policy – revised September 2011
- Walking Tracks Policy – revised January 2012.

#### *Community involvement*

During 2011–2012 the NPWS Discovery Program continued to provide formal curriculum linked guided experiences for primary, secondary and tertiary students. The program also supports learning with online resources and teacher's kits. Informal education is delivered through the Discovery Walks, Talks and Tours Program during school holidays, regular tours, and community events. Over 90,000 school children participated in Discovery for Schools during 2011–2012.

In April 2012, the WilderQuest project was launched by the Minister for the Environment. WilderQuest targets 5–8 year olds, their families and classrooms with a fun interactive website, iPad app and activities developed by NPWS Discovery and partner agencies within the OEH cluster. Since its launch, the app has been named iTunes app of the week, received a Gold Award for the Kids World stand at the Royal Easter Show, 13,000 downloads of the app and over 5150 visits to the website with over 1000 registrations. WilderQuest was introduced to nine schools and 367 Stage 1 students and teachers, through the Learning for Sustainability Video Conference Festival.

#### *Volunteering in national parks*

The NPWS Volunteer Program provides quality volunteering opportunities including bush regeneration, flora and fauna surveys, threatened species management, culture and heritage conservation, information centre support, campground hosting, guided tours, and assisting in the rescue and rehabilitation of wildlife. OEH has also developed innovative volunteering models such as campground hosts and corporate volunteer initiatives.

Achievements in 2011–2012 included:

- the NPWS Volunteer Grants program that led to the engagement of approximately 480 new volunteers who contributed over 4850 hours
- the Friends of Yanga, who received an Australia Day Award for 'Services to the Community' from the local Balranald Australia Day Committee
- NPWS Volunteer Programs, Historic Roto House, Cape Byron Friends Volunteers, Innes Ruins Volunteer Guides, and Arakoon Bush Care Volunteers, were honoured as 'Heritage Heroes' at the 2011 NSW Heritage Awards

- recruitment of over 30 new campground host volunteers over the 2011–2012 summer and 2012 Easter holidays
- development of a Volunteer Program Management System (VPMS) that will streamline reporting for statewide volunteering
- development of a statewide corporate volunteering program in partnership with the Foundation for National Parks, in Sydney Harbour and Lane Cove national parks
- increased engagement with mountain biking and four-wheel-drive club volunteers
- sixty two volunteers worked 2160 hours to remove the invasive orange hawkweed as part of the Hunting for Hawkweed Program in Kosciuszko National Park
- trained 17 volunteers who can now offer guided tours to visitors at the historic Mountain Maid Gold Mine in Copeland Tops State Conservation Area.

## 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 the EPA, and Fisheries Licences are administered by NSW 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

The South Western Cypress IFOA commenced on 1 July 2011 and has effect up to and including 31 December 2025. More details are available at [www.epa.nsw.gov.au/forestagreements/SWCypressIFOA.htm](http://www.epa.nsw.gov.au/forestagreements/SWCypressIFOA.htm).

Compliance results for this region will be reported in this report, and subsequently.

### 2.3 IFOA amendments

Amendment 6 to the IFOA for the Upper North East region, and Amendment 4 to the IFOA for the Lower North East region were made on 7 November 2011.

The amendments changed Threatened Species Licence survey and protection prescriptions relating to the Hastings River mouse. The amendments altered habitat suitability surveys to better reflect current knowledge about Hastings River mouse occurrence. The size and configuration of exclusion zones required around records was also modified taking into account home range and habitat requirements. Refer to [www.environment.nsw.gov.au/resources/forestagreements/2011IFOAamend4LNE.pdf](http://www.environment.nsw.gov.au/resources/forestagreements/2011IFOAamend4LNE.pdf).

Amendment 2 to the IFOA for the Southern region made on 7 November 2011 inserted new Tumut TSL conditions for the protection of the yellow-bellied glider endangered population on the Bago Plateau. Logging in areas identified as low quality habitat are permitted under this amendment; however, to mitigate against harm to the endangered population, this amendment excluded logging in areas of the Bago Plateau identified as high and medium quality habitat until 1 September 2012. The exclusion time allows for modified harvesting prescriptions and other requirements to be negotiated between Forests NSW and the Office of Environment and Heritage. After 1 September 2012 modified harvesting prescriptions are to be applied in areas of high and medium habitat.

### 2.4 EPA compliance program

The role of the EPA 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 EPLs and TSLs issued to Forests NSW is the key means by which this is achieved. These licences are contained within the IFOAs for the Upper North East, Lower North East, Southern (including Tumut), Eden, Brigalow–Nandewar 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 regulatory work**

To determine Forests NSW compliance with licence conditions and other relevant legislative requirements the EPA developed a proactive compliance program of Forests NSW forestry operations. The 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 was dealt with through meetings with senior Forests NSW officers, issuing feedback or warning letters, clean-up notices, corrective action requests or penalty notices action, as appropriate to the circumstances.

Between 1 July 2011 and 30 June 2012, EPA undertook 39 audits of Forests NSW pre-operational planning and operations in forest regions covered by an IFOA. EPA identified a total of 602 non-compliances with the IFOAs, and 27 additional POEO Act offences and five additional *National Parks and Wildlife Act 1974* (NPW Act) offences.

## **2.5 Compliance results**

### **Total non-compliances**

The EPA identified 414 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.

The EPA identified 188 non-compliances with the TSL conditions, including:

- failure to protect exclusion zones
- lack of or inadequate marking of exclusion zones 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.

### **Range of regulatory tools to achieve compliance**

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

Not all identified breaches present the same level of environmental risk or warrant the same regulatory response however. 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, the EPA raised the issues with Forests NSW to assist ongoing improvement.

Between 1 July 2011 and 30 June 2012, the EPA issued Forests NSW a total of 10 penalty notices, six of which were issued to the Lower North East IFOA region.

Forests NSW was also issued with 17 warning letters and five advisory letters in relation to identified breaches. It should be noted that the EPA generally issued Forests NSW with one warning letter per audit where non-compliances were determined by the EPA. As such, one warning letter may include reference to numerous non-compliances of licence conditions or clauses in legislation.

## **2.6 IFOA region summary**

### **Upper North East region (UNE)**

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

The audits identified a total of 99 non-compliances with licence conditions in the UNE IFOA region; 33 of these non-compliances related to the EPL requirements and 64 to TSL conditions. The EPA also found six additional offences against provisions of the POEO Act and one additional offence against NPW Act.

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

### **Lower North East region (LNE)**

In the LNE region the EPA conducted seven proactive audits and one reactive audit. These audits identified 355 non-compliances of EPL best practice conditions and 55 non-compliances with TSL conditions. The EPA also determined 16 additional offences against provisions of the POEO Act and two additional offences against the NPW Act.

As a result of these regulatory activities in the LNE forest region, the EPA provided feedback, issued five warning letters, requested remedial work in four instances and requested Forests NSW seek soil conservation advice on one occasion. Forests NSW was also issued with six penalty notices for the Lower North East region.

### **Southern region**

The EPA conducted four proactive audits and four reactive audits in the Southern region. These audits identified 20 non-compliances with the EPL and 35 non-compliances with TSL conditions. The EPA also found two additional offences against provisions of the POEO Act and two additional offences against NPW Act.

As a result of these audits, the EPA provided feedback, sent three advisory letters, issued three warning letters to Forests NSW regarding non-compliance with licence conditions, requested soil conservationist advice on one occasion and requested remedial work in one instance. Forests NSW was issued with no penalty notices for the Southern region during the reporting period.

## Tumut sub-region

The EPA conducted no proactive or reactive audits in this sub-region during the reporting period.

## Eden region

The EPA conducted four proactive audits and two reactive audits in the Eden region. These audits identified six non-compliances with the EPL and 34 non-compliances with the TSL.

As a result of these audits, the EPA provided feedback to Forests NSW, sent two advisory letters, issued two warning letters and requested Forests NSW undertake remedial work in one instance. Forests NSW was issued with no penalty notices for the Eden region during the reporting period.

## Brigalow–Nandewar region

In the Brigalow–Nandewar IFOA region the EPA conducted four proactive audits. The audits determined that all operations were compliant with licence conditions.

## Riverina Red Gum region

In the Riverina Red Gum IFOA region the EPA conducted three proactive audits. The audits identified no non-compliances with licence conditions in this IFOA region during the reporting period.

## South Western Cypress region

In the South West Cypress IFOA region the EPA conducted four proactive audits. The audits identified no non-compliances with licence conditions in this IFOA region during the reporting period.

## 2.7 Forests NSW internal compliance program

Forests NSW published the number of non-compliance incidents (NCIs) identified by Forests NSW supervisors annually (those recorded as requiring corrective action). Table 7 summarises the NCIs recorded in the five years to 2012, as reported in the [Forests NSW Annual Report 2011–2012](#).

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 systemic failures were no longer recorded in the NCI reporting system.

**Table 7: Number of non-compliance incidents (NCIs) that required corrective action recorded across all state forests by Forests NSW, 2007–2012**

Type of incident	2007–2008	2008–2009	2009–2010	2010–2011	2011–2012
Soil erosion and water quality	318	28	143	135	175
Flora and fauna	89	93	93	103	32
Fish habitat and passage	0	0	38	67	28
Other NCI issues (e.g. safety)	689	434	319	72	150
<b>Total</b>	<b>1,096</b>	<b>555</b>	<b>593</b>	<b>377</b>	<b>385</b>

## 2.8 Private native forestry compliance and enforcement activities

The EPA 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 the operation of roads and snig tracks, including road drainage feature crossings, and inadequate identification or protection of riparian areas. The EPA 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 the EPA'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 the EPA at [www.environment.nsw.gov.au/vegetation/reports.htm](http://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 Threatened Species Licence (FL) contained in the IFOAs is audited by DPI–Fisheries.

Offences and issues under investigation for the 2011–2012 reporting period were as follows:

- 24 breaches of the FL recorded in Grange and Girard state forests in the Upper North East region
- six 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)
- six compliance inspections were 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 2011–2012 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.

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*, available at:

[www.environment.nsw.gov.au/resources/forestagreements/ReviewFAandIFOA.pdf](http://www.environment.nsw.gov.au/resources/forestagreements/ReviewFAandIFOA.pdf)

Appendix 1 does not duplicate this work but updates it where necessary. Only ongoing milestones are reported in this report and this will be the convention used 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 and Brigalow–Nandewar IFOA**

Milestones and undertakings in the Brigalow–Nandewar region are set out in the Brigalow and Nandewar Community Conservation Area Agreement (CCA Agreement) and the Brigalow–Nandewar IFOA:

- [www.epa.nsw.gov.au/resources/forestagreements/ccaAgreement.pdf](http://www.epa.nsw.gov.au/resources/forestagreements/ccaAgreement.pdf)
- [www.epa.nsw.gov.au/forestagreements/brigalownandewarifoa.htm](http://www.epa.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 the Riverina Red Gum IFOA:

[www.epa.nsw.gov.au/forestagreements/redgumifoa.htm](http://www.epa.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 the South Western Cypress IFOA:

[www.epa.nsw.gov.au/forestagreements/swcypressifoa.htm](http://www.epa.nsw.gov.au/forestagreements/swcypressifoa.htm). The achievement of milestones and undertakings is reported in Appendix 4.

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## Appendix 1: Milestones and undertakings – Coastal IFOAs

This Appendix reports on 2011–2012 progress of milestones and undertakings specified in the NSW Forest Agreements for the UNE, LNE, Eden and Southern regions.

Milestones and undertakings previously recorded as complete or no longer applicable are not listed. The 2010 *Review of New South Wales Forest Agreements and Integrated Forestry Operations Approvals, Upper North East, Lower North East, Eden and Southern regions*, determined that these would no longer be reported in future reviews or annual reporting.

Report milestone number	Milestone	Progress for 2011–2012
<b>1. Environmental Management Systems</b>		
Milestone 1.2 Agency: PWG	Preparation of Parks and Wildlife Group (PWG) EMS Refer to UNE, LNE and Eden Forest Agreements section 2.1.2, Att 3; Southern Forest Agreement section 2.1.2, Att 6 (2)(b)	Revised status – Complete  In March 2012, a document was prepared titled <i>Understanding the Park Management Framework as an EMS: Outline of PWG's Environmental Management System</i> . This document demonstrates how PWG's Park Management Framework (PMF) aligns closely with both the Australian EMS Standards framework and subsequently with the FA/RFA Environmental Management System key principles. It also provides a simple index to the key resources that comprise the Parks EMS. Through linking what PWG already has in place to guide our operations against the ISO 14001:2004 Self Assessment Checklist, PWG is able to demonstrate a comprehensive, holistic and standardised approach to minimising environmental impacts from our work.  To fulfil its commitment to an EMS under the Forest Agreements, PWG is required to clearly communicate its EMS. Two new EHub webpages have been developed to achieve this. They communicate how PWG's existing environmental management approach is consistent with the Australian EMS Standard, clarify how PWG practices and resources form a holistic approach to environmental management, and include an interactive contents page of links that will become a valuable reference tool for all PWG staff.

Report milestone number	Milestone	Progress for 2011–2012
<b>2. Management planning</b>		
Milestone 2.1 Agency: PWG	Plans of management for the NPWS estate Refer to UNE, LNE and Eden FAs section 2.3.2, Att 8; Southern FA's section 2.3.2	Of the 394 reserves in the UNE and LNE regions, 246 have plans of management adopted by the NSW Minister for the Environment and 33 draft plans have been publicly exhibited. Of the 18 reserves in the Eden region, 16 have plans of management adopted by the NSW Minister for the Environment and one draft plan has been publicly exhibited. Of the 128 reserves in the Southern region, 109 have plans of management adopted by the NSW Minister for the Environment and a further four draft plans have been publicly exhibited.
Milestone 2.4 Agency: FNSW	Report on meeting targets in ESFM plans Refer to UNE, LNE, Eden, Southern FAs section 2.2.6	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, on performance across a range of social, environmental, economic and sustainability areas through the 'Seeing Report' ( <a href="http://www.dpi.nsw.gov.au/aboutus/resources/corporate-publications">www.dpi.nsw.gov.au/aboutus/resources/corporate-publications</a> )
Milestone 2.5 Agency: FNSW and PWG	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	The Forestry Section of the EPA now takes 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 2011–2012.
Milestone 2.7 Agency: FNSW	Working plans for flora reserves to be incorporated into ESFM plans Refer to UNE and LNE and FAs section 2.2.2; Eden FA section 2.2.2; Southern FA sections 2.2.2, 2.3.2	Ongoing 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.

Report milestone number	Milestone	Progress for 2011–2012
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	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.
<b>3. CAR reserve system</b>		
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	No new aquatic reserves declared in the reporting period.
Milestone 3.3 Agencies: PWG 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	For the LNE 219 ha of former state forest leasehold (held under Part 11 of the NPW Act) was reserved 3 February 2012 as an addition to Copeland Tops SCA.

Report milestone number	Milestone	Progress for 2011–2012
<b>4. Crown reserves and assessment of Crown land</b>		
Milestone 4.1 Agency: PWG	Management and five-year review of Crown reserves/state conservation areas  Refer to UNE, LNE and Eden FAs 2.3.3; UNE and LNE FA section 2.3.3; Eden FA section 2.2.3; Southern Forest Agreement section 2.3.3	The next five-year review of SCAs is to be completed in 2013.
Milestone 4.2 Agency: PWG	Assessment of Crown land Refer to UNE and LNE FAs section 6.16.2	No new assessments reported in 2011–2012.
<b>5. Threatened species management – no further reporting, see previous report</b>		
<b>6. Pest, weed and feral animal control</b>		
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	Regional grazing plans are being progressively prepared based on the approved model. Three regions have completed plans and the remaining are at draft stage.  No further update provided by Forests NSW for 2011–2012.



Report milestone number	Milestone	Progress for 2011–2012
<b>7. Managing for other forest values and uses</b>		
Milestone 7.4 Agencies: OEH, who chairs Occupation Permit Taskforce (PWG, 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	No progress reported.
<b>8. Private land</b>		
Milestone 8.1 Agency: OEH Veg. 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	Processes in place for identifying private land of conservation priority are listed in the <a href="#">Review of New South Wales Forest Agreements and Integrated Forestry Operations Approvals</a> (DECCW 2010). The information will continue to be updated in subsequent reports.
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)	The <a href="#">Review of NSW Forest Agreements and Integrated Forestry Operations Approvals</a> (DECCW 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 2011–2012.

Report milestone number	Milestone	Progress for 2011–2012
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)	The <i>NSW Annual Report on Native Vegetation</i> summarises actions by private forestry land managers, with the help of OEH, to conserve and manage native vegetation. The next of these reports, for 2010–2011, will be available at: <a href="http://www.environment.nsw.gov.au/vegetation/reports.htm">www.environment.nsw.gov.au/vegetation/reports.htm</a> .
<b>9. Private native forestry and plantations – no further reporting, see previous report</b>		
<b>10. World heritage and wilderness</b>		
Milestone 10.1 Agency: PWG	Review of CERRA World Heritage Areas to identify any additional rainforest to be included Refer to UNE and LNE FAs section 2.7	No progress reported for 2011–2012. The Gondwana Rainforests Coordinating Committee has determined that the review is not a current priority for the NSW, Queensland or Federal jurisdictions.
Milestone 10.2 Agency: PWG	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	With the assistance of funding from the Dahl Trust, the National Parks Association (NPA) of NSW has undertaken a preliminary assessment and report titled <i>Eucalypt forests of Northeast New South Wales: A preliminary assessment and documentation of their World Heritage values</i> (Cerese 2012). OEH was not directly involved in this project. The NPA report concluded that the 'eucalypt attributes detailed in the report suggest that the northeast NSW region is likely to make a highly significant contribution to the recognition of the outstanding universal value of eucalypts in Australia' (Cerese 2012, p. 66). The NPA report makes seven recommendations to progress both nomination and protection of World Heritage values and includes reference to 'the commitments made in Regional Forest Agreements' (Cerese 2012, p. 65).
<b>11. Cultural heritage – no further reporting, see previous report</b>		

Report milestone number	Milestone	Progress for 2011–2012
<b>12. Aboriginal interests</b>		
Milestone 12.4 Agencies: PWG FNSW	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 Forest Agreement section 5.1.1	<p>There are currently 13 formal joint management arrangements that have been established (including leases, ILUAs and MOUs) with Aboriginal communities that are formalised under the <i>National Parks and Wildlife Act 1974</i> within the Forest Agreement areas.</p> <p>There are also a number of joint management agreements under negotiation. The Gundungurra Non-Native Title Indigenous Land Use Agreement is nearing completion. It covers reserves in the north west of the Southern Forest Agreement area.</p> <p>NPWS supports the Australian Alps Traditional Owners Reference Group which includes the Kosciuszko National Park Working Groups (North and South) and encourages linkages with Aboriginal Working Groups – meetings were held in Canberra on 27 October 2011; four Elders attended to represent the region. Plans are being developed for the next Australian Alps First People’s Gathering (Southern).</p> <p>Southern and Northern Kosciuszko Aboriginal Working Groups – the executive committee of the Tumut Brungle Gundagai Area Aboriginal Area Community was appointed by the DDG PWG as per the signed MOU . Chairperson was elected at a meeting on 10/11/11. A meeting was held with the Southern KNP AWG in October to discuss the progression of an MOU with this group (Southern).</p> <p>PWG supported the purchase of Bellbrook Farm (110 ha) by the Gulaga and Biamanga NPs boards of management. The property will be added to Gulaga National Park and will form the base for the boards’ cultural tourism operations. Planning for the site will be carried out in 2013–2014 (Southern).</p> <p>The Gulaga and Biamanga NPs boards of management have completed and exhibited the draft plan of management for the two parks (Southern).</p>
Milestone 12.5 Agencies: PWG FNSW	Joint ventures with local Aboriginal communities and development of project plans  Refer to UNE, LNE and Eden FAs section 5.1.1; Southern Forest Agreement section 5.1.1	<p>OEH staff work in partnership with local Aboriginal communities and conservation specialists to protect, conserve and manage Aboriginal cultural sites and objects, such as rock art, traditional burials, scarred trees.</p> <p>NPWS provided opportunities for Aboriginal people to assist with the documentation and management of cultural heritage and general park management, including Aboriginal community involvement in the Aboriginal Heritage Impact Permits (AHIP) process in Queanbeyan Area and fire trail maintenance. Snowy River Area secured funding to complete an REF and archaeological survey for a culture camp at Jacobs River (Southern).</p> <p>Aboriginal employment as part of the region’s Discovery program within all FA areas is still on going, for example a casual Aboriginal Discovery Ranger was re-appointed in 2011–2012 in the South Coast region (Southern).</p>

Report milestone number	Milestone	Progress for 2011–2012
<b>13. Aboriginal interests in the Hume and Riverina regions of SFNSW and the South West Slopes region of NPWS</b>		
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	The <a href="#">Review of NSW Forest Agreements and Integrated Forestry Operations Approvals</a> (DECCW 2010) summarised initiatives. No further update provided by Forests NSW for 2011–2012.
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	The <a href="#">Review of NSW Forest Agreements and Integrated Forestry Operations Approvals</a> (DECCW 2010) summarised initiatives. No further update provided by Forests NSW for 2011–2012.
Milestone 13.7 Agency: PWG	Specified employment and training opportunities with NPWS Refer to Southern FA section 5.1.4.6	<p>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.</p> <p>Two temporary (three year) Aboriginal Field Officer positions were recruited, half funded from OEH and Biamanga and Gulaga boards of management. The appointments are based in Narooma and Tanja. These positions are part of the Enhanced Bushfire Management Program.</p> <p>An Aboriginal Cadet Ranger position was filled and is based in Narooma.</p> <p>A temporary (three year) Aboriginal Field Officer was recruited and appointed to the SRR Enhanced Bushfire Management Program.</p> <p>An Aboriginal person was appointed to a permanent Field Officer position in Snowy River Area – this was not an identified Aboriginal position.</p> <p>A temporary (three year) Aboriginal Field Officer (Aboriginal identified position) was recruited and appointed to the Enhanced Bushfire Management Program. The position is based at Nowra Depot but covers South Coast region.</p> <p>Continued...</p>

Report milestone number	Milestone	Progress for 2011–2012
Milestone 13.7 continued	<p>Specified employment and training opportunities with NPWS</p> <p>Refer to Southern FA section 5.1.4.6</p>	<p>A temporary (three year) Field Officer of Aboriginal descent (not an Aboriginal identified position) was recruited and appointed to the Enhanced Bushfire Management Program. This position is about 0.75 EFT. The position is based at Nowra Depot but covers South Coast region.</p> <p>A temporary part-time Clerk position was established in April 2011 for an Aboriginal Community Projects Officer. This position is located at Nowra.</p> <p>Five Aboriginal staff appointed under the Enhanced Bushfire Management Program, two co-funded by the Gulaga and Biamanga boards of management (Southern and Eden).</p>
<b>14. Supply arrangements</b>		
Milestone 14.1 Agency: FNSW	<p>Consultation on timber arrangements through the development of plans of operation</p> <p>Refer to UNE, LNE and Eden FAs section 3.4; Southern FA section 4.3</p>	Forests NSW regions consult with stakeholders, such as industry and neighbours, in the development of annual plans of operations.
Milestone 14.4 Agency: FNSW	<p>Review legislation and policies relevant to the allocation and pricing of hardwood logs from state forests</p> <p>Refer to UNE, LNE and Eden FAs Att 8</p>	Forests NSW reports no new developments for 2011–2012.

Report milestone number	Milestone	Progress for 2011–2012
<b>15. Supplementing timber supply</b>		
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 sections 3.3.3, 3.6	In 2011–2012 Forests NSW obtained 10,897 m <sup>3</sup> of supplementary timber supply. Of this, 3689 m <sup>3</sup> 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	The <a href="#">Review of NSW Forest Agreements and Integrated Forestry Operations Approvals</a> (DECCW 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	No new establishment of hardwood plantations in 2011–2012 by Forests NSW.

Report milestone number	Milestone	Progress for 2011–2012
<b>16. FRAMES improvement, inventory, sustainable yield, volume review</b>		
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)	No further progress to report. It was also reported in detail in the <a href="#">Review of NSW Forest Agreements and Integrated Forestry Operations Approvals</a> (DECCW 2010).
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)	Significant progress was made to report on Milestones 16.2 to 16.7 during this period, as part of the Forests NSW response to the <a href="#">Auditor General's Report</a> (Audit Office 2009). The outcomes of the review will be published at: <a href="http://www.forests.nsw.gov.au/resources/pubs/corporate/auditor-generals-performance-audit-of-native-forest-and-hardwood-plantation-operations">www.forests.nsw.gov.au/resources/pubs/corporate/auditor-generals-performance-audit-of-native-forest-and-hardwood-plantation-operations</a>
Milestone 16.3 Agency: FNSW	Commission and publish an independent review of the FRAMES system, including improvements applying to South Coast and Tumut sub-regions Refer to Southern FA Att 6 (8 point 1)	See above (Milestone 16.2)

<b>Report milestone number</b>	<b>Milestone</b>	<b>Progress for 2011–2012</b>
Milestone 16.4 Agency: FNSW	Monitoring FRAMES through comparison of actual versus predicted volumes Refer to UNE, LNE, Eden section 3.5; Southern FA section 3.5, Att 6 (6) (f), Att 6 (7 point 12)	See above (Milestone 16.2)
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)	See above (Milestone 16.2)
Milestone 16.6 Agency: FNSW	Complete and publish independent audits of sustainable yield Refer to Southern FA Att 6 (8 point 3)	See above (Milestone 16.2) Forests NSW reported no new developments for 2011–2012.
Milestone 16.7 Agency: FNSW	Review of wood supply/timber volumes Refer to UNE and LNE FAs sections 3.2, 3.5	See above (Milestone 16.2)



Report milestone number	Milestone	Progress for 2011–2012
<b>17. Forests NSW practices including silviculture</b>		
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)	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 17.10 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 and Eden FAs FA section 2.2.7	This occurs when required. Forests NSW did not report significant liaison with key agencies during the reporting period 2011–2012.
<b>19. Charcoal provisions in NSW Forest Agreements – no further reporting, see previous reports</b>		
<b>20. Staff training, employment and industry initiatives – no further reporting, see previous reports</b>		
<b>21. Community awareness and education – no further reporting, see previous reports</b>		
<b>22. Community consultation – informing the public – no further reporting, see previous reports</b>		

Report milestone number	Milestone	Progress for 2011–2012
<b>23. Reporting and monitoring</b>		
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	National Montreal Implementation Group (MIG) indicators were finalised in 2008 and published at: <a href="http://adl.brs.gov.au/forestsaustralia/framework/indicator.html">http://adl.brs.gov.au/forestsaustralia/framework/indicator.html</a> The NSW <a href="#">Review of NSW Forest Agreements and Integrated Forestry Operations Approvals</a> was finalised in 2010. The review recommended: <ul style="list-style-type: none"> <li>• publication of a separate report entitled ESFM Criteria and Indicators for the Upper North East, Lower North East, Southern and Eden regions of NSW</li> <li>• 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 ESFM criteria and indicator reporting with other RFA states, such as Victoria and Tasmania.</li> </ul> No progress to report in 2011–2012.
Milestone 23.2	Annual reports on forest agreements and tabling reports Refer to UNE, LNE and Eden, Southern FA section 6.9	Annual reports on the implementation of the <a href="#">NSW Forest Agreements</a> have been completed and tabled up to and including the current report. Progress for all regions is compiled into one annual report. The annual reports provide progress on: <ul style="list-style-type: none"> <li>• achievement of milestones in the NSW Forest Agreements</li> <li>• monitoring of key ESFM criteria and indicators by Forests NSW and DECCW each financial year</li> <li>• compliance with the IFOAs.</li> </ul>
<b>24. Research and data management</b>		
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	No progress to report in 2011–2012.

Report milestone number	Milestone	Progress for 2011–2012
Milestone 24.7 Agency: FNSW	Operational research trial Refer to Eden FA section 3.1	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)	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)	Forests NSW reported no further developments in 2011–2012.

## Appendix 2: Milestones and undertakings with identified time periods – Brigalow–Nandewar region

Report milestone number	Milestone	Recommended timing	Progress for 2011–2012
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, five have plans of management adopted by the NSW Minister for the Environment and four draft plans have been publicly exhibited in 2011–2012.
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 did not report progress or expenditure under the Green Firewood Strategy for 2011–2012. Forests NSW finalised payment of invoices under the strategy with OEH.
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 2011–2012
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 2011–2012 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 2011–2012.

Report milestone number	Milestone	Recommended timing	Progress for 2011–2012
IFOA clauses 41(1) to (7) continued	<p>41. Travelling stock reserves, cont.</p> <p>(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.</p> <p>See IFOA for full undertakings 41(1) to (7).</p>	See above.	See above.
IFOA clauses 44(1) to (3)	<p>44. Assessment of regeneration in silvicultural management</p> <p>(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.</p> <p>See IFOA for full undertakings 44 (1) to (3).</p>	The first such assessment is to be completed by the end of 2013	No action taken in 2011–2012 on assessment of regeneration in silvicultural management (first assessment due 2013).
IFOA clauses 46 (1) to (3)	<p>46. Pest animal management plan – review and amendment</p> <p>(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.</p> <p>See IFOA for full undertakings 46(1) to (3).</p>	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 2011–2012.

Report milestone number	Milestone	Recommended timing	Progress for 2011–2012
IFOA clauses 49 (1) to (3)	<p>49. Weed management plan – review and amendment</p> <p>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.</p> <p>See IFOA for full undertakings 49 (1) to (3).</p>	<p>The Weed Management Plan 2006 Western Region NFOB (referred to in clause 48) must be reviewed by 30 June 2011</p>	<p>No action reported in 2011–2012.</p>
IFOA clauses 52 (1) to (3)	<p>52. Grazing management plan – review and amendment</p> <p>(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.</p> <p>See IFOA for full undertakings 52 (1) to (3).</p>	<p>The Grazing Management Plan 2006 Western Region NFOB (referred to in clause 51) must be reviewed by 30 June 2011</p>	<p>No action reported in 2011–2012.</p>

Report milestone number	Milestone	Recommended timing	Progress for 2011–2012
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 2011–2012.
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 2011–2012.



Report milestone number	Milestone	Recommended timing	Progress for 2011–2012
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 2011–2012 was completed in September 2012. Forests NSW subsequently also reported on the nine months prior that followed the 23 October 2010 IFOA commencement.</p> <p>The information submitted is summarised in the current report – see section 1.3. See ‘Timber volumes harvested in western forests’.</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> opponens)</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>All identified SMPs have been submitted to the EPA and are being reviewed.</p>

Report milestone number	Milestone	Recommended timing	Progress for 2011–2012
IFOA clauses 152 to 154	152. Monitoring plans for plant species 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> . See IFOA for full undertakings 152–154.	Within 12 months of the commencement approval and to be submitted to DECCW	All identified monitoring plans have been submitted to the EPA and are being reviewed.
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 liniifolia</i> and <i>Tylophora linearis</i> .	Not stated	Forests NSW submitted draft SMPs to EPA in 2010–2011 and these are being reviewed.

<b>Report milestone number</b>	<b>Milestone</b>	<b>Recommended timing</b>	<b>Progress for 2011–2012</b>
IFOA clauses 233 (1) to (4)	Auditing methodology for the retention of trees (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. See IFOA for full undertaking 233 (1) to (4).	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 2011–2012
26	Five-year review Five-year review of approval, consideration on minimum basal area retention, new TSC act listings, drainage protection features	Jan 2016	Ministers (both agencies)	This milestone is due by January 2016
27 (1) to (4)	Review early thinning operations (other than in the western lands leases) (1) A review of the early thinning program referred to in clause 5 will be conducted in the period 1 July 2012 to 31 December 2012 to determine a sustainable annual maximum amount of river red gum residue that may be produced from early thinning operations, taking into account the silvicultural and environmental impacts and benefits of the program, and the extent of the resource. (2) The terms of reference for the review will be set jointly by DECCW and Forests NSW. See IFOA for full undertakings 27 (1) to (4)	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 agencies) – jointly funded	TOR agreed to by EPA and FNSW in 2011–2012. The review of the early thinning program was completed (and Ministers have approved new limits after the reporting period).

IFOA Clauses	Detail	Timeframe	Responsibility	Progress for 2011–2012
27 (5) to (10)	<p>Review residue operations in the western land leases</p> <p>(5) Forests NSW will conduct a series of reviews for the purpose of recommending the maximum volume of residue and residue logs (including dry residue and dry residue logs) that may be produced from logging operations (including early thinning operations) in the western land leases for each of the following periods:</p> <p>a) 1 January 2014 to 31 December 2019  b) 1 January 2020 to 31 December 2025  c) 1 January 2026 to 31 December 2031.</p> <p>(6) The terms of reference for the review will be set jointly by Forests NSW and DECCW no less than 12 months before the commencement of the next review period (for example, the terms of reference for the review described in subclause (5)(b) must be settled by 31 December 2012).</p> <p>See IFOA for full undertakings 27 (5) to (10)</p>	<p>Joint TOR by 31 Dec 2012 for the first review period 1 January 2014 – 31 December 2019</p> <p>Forests NSW must send draft copy to the EPA by June 2013.</p> <p>Forests NSW in consultation with the EPA must produce agreed recommendations for any amendments by 30 Sept 2013</p>	<p>Joint TOR</p> <p>Forests NSW (lead) EPA review and joint recommendations required</p>	<p>No progress reported in 2011–2012. Forests NSW submitted draft TOR to EPA after the reporting period and this is being negotiated.</p>
28 (2), (3)	<p>Optimal basal area retention rate trial</p> <p>(2) Forests NSW may carry out a trial in accordance with this clause to determine the optimal rate of basal area retention for the purposes of clause 43, in a range between six and 12 square metres per hectare, having regard to the need for both ecologically sustainable forest management and a sustainable timber supply.</p> <p>See IFOA for full undertakings 27 (2) and (3)</p>	<p>Note: This research will inform the five-year review referred to in clause 26.</p> <p>Also part of RRG Structural Adjustment Package Agreements – to feed into Adaptive Mgt Program (by June 2013)</p>	<p>Forests NSW (lead) must consult with the EPA as to the area selected and parameters of the trial</p>	<p>This milestone is due in 2013.</p>

IFOA Clauses	Detail	Timeframe	Responsibility	Progress for 2011–2012
29 (1) to (4)	<p>Auditing methodology for tree retention requirements in this approval</p> <p>(1) Forests NSW is to develop, within 12 months of the commencement of this approval and in consultation with DECCW, a methodology for:</p> <p>a) auditing compliance with the requirements for the retention of trees for the purposes of this approval (clauses 42 to 45 and clause 179); and</p> <p>b) calculating dbhob using stump dimensions (clause 191).</p> <p>See IFOA for full undertakings 29 (1) to (4)</p> <p>See also tree retention requirements under clauses 42–45, 179 and 191.</p>	To be undertaken within 12 months of commencement (due 1 January 2012)	Forests NSW (Lead) in consultation with the EPA Requires EPA written approval to have effect	Methodology for 1(a) was under development in 2011–2012. Forests NSW had not commenced methodology for 1(b) in the reporting period.
30 (1) to (4)	<p>Methodology for targeted survey for regent parrot</p> <p>(1) Forests NSW is to develop, in consultation with DECCW, a methodology for the targeted survey for the regent parrot required under clause 160, by 29 July 2011.</p>	Before 29 July 2011	Forests NSW (lead) in consultation with the EPA Requires EPA written approval to have effect	No progress reported but an alternative proposal was being developed in 2011–2012 for a landscape approach to management of regent parrots.
31	<p>Field protocol for measuring distances</p> <p>Develop a field protocol for measuring distances specified in clauses 104, 105 and 106.</p>	To be undertaken within 12 months of commencement (due 1 January 2012)	Joint Forests NSW, Fisheries and the EPA	No action reported in 2011–2012.

IFOA Clauses	Detail	Timeframe	Responsibility	Progress for 2011–2012
47 (4), (6) and (7)	<p>Travelling stock reserves</p> <p>Forests NSW must prepare a plan for managing operations on travelling stock reserves. EPA and RLPB to be consulted. See IFOA for full undertakings 47 (1) to (9)</p>	<p>To be undertaken within 12 months of commencement (due 1 January 2012); the EPA to comment on Forests NSW draft plan within two months of receiving draft.</p>	<p>Forests NSW (lead) and OEH and RPLB consulted</p>	<p>No progress reported by Forests NSW in 2011–2012.</p>
50 (1) to (4)	<p>Assessment of regeneration in silvicultural management</p> <p>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. See IFOA for full undertakings 50 (1) to (4)</p>	<p>To be undertaken before carrying out the first assessment, which is due 31 December 2013</p>	<p>Forests NSW (lead) and OEH consulted</p>	<p>Progress to be reported in 2013–2014 or earlier.</p>
52 (1) to (3)	<p>Pest animal management plan – review and amendment</p> <p>(1) Forests NSW must review the pest animal management plan applying to state forests within the Riverina state forests, regularly and periodically (and at least every five years from the date of its approval for implementation). See IFOA for full undertakings 52 (1) to (3)</p>	<p>Regularly and periodically, and at least every five years from the date of its approval for implementation</p>	<p>Forests NSW</p>	<p>No action reported in 2011–2012.</p>

IFOA Clauses	Detail	Timeframe	Responsibility	Progress for 2011–2012
55 (1) to (3)	<p>Weed management plan – review and amendment</p> <p>(1) Forests NSW must review the weed management plan applying to state forests within the Riverina state forests, regularly and periodically (and at least every five years from its approval for implementation).</p> <p>See IFOA for full undertakings 55 (1) to (3)</p>	Regularly and periodically, and at least every five years from the date of its approval for implementation	Forests NSW	No action reported in 2011–2012.
58 (1) to (3)	<p>Grazing management plan – review and amendment</p> <p>(1) Forests NSW must review its grazing management plan applying to state forests within the Riverina state forests, regularly and periodically (and at least every five years from the date of its approval for implementation).</p> <p>See IFOA for full undertakings 58 (1) to (3)</p>	Regularly and periodically, and at least every five years from the date of its approval for implementation	Forests NSW	No action reported in 2011–2012.
61	<p>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 60 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 (due by 1 January 2012)	Forests NSW (lead) OEH and Fisheries consulted	Forests NSW reports that a draft plan was yet to be submitted to EPA in 2011–2012.



IFOA Clauses	Detail	Timeframe	Responsibility	Progress for 2011–2012
63 (1) to (3)	<p>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 Riverina state forests, regularly and periodically (and at least every five years from the date of its approval for implementation).</p> <p>See IFOA for full undertakings 63 (1) to (3)</p>	Regularly and periodically, and at least every five years from the date of its approval for implementation	Forests NSW	No action reported in 2011–2012.
66 (1) to (3)	<p>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 Riverina state forests, regularly and periodically (and at least every five years from its approval for implementation).</p> <p>See IFOA for full undertakings 66 (1) to (3)</p>	Regularly and periodically, and at least every five years from the date of its approval for implementation	Forests NSW	No action reported in 2011–2012.
71 (1) to (5)	<p>Preparation of annual program of forestry operations</p> <p>Forests NSW must prepare annual program of operations for each financial year.</p> <p>See IFOA for full undertakings 71 (1) to (5)</p>	First one due 1 July 2011	Forests NSW (lead) forward to OEH and Fisheries	An annual programs for 2011–2012 submitted (4 August 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.

IFOA Clauses	Detail	Timeframe	Responsibility	Progress for 2011–2012
86 to 91	Annual reports on forestry operations Annual report for financial year must be given to OEH and Fisheries See IFOA for full undertakings 86 to 91	By 1 Sept in next financial year (i.e. first report due 1 Sept 2012)	Forests NSW (lead); report must be given to OEH and Fisheries	Forests NSW reported to the EPA for the period 2011–2012 (and later for the previous period January–June 2011). The information submitted is summarised in the current report – see section 1.3 ‘Timber volumes harvested in western forests’.
138, 140–143	New records to be forwarded to DECCW (1) Forests NSW must advise DECCW of any record of a threatened species of animal or plant made or found in the Riverina state forests during the term of this approval (‘new record’) if Forests NSW considers it may be suitable for inclusion on the Atlas of NSW Wildlife (referred to in clause 137). See IFOA for full undertakings related to new records	Within three months of the new record being made or two working days for spp. listed in cl. 140	Forests NSW – must notify OEH	Action was not required for 2011–2012.
238–243	Environmental Protection Licence annual return In addition to the annual report required (cls 86 to 91) Forests NSW must prepare and give OEH an annual return relating to the EPL.	Calendar years – from the first 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.

## Appendix 4: Milestones and undertakings – South Western Cypress IFOA

IFOA Clauses	Detail	Timeframe	Responsibility	Progress for 2010/2011
32, 142, 144, 148, 178	New evidence of species Forests NSW to notify OEH of its discovery of new evidence of plant and animal species.	Within three months of the new record being made or found, or two working days for species listed in cl. 144	Forests NSW	No action reported in 2011–2012.
41 (2), (4), (6) and (7)	Travelling stock reserves Forests NSW to prepare a plan managing logging operations on TSRs. OEH to be consulted regarding draft plan for managing operations on travelling stock reserves.	To be undertaken within 12 months of commencement (Due 1 July 2012) Forests NSW cannot carry out operations on TSRs until it has considered written comments on the plan from OEH OEH to comment on Forests NSW draft plan within two months of receiving draft	Forests NSW (lead) RLPB and OEH consulted	No action reported in 2011–2012.
44	Assessment of regeneration in silvicultural management Forests NSW must assess the extent and nature of regeneration in areas of land within the South Western Cypress region that are logged during the term of this approval. EPA to be consulted regarding assessment of regeneration in silvicultural management.	To be undertaken within the first five years of the IFOA (due by 31 December 2015) OEH consulted before carrying out the first assessment	Forests NSW (lead) and EPA consulted	No action was required for this period.

IFOA Clauses	Detail	Timeframe	Responsibility	Progress for 2010/2011
46, 49, 52, 57, 60	<p>Plan reviews for South Western Cypress region</p> <p>Forests NSW must review the pest animal management, weed, grazing, road management, and burning operation plans applying to state forests within the South Western Cypress region, regularly and periodically (and at least every five years from the date of its approval for implementation).</p>	<p>By 30 June 2016 and at least every five years for pest animal management, weed, grazing, road management plans</p> <p>By 30 June 2017 for review of burning operations plan</p> <p>Preparation of first burning operations plan – see 55 below</p>	Forests NSW	No action was required for this period.
55	<p>Preparation of first burning operations plan within 12 months of commencement</p> <p>Forests NSW must prepare (and approve for implementation) a burning operations management plan that complies with cl. 54 within 12 months of the commencement of this approval. EPA and Fisheries to be invited to comment on a draft burning operations management plan.</p>	Plan is to be finalised within 12 months of commencement (due by 1 July 2012)	Forests NSW (lead), Fisheries and OEH (comments)	Forests NSW reports that a draft plan is yet to be submitted to EPA.
65	<p>Preparation of annual program of forestry operations</p> <p>Forests NSW must prepare annual program of operations for each financial year</p> <p>See IFOA for full undertakings 65 (1) to (5)</p>	First one due 1 July 2011	Forests NSW (lead) forward to EPA and Fisheries	Forests NSW submitted the required annual program for 2011–2012 on 4 August 2011.

IFOA Clauses	Detail	Timeframe	Responsibility	Progress for 2010/2011
76	Monthly advice on operations Forests NSW to provide monthly advice on operations	Monthly	Forests NSW (lead)	The process of reporting is in place and reporting continues as per the requirements of the IFOA.
80 to 88	Annual reports on forestry operations Annual report for financial year must be given to OEH and Fisheries See IFOA for full undertakings 80 to 88	By 1 Sept in next financial year (i.e. first report due 1 Sept 2012)	Forests NSW (lead); report must be given to EPA and Fisheries	Forests NSW reported to the EPA for the period 2011–2012 (and later for the previous period January–June 2011). The information submitted is summarised in the current report – see section 1.3 ‘Timber volumes harvested in Western forests’.
149 and 151	Preparation of species management plans Forests NSW must prepare and forward species management plans for the plant species referred to in cl. 149 to the EPA before the end of the 12 month period following the commencement of this approval.  The species are: <i>Austrostipa metatoris</i> , <i>A. wakoolica</i> , <i>Diuris tricolor</i> , <i>Pterostylis cobarensis</i> , <i>Swainsona sericea</i> .  Note: It is contemplated that if OEH approves the contents of a species management plan, the IFOA will be amended to require the plan to be given effect to. OEH and FNSW intend that the species management plans required will be finalised and approved within 12 months of the commencement of the IFOA.	12 months of the commencement (due by 1 July 2012)	Forests NSW (lead) and OEH approve	All identified SMPs have been submitted to EPA for comment but are not finalised.

IFOA Clauses	Detail	Timeframe	Responsibility	Progress for 2010/2011
155	<p>Strategic monitoring and assessment program</p> <p>Forests NSW is to develop and undertake a strategic monitoring and assessment program in the South Western Cypress region.</p>	<p>Within 12 months of the commencement (due by 1 July 2012)</p>	<p>Forests NSW (lead) and OEH</p>	<p>Proposal under development but not completed in 2011–2012.</p>
233 (1) to (4)	<p>Auditing compliance with Part – methodology to be developed</p> <p>(1) Forests NSW is to develop, in consultation with OEH, a methodology for auditing compliance with the requirements for the retention of trees for the purposes of this Part (namely, cls 198 and 216). Forests NSW is to endeavour to have in place an auditing methodology (approved by OEH) within 12 months of the commencement of this approval.</p> <p>(4) The methodology developed under this clause does not have effect unless and until OEH has approved it in writing. It may be amended from time to time with the written approval of OEH.</p> <p>See IFOA for complete 233 (1) to (4)</p>	<p>12 months of the commencement (due by 1 July 2012)</p>	<p>Forests NSW (lead) and OEH (approval)</p>	<p>Proposal under development but not completed in 2011–2012.</p>

IFOA Clauses	Detail	Timeframe	Responsibility	Progress for 2010/2011
240	<p>Burning operations – annual planning and mapping within five years</p> <p>Before including a burning operation in an annual program of forestry operations, Forests NSW must carry out a comparative assessment of the environmental impact of carrying out the operation and of not carrying out the operation.</p> <p>Continued...</p>	Annual assessment and mapping within five years (due July 2016)	Forests NSW	No progress reported in 2011–2012.
240 continued	<p>Forests NSW must, within the five years of the commencement of this approval:</p> <p>(a) identify and map vegetation types within the state forests of the South Western Cypress region and prepare post-fire age class distribution maps for those vegetation types, and</p> <p>(b) develop a theoretical post-fire age class distribution model for those vegetation types to enable a comparison to be made with actual post-fire age class distribution for those types, in accordance with the process outlined in the Forests NSW Corporate Fuel Management Plan 2008 (Chapter 6.2.2).</p> <p>See IFOA for full 240 (1) to (5)</p>			

IFOA Clauses	Detail	Timeframe	Responsibility	Progress for 2010/2011
306 and 307	<p>Pollution incident notification</p> <p>Relating to breaches of the terms of the EPL (in carrying out logging operations and ancillary road construction).</p> <p>Notification and reports of pollution incidents causing or threatening material harm to the environment.</p>	<p>Details relating to a breach must be included on the register within 14 days of Forests NSW becoming aware of the breach</p> <p>Written notification within seven days of Forests NSW becoming aware of the incident</p>	Forests NSW (lead) and OEH notified	No action reported for this period.
309 to 314	<p>Special annual return to be given to EPA</p> <p>In addition to the annual report required to be prepared under Chapter 1 [of the IFOA], Forests NSW is to prepare and give to OEH an annual return relating to logging operations and ancillary road construction regulated by the terms of the EPL.</p>	Within 60 days of the end of each calendar year (first date 1 March 2012)	Forests NSW (lead) and OEH notified	Forests NSW complied with this while meeting the monthly advice requirements.



## Acronyms and abbreviations

ANZECC	Australian and New Zealand Environment Conservation Council
BMAD	bell miner associated dieback
BNCCA Act	<i>Brigalow and Nandewar Community Conservation Area Act 2005</i>
C&I	criteria and indicators
CA	conservation agreement
CAR	comprehensive, adequate and representative
CCA	Community Conservation Area under the BNCCA Act
CERRA	Central Eastern Rainforest Reserves of Australia
CFPR	Crown Forestry Policy and Regulation Section
CMAs	catchment management authorities
dbhob	diameter breast height over bark
DEC	former NSW Department of Environment and Conservation
DECCW	former NSW Department of Environment, Climate Change and Water
DPI	NSW Department of Primary Industries
EMS	environmental management system
EOAM	Environmental Outcomes Assessment Methodology
EPA	NSW Environment Protection Authority
EPL	Environment Protection Licence
ESFM	ecologically sustainable forest management
FL	Fisheries Licence
FISAP	Forest Industry Structural Adjustment Package
FMZ	Forest Management Zone
FNPE Act	<i>Forestry and National Park Estate Act 1998</i>
FRAMES	Forest Resource and Management Evaluation System
FURCON	lands for further consideration
HRM	Hastings River mouse
IFOA	Integrated Forestry Operations Approval granted under the <i>Forestry and National Park Estate Act 1998</i>
ILUA	Indigenous Land Use Agreement
ISO	International Organisation for Standardisation
IUCN	International Union of Conservation of Nature
LALC	Local Aboriginal Land Council
LNE	Lower North East region
MER	NSW Natural Resources Monitoring Evaluation and Reporting (MER) Strategy
MIG	Montreal Process Implementation Group
MOU	memorandum of understanding
NHL	National Heritage List
NPA	National Parks Association of NSW
NPEP	National Parks Establishment Plan
NPW Act	<i>National Parks and Wildlife Act 1974</i>
NPWS	National Parks and Wildlife Service (now encompassed within OEHS)

NSW	New South Wales
NSW FA	NSW Forest Agreement (Agreements between NSW Ministers made under the <i>Forestry and National Park Estate Act 1998</i> )
NV Act	<i>Native Vegetation Act 2003</i>
NVC Act	<i>Native Vegetation Conservation Act 1997</i>
NV Regulation	Native Vegetation Regulation 2005
PAS	Priorities Action Statement
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
PR Act	<i>Plantations and Reforestation Act 1999</i>
PNF	Private Native Forestry
PVP	property vegetation plan
PWG	Parks and Wildlife Group of OEH
RFA	Regional Forest Agreement
RF Act	<i>Rural Fires Act 1997</i>
RFS	Rural Fire Service
SCA	state conservation area under the NPW Act
Seeing Report	Social, Environmental and Economic Report of Forests NSW
SMP	species management plans
SOE	State of the Environment
TAFE	Technical and Further Education
TSC Act	<i>Threatened Species Conservation Act 1995</i>
TSL	Threatened Species Licence
UNE	Upper North East region
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).

**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.

**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 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.

**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).

**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 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**.

**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.

**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/](http://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*.