

# Sustainability Supplement 2013–14

This is a supplement to Forestry Corporation of NSW's Annual Report and Business Sustainability Framework.

Forestry Corporation has a number of reporting obligations to satisfy organisational, state, national and international requirements for sustainable forest management. These are supported by the corporation's Social Economic and Environment Database System.

Our forest-focused sustainability reporting is based on the international Montreal Process Criteria and Indicators, which were agreed at the state, national and international level in 1998 and reviewed in 2008.

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## Indicator 1 – Social responsibility

Year ended 30 June	2012	2013	2014
Sponsorships and donations	\$35 900	\$16 500	\$40 100

Kendall National Violin Competition and the Hello Koala sculpture exhibition on the mid north coast were the recipients of the largest sponsorship contributions during 2013–14. In total, around \$30 000 was provided to local community events and initiatives and close to \$7 000 was invested in supporting industry events and conferences.

### Community volunteering programs

Major volunteer programs included the Cumberland and Strickland State Forest bush regeneration programs and the Communities in Forests Program with Conservation Volunteers Australia (CVA).

During the year (between October 2013 and July 2014), CVA volunteers removed 1 250 square metres of exotic weeds from native habitats to improve biodiversity values, repaired walking tracks to protect sensitive habitats and planted 3 230 native trees, shrubs and grasses to restore habitat for native species over an area of 6 100 square metres.

Volunteers committed a total 405 working days through the Cumberland and Strickland State Forest volunteer programs. Volunteers removed an estimated 10 tonnes of weeds from Cumberland State Forest, completed a new walking trail in Strickland State Forest and continued to digitise and catalogue Forestry Corporation's historic photographic collection.

## Indicator 2 – Recreation and tourism

Facilities provided at more than 130 designated recreational visitor sites			
Year ended 30 June	2012	2013	2014
Camping area	49	48	59
Caravan site	19	19	20
Fireplace/BBQ	59	61	67
Picnic area	67	69	75
Rubbish collection	27	30	27
Toilets	60	61	68
Wheelchair accessible toilets	6	7	7

Recreation indicators			
Year ended 30 June	2012	2013	2014
Area zoned primarily for recreation (hectares)	4696	4744	4799
Area zoned primarily for visual aesthetics (hectares)	39 957	40 187	40 900

Forestry Corporation undertakes visitation surveys during the year at popular destinations in State forests. Based on the surveys, the most visited sites were the recreation areas in Olney and Heaton State Forests and the Forest Sky Pier at Sealy Lookout in Orara East State Forest. It was estimated that these two areas attracted 600 000 and 100 000<sup>1</sup> visitors respectively during the year while Sydney's Cumberland State Forest attracted an estimated 100 000 visitors. Several State forests and facilities were recognised at local and state tourism awards during the year. The slight increase in facilities reported this year is most likely attributable to better mapping of facilities rather than an actual increase in the number of facilities provided.

<sup>1</sup> The visitor data for the Forest Sky Pier at Sealy Lookout also includes car counter data.



## Indicator 3a – Research and education

The NSW Department of Primary Industries (DPI) Forest Science group provides technical advice, research and development services to Forestry Corporation under a Memorandum of Understanding. This group has scientific and technical expertise in forest ecology and sustainability, forest health and resource assessment, carbon in forests, wood products and bioenergy, and biometrical services. Information about recent research activities is included in Forestry Corporation's Annual Report.

Forestry Corporation is an active member of the Australian Forest Education Alliance, a network of forestry industry partners from across Australia that runs the ForestLearning education program. Through ForestLearning, Forestry Corporation contributes to the development and provision of curriculum-aligned education resources for teachers using forestry and forest and wood products as a pathway for meeting education outcomes for students. Work began this year on mapping existing education resources to the Australian Curriculum, developing new resources where required and building a new website to improve teacher access to resources.

## Indicator 3b – Number of people participating in programs through Cumberland State Forest

Activity participants <sup>1</sup>			
Year ended 30 June	2012	2013	2014
School – lower primary	1412	1450	1402
School – upper primary	625	1218	171
School – secondary	650	228	218
School holiday activities <sup>2</sup>	462	439	480
<b>Total</b>	<b>3149</b>	<b>3335</b>	<b>2271</b>

Forestry Corporation conducts face-to-face curriculum-aligned education excursions at Cumberland and Strickland State Forests. In addition, staff from Cumberland State Forest participated in three events that were attended by 6277 students: Science in the City, Youth Eco Summit and Strickland Forest Expo. Regional staff also facilitated a small number of school and university groups to inform students on forest management.

<sup>1</sup> School participant numbers can fluctuate depending on the school curriculum cycle.

<sup>2</sup> Number of people participating in school holiday activities was based on a six month average for the year ended 30 June 2014. A new online booking system for school holiday activities commenced in July 2014.



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## Indicator 4 – Other forest products

Selected forest products			
Year ended 30 June	2012	2013	2014
Apiculture (sites)	2891	3705	3919
Broombush (tonnes)	2332	1955	2396
Charcoal (tonnes)	1624	1690	1763
Telecommunication sites	144	131	131
Fencing material (cubic metres)	279	430	153
Firewood - non-commercial (tonnes) <sup>1</sup>	8001	3873	9053
Gravel/sand/rock (tonnes)	63 289	70 051	66 232
Grazing (hectares)	307 468	290 817	288 176
Wood blocks (number)	200	350	200

The range of products provided reflects the importance of State forests to rural and regional economies.

*Note that some values have been derived using conversion factors due to multiple units of measure used.*

<sup>1</sup> Additional sales are reported as part of commercial timber sales in Indicator 17 – Volume of timber harvested.



## Indicator 5 – Training

Training categories			
Year ended 30 June	2012	2013	2014
Assessors	3	36	16
Business skills	38	10	48
Computer skills	9	1	0
Environmental and cultural	61	61	30
Fire medical and fitness	329	129	132
Fire resources protection	233	129	53
Forest management	16	8	17
Health and safety awareness	37	134	35
Health and safety compliance	351	237	232
Legal and administration	0	20	0
Management and leadership	13	0	28
Miscellaneous	0	0	6
Plant and animal management	0	2	6
Plant and machinery skills	38	32	112
Safe driving and licensing	503	264	175
Technical skills	224	149	70
Tertiary and trade certificates	8	0	0
Workshops	7	0	1
<b>Total</b>	<b>1870</b>	<b>1212</b>	<b>961</b>



## Indicator 6 – Management of cultural heritage

Year ended 30 June	2012	2013	2014
	hectares		
Area managed for Aboriginal cultural heritage	1377	1370	1370
Area managed for non-Aboriginal cultural heritage	3583	3648	3648
Approximate land with recognised native title	30000	30000	60000
	number		
Gazetted Aboriginal places <sup>1</sup>	1	1	1
Aboriginal sites <sup>2,3</sup>	3332	3561	3520

Forestry Corporation employs a team of Aboriginal Partnership Liaisons to work with Aboriginal communities throughout NSW. This group works to conserve the qualities and attributes of places that have spiritual, historic, scientific or social value for past, present or future generations. They liaise with Aboriginal land councils, elders and community members to gain an understanding of their spiritual connection with the land and to ascertain evidence of past Aboriginal activities in the forest.

### Partnerships

Forestry Corporation has partnerships or arrangements in place with both Aboriginal and non-Aboriginal groups.

A partnership has been maintained with the Darkinjung Aboriginal Land Council since the early 1990s for joint management of the Warre Warren Aboriginal Place in McPherson State Forest on the central coast of NSW. In recent years, Forestry Corporation provided a large shelter, water tanks and toilet facilities within Warre Warren, providing the basic facilities for cultural teaching and camps focussed on training children and young people in their heritage.

Another partnership arrangement has been developed with the Anaiwan Aboriginal Traditional Owners and maintained for over ten years at Riamukka State Forest near Walcha. The Anaiwan Traditional Owners use a former forestry depot for cultural teaching and camping. This arrangement has been very successful, with the Anaiwan managing the site and Forestry Corporation providing new water tanks, a teaching shelter, new toilets and a ride-on mower.

In 2014, a permit was issued to the Keepa Keepa Incorporated for cultural heritage teaching and camps on Heaton State Forest on the Sugarloaf Range near Newcastle. Keepa Keepa Inc are affiliated with Awabakal Land Council. Forestry Corporation has agreed to assist with improved security at the site, removal of dangerous trees and provision of a teaching shelter, new toilet and water tanks.

Another arrangement exists with Purfleet –Taree Aboriginal Land Council where Forestry Corporation delivers and donates several truck loads of salvage timber prior to each winter. Young members of the community cut and split firewood and deliver it to elders for use as home heating. Permits are also provided free of charge for firewood collection for delivery to elders of Karuah Land Council.

In Western Region there is an ongoing partnership agreement with the Joint Indigenous Group, a collective of two Traditional Owners (Yorta Yorta and Barapa Barapa) and the Moama Local Aboriginal Land Council. This partnership coordinates management of cultural heritage in conjunction with the Koondrook-Perricoota forest flood enhancement scheme.

### Land with recognised native title

On 2 December 2013, the Federal Court recognised by court orders the traditional rights (native title rights) of the Bandjalang People to certain areas in Evans Head and the surrounding hinterland covering areas of Crown land, State forest and national park estate. An Indigenous Land Use Agreement (ILUA) is being negotiated by the NSW Government and Forestry Corporation is participating in that process. An ILUA was established with the Githabul People in northern NSW in 2007 and involved some land transfers and the establishment of a consultation regime in relation to the management of cultural heritage and access for hunting in certain State forests. Forestry Corporation recognises the rights of all Aboriginal groups and welcomes these partnership arrangements in State forests.

- 1 As classified under section 90 of the *National Parks and Wildlife Act 1974* and recorded in the Aboriginal Heritage Information Management System.
- 2 This figure is taken from the Aboriginal Heritage Information Management System maintained by the Office of Environment and Heritage and to which Forestry Corporation contributes.
- 3 Some past data discrepancies were identified in the number of Aboriginal sites due to double counting of sites that crossed State forest boundaries.

## Indicator 7 – Extent of forest and tenure type

**Objective: Maintain area of native forest for the sustainable supply of timber**

Forest type categories	hectares
Alpine ash	17733
Blackbutt	113035
Messmate	239166
Mixed coastal eucalypt	214388
Non-eucalypt forest	10949
Non-forest	40888
Other inland eucalypt	154678
Other inland types	142
Rainforest	91751
River red gum	35355
Snow gum	24659
Spotted gum	183938
Stringybark	179244
Sydney blue gum	126229
Unclassified	170359
White cypress pine	161705

Lands managed by Forestry Corporation of NSW	hectares
State forest	2184687
Timber reserves	187194
Private land investment partners	44708
Other	13329
<b>Total Defined Forest Area<sup>1</sup></b>	<b>2429918</b>

A total 1338 hectares of State forests were revoked during the year ended 30 June 2014. The largest revocation was just over 1000 hectares, which was a revocation for a national park in Western Region. Other revocations included the sale of a depot, revocation for Aboriginal use and a land exchange to facilitate construction of a road to access plantations.

Native forest types are defined in New South Wales Research Note No. 17.

Note that there are minor variations between the legal and operational GIS tenure area data.<sup>1</sup>

<sup>1</sup> The Defined Forest Area is the area of forest over which Forestry Corporation can demonstrate management control and to which the requirements of the Australian Forestry Standard (AS4708:2007) are applied. See Indicator 24 for more details.



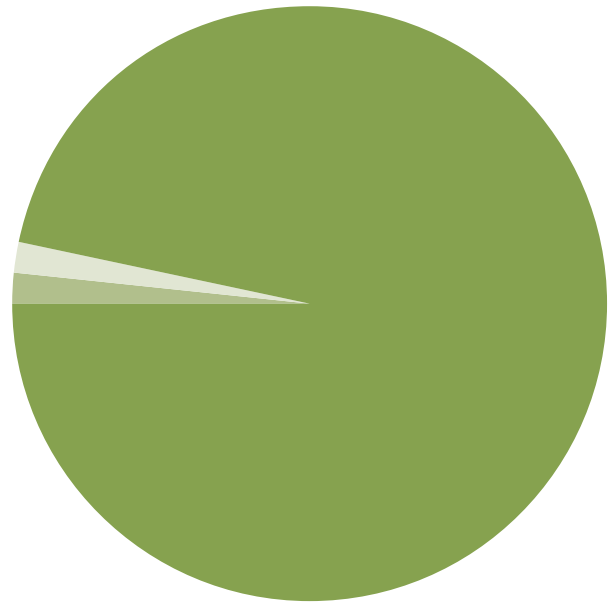
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## Indicator 7 – continued

### Hardwood Forests Division 2 032 391 ha

- Native forest 1 969 100 ha
- Hardwood plantation 30 212 ha
- Joint venture hardwood plantation 33 079 ha



### Estate 2 429 918 ha

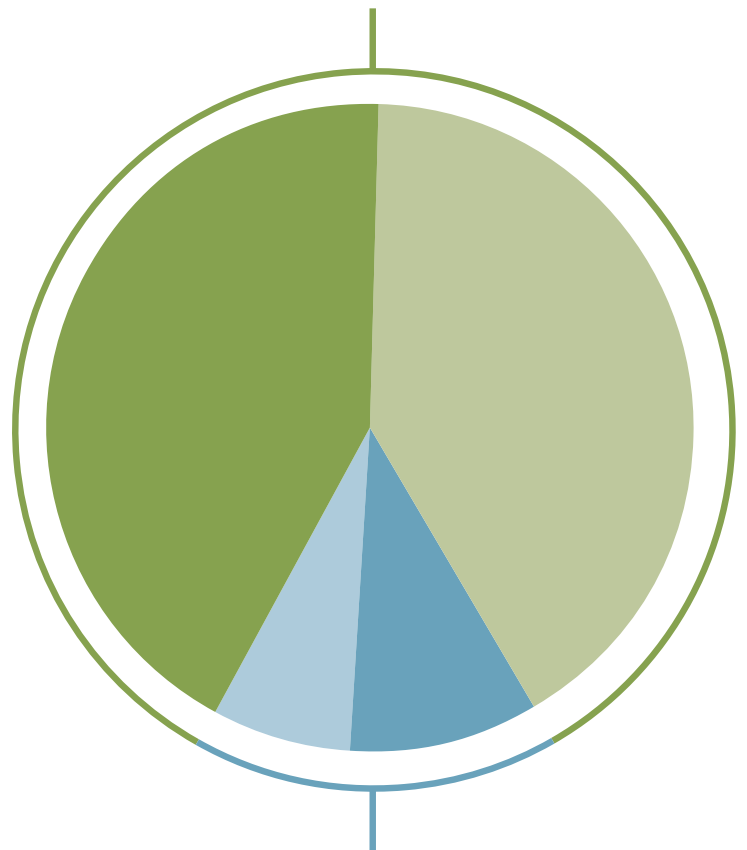
Including Cumberland State Forest 40 ha

Hardwood Forests Division 2 032 391 ha

- 51 per cent available for harvest
- 49 per cent unavailable for harvest

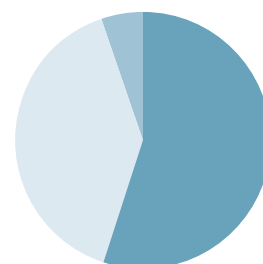
Softwood Plantations Division 397 487 ha

- 59 per cent available for harvest
- 41 per cent unavailable for harvest



### Softwood Plantations Division 397 487 ha

- Softwood plantation 219 565 ha
- Native forest and other areas 157 819 ha
- Joint venture softwood plantation 20 103 ha



The area reported is consistent with the Defined Forest Area that the corporation manages under the Australia Forestry Standard and consistent with ISO 14001. Reporting in previous years was limited to dedicated State forests.

## Indicator 8 – Native forest structure

Forest structure refers to the physical features of a forest that reflect its natural environment and management history. Largely determined by forest type, age and past disturbance such as timber harvesting and fire, forest structure is an important consideration when planning future management, including harvesting, of forests. The structure of the forest is reflected in the proportion of trees of different age and size over a given area.

Because the areas of forest growth stage categories do not change significantly over short periods, growth stages are not reported annually. Refer to the 2010 and 2013 Australian Government State of the Forests reports for additional growth stage information.

The sustainable wood supply modelling, which is represented in indicator 22, demonstrates that the forest estate is capable of providing for an ongoing sustainable yield at the current rate of production. This provides an indication that forest structure also relatively stable in producing this yield from a set area.

## Indicator 9 – Sightings of surveyed species

Individual threatened fauna species sightings			
Year ended 30 June	2012	2013	2014
Arboreal mammals	1 100	1 688	914
Bats	225	693	122
Frogs	245	327	678
Ground mammals	54	271	558
Birds	1 391	1 254	996
Raptors	–	42	25
Reptiles	3	2	4
<b>Total</b>	<b>3 018</b>	<b>4 277</b>	<b>3 297</b>
Threatened flora species reported	33	18	24
Number of flora surveys	48	9	40
Threatened fauna species reported	53	50	62
Number of fauna surveys <sup>1</sup>	2 603	2 466	2 022
Number of compartment traverses <sup>1</sup>	845	694	495
Incidental and other surveys	328	342	245
Expenditure on surveys ('000)	\$2 333	\$2 069	\$2 002

Individual threatened fauna species sightings by status and group						
Kingdom	Species group	Status <sup>2</sup>				
		Introduced	Protected	Vulnerable	Endangered	Critically endangered
Fauna	Arboreal mammals	0	809	883	31	0
	Bats	0	501	122	0	0
	Frogs	3	2 151	89	562	27
	Ground mammals	55	3 313	400	143	15
	Birds	0	6 527	992	4	0
	Raptors	0	166	25	0	0
	Reptiles	0	43	4	0	0
Flora		60	912	425	814	0

1 The number of surveys and compartment traverses is smaller in years when fewer areas are harvested.

2 Note that vulnerable, endangered and critically endangered species are referred to as threatened species under the *Threatened Species Conservation Act 1995* and are summarised in the above table. If these threatened species are sighted, their presence is taken into account in preparing the harvest plan. Protected refers to all Australian flora and fauna that are not threatened species. Introduced species include cats, goats, dogs and deer.

## Indicator 10 – Estimated expenditure on pest animal and weed control

### Softwood Plantations Division<sup>1</sup>

Treatment categories			
Year ended 30 June	2012	2013	2014
Post establishment competition control <sup>2</sup>	\$683 730	\$709 357	\$379 224
Weed control	\$639 229	\$544 962	\$426 959
Pest animal control <sup>3</sup>	\$235 996	\$175 781	\$266 386

### Hardwood Forests Division

Treatment categories			
Year ended 30 June	2012	2013	2014
Weed control	\$183 267	\$166 312	\$207 900
Pest animal control <sup>3</sup>	\$636 191	\$541 633	\$427 800

Expenditure on post-establishment competition control is related to factors such as age class size, climate and its effect on weed growth, timing (e.g. program being delayed by weather) and suitable contractor availability. While all factors may have come into play across these years to some extent (treatment is usually two to three years after planting), the main reason for the drop in expenditure is likely to have been the age class size reducing over this period. Noxious weed control expenditure is also affected by these same factors, including budget constraints and priority works. However, the main reason for the reduction is likely to have been due to the drier conditions over these years resulting in less noxious weed growth and therefore less expenditure.

1 The data for Softwood Plantations Division has been updated for the past three years due to a data duplication error being identified. While reducing the expenditure slightly in all categories, the overall trend remains the same.  
 2 Excludes all other costs associated with establishment reported in indicator 26.  
 3 Includes wild dog management undertaken in line with the NSW Wild Dog Management Strategy 2011–16.

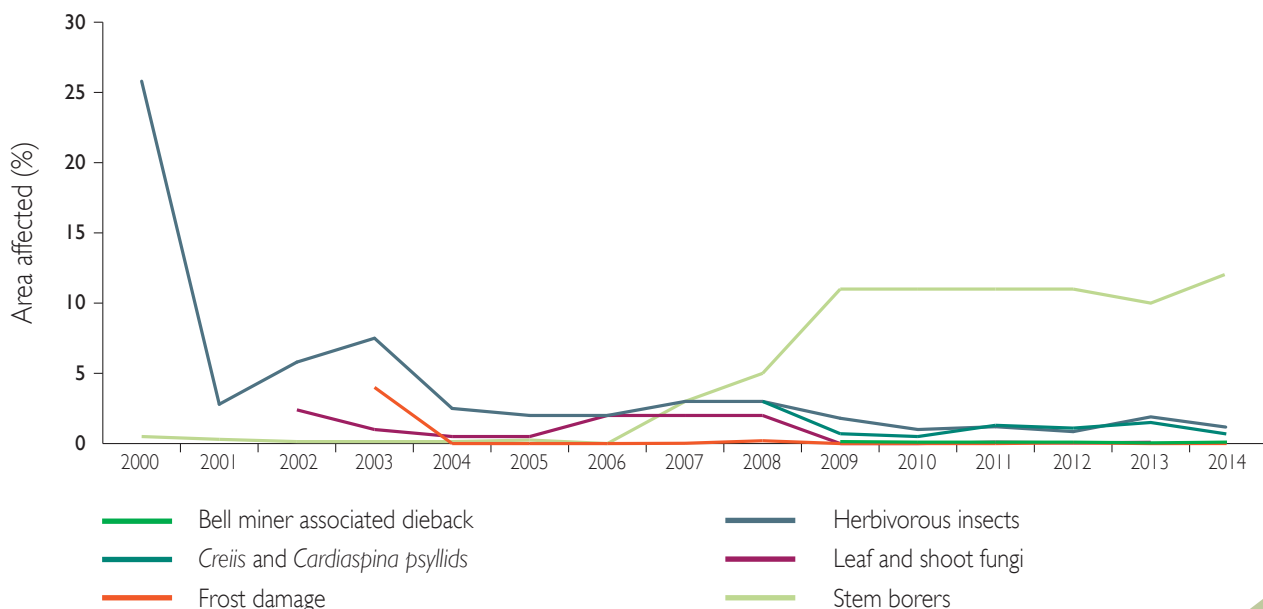
## Indicator 11 – Plantation health

The number of hardwood plantations with damage from stem borers was slightly greater this year, due mainly to an increase in damage to older *Corymbia* spp. plantations by the eucalypt ring-barker longicorn, which prefers larger diameter trees. Little damage from creiis psyllids was recorded, and the area affected by cardiaspina was relatively static, which reduced the overall damage from psyllids this year. Significant defoliation by Christmas beetles of *E. dunnii* occurred, but this was lower than previous years. The area affected by Bell Miner Associated Dieback in young plantations was relatively static. High rainfall on the north coast resulted in a number of *E. pilularis* plantations being affected by phytophthora root rot, but mostly with low levels of mortality. Myrtle rust was detected in several young plantations (*E. agglomerata*, *E. cloeziana*, *E. pilularis*), but not causing significant damage. Fewer hardwood plantations were surveyed this year compared to previous years.

Lower rainfall in several regions saw an increase in drought and *essigella* damage, but a decrease in *dothistroma* needle blight. Drought-related tree mortality remains the single biggest threat to softwood plantations, with over 10000 hectares affected in this reporting period. The area affected was up four per cent from last year. *Essigella* damage was more extensive than last year with approximately 12000 hectares affected. The *essigella* biological control agent—a tiny wasp—was found to be established in several regions. *Dothistroma* needle blight remains a significant issue in softwood plantations on the Northern Tablelands, but the area affected was lower overall compared to last year, partly due to minimal damage in other regions. Very low levels of damage from sirenix wood wasp were detected, and damage from possums was again lower than previous years. All softwood plantation areas were surveyed this year.

### Hardwood plantations

Hardwood plantation <sup>1</sup>																
Year ended 30 June	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
Agent	Percentage (%) of area affected															
Bell Miner Associated Dieback	n/d	n/d	n/d	n/d	n/d	n/d	n/d	n/d	n/d	0.14	0.10	0.10	0.10	0.05	0.10	
<i>Creiis</i> and <i>Cardiaspina</i> psyllids	n/d	n/d	n/d	n/d	n/d	n/d	n/d	n/d	3.00	0.70	0.50	1.30	1.10	1.50	0.50	
Frost damage	n/d	n/d	n/d	4.00	-	-	-	0.02	0.20	-	-	-	0.05	-	-	
Herbivorous insects	25.80	2.80	5.80	7.50	2.50	2.00	2.00	3.00	3.00	1.80	1.00	1.20	0.85	1.90	1.00	
Leaf and shoot fungi	n/d	n/d	2.40	1.00	0.50	0.50	2.00	2.00	2.00	-	-	0.10	0.05	0.09	-	
Stem borers	0.50	0.30	0.14	-	0.14	0.25	-	3.00	5.00	11.00	11.00	11.00	11.00	10.00	12.00	

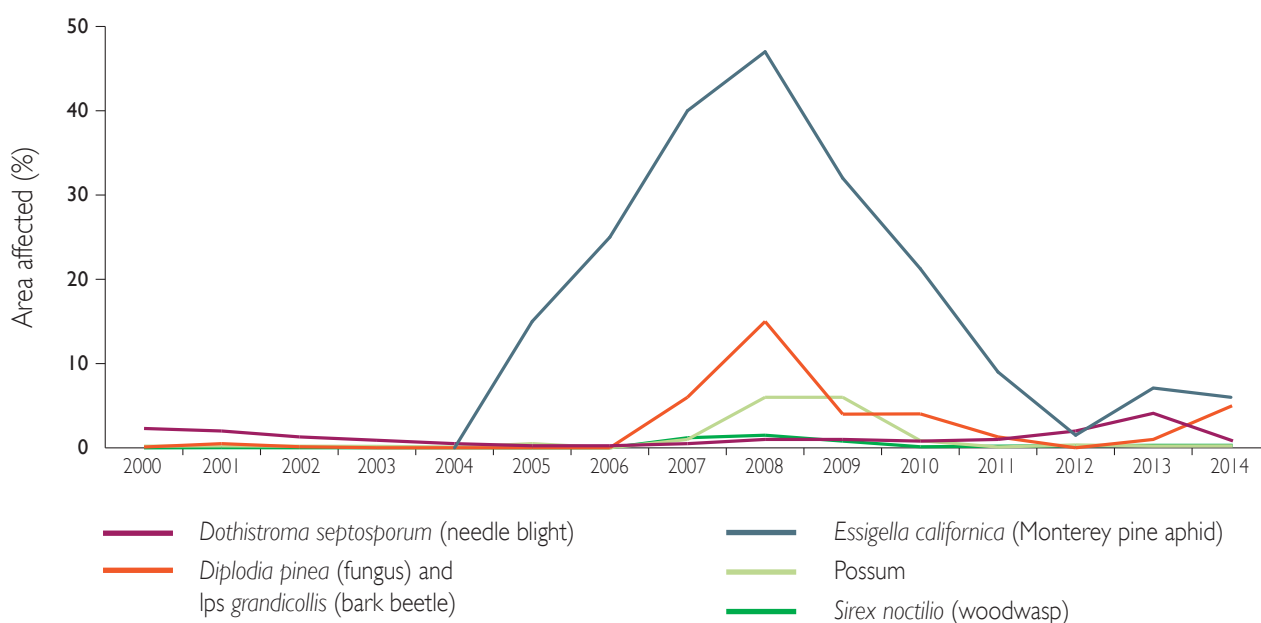


<sup>1</sup> Based on 8000 hectares of post-1994 hardwood plantation assessed. In the year ended 30 June 2014, only ground (i.e. no aerial) surveys were undertaken for a proportion of hardwood plantations (post-1994 and second rotation).

## Indicator 11 – continued

### Softwood plantations

Softwood plantation <sup>1</sup>															
Year ended 30 June	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Agent	Percentage (%) of area affected														
<i>Dothistroma septosporum</i> (needle blight)	2.30	2.00	1.30	0.90	0.50	0.25	0.25	0.50	1.00	1.00	0.80	1.00	2.00	4.10	0.75
<i>Diplodia pinea</i> (fungus) & <i>Ips grandicollis</i> (bark beetle)	0.10	0.50	0.13	0.01	0.01	0.01	0.01	6.00	15.00	4.00	4.03	1.30	0.01	1.00	5.00
<i>Essigella californica</i> (Monterey pine aphid)	n/d	n/d	n/d	n/d	n/d	15.00	25.00	40.00	47.00	32.00	21.25	9.00	1.50	7.10	6.00
Possum	0.20	0.23	0.20	0.18	0.10	0.50	0.01	1.00	6.00	6.00	0.85	0.10	0.35	0.22	0.10
<i>Sirex noctilio</i> (woodwasp)	-	0.02	0.01	0.01	0.01	0.00	0.01	1.20	1.50	0.80	0.13	0.20	0.25	0.30	0.20



<sup>1</sup> Based on 200 000 hectares of softwood plantation assessed.

## Indicator 12 – Fire fighting and prevention

Wild fire							
Year ended 30 June	2008	2009	2010	2011	2012	2013	2014
Proportion of total State forest estate (%)	0.30	0.06	1.60	0.03	0.10	1.92	2.20

Fuel management							
Year ended 30 June	2008	2009	2010	2011	2012	2013	2014
Hazard reduction (hectares) <sup>1</sup>	32 474	24 988	35 069	36 931	28 451	20 734	18 081
Grazing (hectares)	528 933	498 718	529 712	426 258	307 468	290 817	288 176

The year ended 30 June 2014 was a year of significant fire activity in NSW. Forestry Corporation took a role in managing major fires events including:

- In October, the State Mine Fire affected a large area of the Blue Mountains. Forestry Corporation participated in incident management team (IMT) roles and protection of Newnes State Forest.
- In December-January, Forestry Corporation supplied significant numbers of IMT staff and fire fighters over several weeks to control a fire in Putty State Forest.
- In January, Forestry Corporation committed significant IMT and fire fighting resources to fires in the Tumut and Bathurst regions with approximately 2500 hectares of Forestry Corporation plantations affected.
- In February, Forestry Corporation provided resources to assist contain fires in Victoria that threatened Forestry Corporation plantations on the NSW/Victorian border.

<sup>1</sup> Includes pre and post harvest burning, broad area burns and establishment burns. Unusually hot and dry weather conditions in autumn and winter limited opportunities to safely complete hazard reduction burning during 2014. However, Forestry Corporation is tracking ahead of its five-year State target for hazard reduction burning following an effective program over the past two years and expects to increase hazard reduction burning in 2015, weather permitting.



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## Indicator 13a – Soil and water management

**Objective: Maintain ecological processes associated with soil and water. Assess all areas to be harvested for risks to soil and water quality**

Hardwood Forests Division expenditure on harvest-related planning and compliance			
Year ended 30 June	2012	2013	2014
Harvesting supervision and environmental compliance ('000)	\$ 5750	\$ 6580	\$ 7358
Harvest planning and pre-harvest surveys ('000)	\$ 5729	\$ 5471	\$ 5275

Area harvested			
Year ended 30 June	2012	2013	2014
Hardwood and cypress forests (hectares)	28 054	31 221	23 807
Softwood plantation harvested (hectares)	7 298	8 379	8 223
Total area harvested (hectares)	35 352	39 599	32 030
Proportion of total estate <sup>1</sup>	1.45%	1.62%	1.32%

Soil and water related compliance			
Year ended 30 June	2012	2013	2014
Penalty Infringement Notices	5	3	0

## Indicator 13b – Soil and water management

Year ended 30 June	2012	2013	2014
Fully protected land (hectares) <sup>2</sup>	178 356	180 200	180 200
Partly protected land (hectares) <sup>3</sup>	83 256	83 224	83 224
<b>Total (hectares)<sup>4</sup></b>	<b>261 612</b>	<b>263 424</b>	<b>263 424</b>

To improve the reliability of our data relating to area harvested, we have streamlined our reporting and now account for all work in the year that it occurs regardless of whether the job is complete. As a result, the 2013 figure has been revised since the last data set was issued, as it was a combination of data from jobs completed over several financial years and progressive data from incomplete jobs that would otherwise have been reported in future years.

- 1 See Indicator 7 for an explanation of the total estate area used, which has had the effect of correcting downwards the proportion of the total estate harvested by approximately 0.1 per cent, when compared with previous reports.
- 2 Includes wetlands, filter strips reserved from harvesting and areas with extreme risk of erosion or water pollution hazard.
- 3 Includes forest management zone catchment and filter strips protected in areas where modified harvesting methods are permitted.
- 4 Excludes substantial tracts of land otherwise zoned primarily for natural and cultural protection which also provide a catchment protective function.



## Indicator 14 – Regulatory compliance

Compliance items			
Year ended 30 June	2012	2013	2014
Number of compliance check sheets conducted by Forestry Corporation supervisors			
Compliance monitoring	354	392	284
Systems implementation	38	24	20

Number of medium or high severity non-compliances recorded by Forestry Corporation supervisors for corrective action relating to: <sup>1</sup>			
Soil erosion and water quality	175	84	110
Flora and fauna	32	61	25
Fish habitat and passage	28	1	0
Other non-compliance issues (e.g. safety)	150	86	36
<b>Total</b>	<b>385</b>	<b>232</b>	<b>171</b>

Number of audits undertaken by regulators			
Office of Environment and Heritage/ Environment Protection Authority audits	39	20	24
DPI - Fisheries audits	0	2	0
DPI - Plantation Assessment Unit audits	5	9	6
DPI - Office of Private Forestry audits	0	0	1

Number of clean-up notices issued to Forestry Corporation			
Clean-up notices	2	2	1

Number of fines (penalty infringement notices) issued to Forestry Corporation by regulators			
<i>National Parks and Wildlife Act 1974</i>	5	8	2
<i>Protection of the Environment Operations Act 1997</i>	5	3	0
<i>Fisheries Management Act 1994</i>	0	0	0
<i>Plantations and Reafforestation Act 1999</i>	0	0	0
<b>Total</b>	<b>10</b>	<b>11</b>	<b>2</b>

Number of prosecutions recorded against Forestry Corporation under the:			
<i>Threatened Species Conservation Act 1995</i>	0	0	0
<i>National Parks and Wildlife Act 1974</i>	0	0	0
<i>Protection of the Environment Operations Act 1997</i> <sup>2</sup>	0	0	1
<i>Fisheries Management Act 1994</i>	0	0	0
<i>Plantations and Reafforestation Act 1999</i>	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>1</b>

On 10 July 2013 in the Land and Environment Court, Forestry Corporation was ordered to pay \$35,000 under the *Protection of the Environment Operations Act 1997* in relation to offences of polluting water and breaching its threatened species licence. Forestry Corporation pleaded guilty to the two offences which arose from a hazard reduction burn in 2011 in Mogo State Forest near Batemans Bay on the NSW south coast. The hazard reduction burn resulted in ash and soil entering water courses and burning within exclusion zones. By agreement with the Environment Protection Authority, the payment went towards an environmental project to identify and map an endangered ecological community in forests in the state's south east.

- The guidelines for internal reporting of non-conformance incidents have changed over the past four years. A non-conformance incident that can be resolved within 24 hours and is not related to systematic failures is no longer recorded in the Non-Compliance Incident Reporting system. Similarly, minor incidents with low consequence or harm are no longer recorded. During the 2012 financial year, the compliance system underwent a major modification to reduce the tiers of checks to three and to increase the focus on corrective and preventative action.
- Forestry Corporation of NSW received one prosecution in relation to two offences - one offence under the *Protection of the Environment Operations Act 1997* and one offence under the *National Parks and Wildlife Act 1974*.

## Indicator 15a – Carbon sequestration in softwood planted forests

Softwood plantations	
Year ended 30 June	2014
Net CO <sub>2</sub> -e megatonnes sequestered	3.32

### Volumes are calculated using the following assumptions:

CO<sub>2</sub> sequestered (tonnes CO<sub>2</sub>-e) = net plantation area x MTBI x CP x CCDF where:

MTBI (Mean Timber Biomass Increment) = SBI + CBI + RBI where:

SBI (Stem Biomass Increment) = TSVI x BD where:

TSVI (Total Stem Volume Increment) - softwood = 16.9m<sup>3</sup>/ha/yr and hardwood = 13.3m<sup>3</sup>/ha/yr

BD (Basic Density) - softwood = 0.42 t/m<sup>3</sup> and hardwood = 0.55t/m<sup>3</sup> (source AGO 2006)

CBI (Canopy Biomass Increment) = SBI x 0.1765

RBI (Root Biomass Increment) = (SBI + CBI) x 0.2

CP (Carbon Proportion) = 0.5

CCDF (Carbon to Carbon dioxide factor) = 3.667

Net plantation area = Net stocked area in State forest and joint venture plantations (refer Indicator 27)

## Indicator 15b - Carbon balance in hardwood forests

Measured in millions of tonnes (megatonnes)		
Year ended 30 June		2014
Forest storage	Total standing volume CO <sub>2</sub>	791.2
Sequestration	Annual CO <sub>2</sub> -e sequestered forest growth	11.3
	Annual CO <sub>2</sub> -e harvest storage in solid wood	0.3
	Cumulative long-term CO <sub>2</sub> -storage in solid wood	2.8
Emissions	Annual CO <sub>2</sub> avoided emissions in waste and firewood	0.1
	Annual CO <sub>2</sub> -e harvest and haulage emissions	0.0
	Annual CO <sub>2</sub> fire emissions	3.8
	Annual non CO <sub>2</sub> fire emissions	0.2

Hardwood forests	
Year ended 30 June	2014
Net CO <sub>2</sub> -e megatonnes sequestered	4.2

This indicator provides an estimate of the amount of carbon stored in hardwood State forests. The other figures provide an estimate of the CO<sub>2</sub>-e sequestration balance, accounting for:

- annual growth in the forests
- annual long-term storage in solid wood
- cumulative long-term storage in solid wood since reporting began (year ended 30 June 2007)
- fuel usage in harvest and haulage
- energy substitution through timber bio-energy
- fire related emission.

### Assumptions:

#### Model A

CO<sub>2</sub> sequestered (tonnes CO<sub>2</sub>e) = production area x MTBI x CP x CCDF where:

MTBI (Mean Timber Biomass Increment) = SBI + CBI + RBI where:

SBI (Stem Biomass Increment) = TSVI x BD where:

TSVI (Total Stem Volume Increment) native forest ave = 5m<sup>3</sup>/ha/yr

BD (Basic Density) = 0.65t/m<sup>3</sup>

CBI (Canopy Biomass Increment) = SBI x 0.1765

RBI (Root Biomass Increment) = (SBI + CBI) x 0.2

CP (Carbon Proportion) = 0.5

CCDF (Carbon to Carbon dioxide factor) = 3.667

## Indicator 16a – Energy consumption

Electricity (kilowatts)		
Year ended 30 June	2013	2014
Offices, nurseries, workshop, depots, other	1 821 254	1 673 355
Pure energy <sup>1</sup>	53 279	48 246

Gas		
Year ended 30 June	2013	2014
LPG gas (litres) - Nurseries, workshop, depots, other	28 714	17 963
Natural gas (megajoules) - Nurseries, workshop, depots, other	262 608	261 499
LPG bulk (litres) for use in offices	914	436

## Indicator 16b – Fleet

Activity data (litres)			
Year ended 30 June		2013	2014
Plant and machinery	Diesel oil transport	535 985	467 349
Other transport	Diesel oil transport	434 752	387 204
Other transport less than 3.5 tonnes	Diesel oil transport	1 217 493	1 128 832
Passenger vehicles	E-10 biofuel transport	33 967	24 422
	Diesel oil transport	40 152	22 525
	Gasoline (other than for use as fuel in aircraft) transport	67 976	56 645

Business measures			
Year ended 30 June		2013	2014
Other transport	Distance travelled (km)	1 123 428	973 264
	Number of vehicles	91	88
Other transport less than 3.5 tonnes	Distance travelled (km)	1 056 912	9 673 392
	Number of vehicles	383	376
Passenger vehicles	Distance travelled (km)	1 255 261	1 041 561
	Number of vehicles	66	49

Energy consumption is reported under National Greenhouse and Energy Reporting. Energy saving initiatives were reported under the Australian Government's Energy Efficiency Opportunities program, which has now been discontinued.

<sup>1</sup> Pure energy is electricity produced from government accredited renewable sources (such as solar, wind, hydro and biomass) over and above mandatory targets.



## Indicator 17 – Volume of timber harvested

### Hardwood Forests Division

Year ended 30 June	2012	2013	2014
<b>Sawlogs and veneer logs (cubic metres)</b>			
Native forest hardwood sawlogs	507 347	474 980	469 412
Hardwood plantation sawlogs	59 241	70 345	53 483
Cypress pine sawlogs	45 006	51 624	51 636
Native forest hardwood veneer logs	10 037	12 523	11 288
Hardwood plantation veneer logs	3 409	3 517	2 631
<b>Poles, piles and girders (cubic metres)</b>			
Native forest hardwood	38 089	35 108	27 252
Hardwood plantation	11 876	10 832	3 976
<b>Pulpwood</b>			
Native forest hardwood pulpwood (tonnes)	505 907	362 754	309 536
Plantation hardwood pulpwood (tonnes)	37 684	22 039	582
<b>Fencing/landscape/sleepers (cubic metres)</b>			
Native forests and plantation hardwood	80 358	93 352	103 704
<b>Totals</b>			
<b>Total excluding pulpwood (cubic metres)</b>	<b>755 363</b>	<b>752 281</b>	<b>723 381</b>
<b>Total pulpwood (tonnes)</b>	<b>543 591</b>	<b>384 792</b>	<b>310 118</b>

### Softwood Plantations Division

Year ended 30 June	2012	2013	2014
<b>Product (tonnes)</b>			
Sawlogs and other products	2 074 926	2 125 444	2 271 027
Pulp, chipwood and fuel	1 480 622	1 430 036	1 321 178
<b>Total</b>	<b>3 555 548</b>	<b>3 555 480</b>	<b>3 592 205</b>

## Indicator 18 – Forest management intent

Year ended 30 June	Land not available for harvesting (hectares)			Land available for harvesting (hectares)		
	2000	2013	2014	2000	2013	2014
<b>Forest management intent</b>						
FMZ 1 Dedicated reserve	33 500	29 126	29 123	0	0	0
FMZ 2 Informal reserve - special management	322 500	176 608	175 431	0	0	0
FMZ 3a Informal reserve - harvest exclusion	199 000	240 877	240 349	0	0	0
FMZ 3b Special prescription	54 500	23 180	22 730	13 500	82 858	83 737
FMZ 4 General management native forest	387 500	167 283	157 984	1 368 000	1 138 329	1 149 702
FMZ 5 Hardwood planted forest <sup>1</sup>	0	19 762	176	46 000	37 299	51 730
FMZ 6 Softwood planted forest <sup>1</sup>	102 600	44 116	41 641	201 720	225 375	219 565
FMZ 7 Non forestry use	8 000	7 479	7 347	0	0	0
FMZ 8 Land for further assessment	0	0	8 133	326 500	9 037	0
<b>Total State forest estate</b>	<b>1 107 600</b>	<b>717 469</b>	<b>682 913</b>	<b>1 965 720</b>	<b>1 483 861</b>	<b>1 504 733</b>

For reporting purposes, since 2013 the Forest Management Zones (FMZ) within the Softwood Plantations Division were allocated to the most relevant categories rather than being grouped under FMZ 6 Softwood planted forest. This has resulted in increases to the areas not available for harvesting in some FMZ.

The estimate for harvestable areas is derived by excluding all identified non-harvestable areas held on the corporate geo-database.

For coastal regions, a further percentage is then removed from the harvestable area based on the net harvest modifier models. These modifiers have been developed from harvesting studies that determined the relationship between mapped exclusions and actual exclusions identified in harvesting operations. For the planted forests estate, net stocked area, clearfell and potential plantable areas are all categorised as harvestable. The bulk of non-harvestable area is made up of retained vegetation, usually native forest.

This indicator reports on the State forests tenure only and not on the defined forest area. For information about all forests under Forestry Corporation management see indicator 7 - Extent of forest and tenure types.

<sup>1</sup> Includes joint ventures on State forests.



## Indicator 19a – Plantation harvesting, establishment and survival

Objective: Cost-effectively provide sufficient stock for Forestry Corporation operations

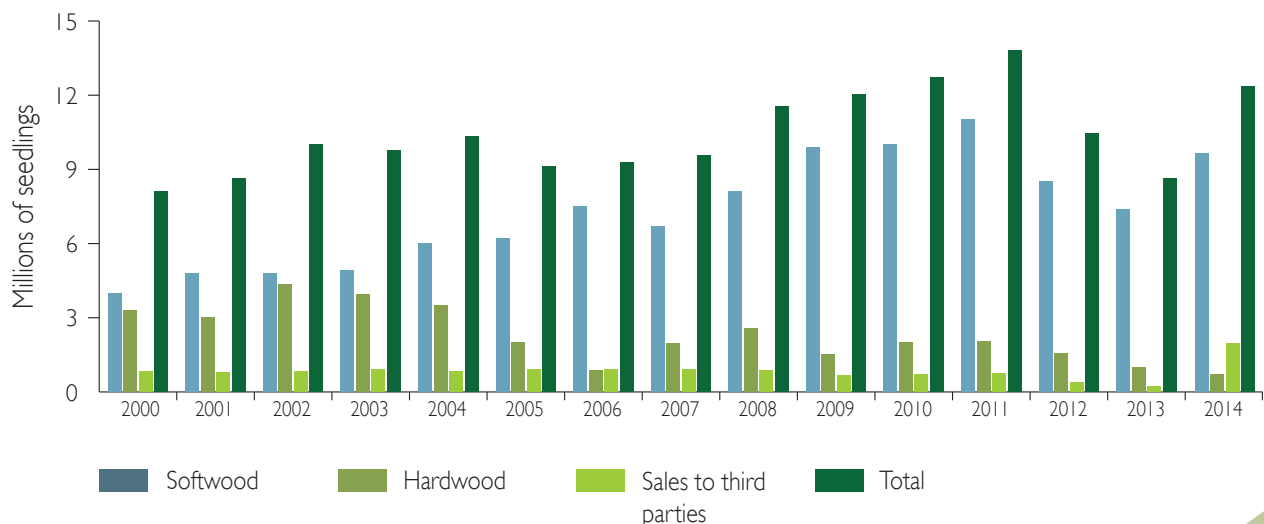
Age-class	New plantation establishment (hectares)		Re-establishment of plantations (hectares)		Cost of all plantation establishment <sup>1</sup>		Proportion requiring restocking after one year	
	Softwood plantation	Hardwood plantation	Softwood plantation	Hardwood plantation	Softwood plantation	Hardwood plantation	Softwood plantation	Hardwood plantation
1995	2548	770	4279	824	n/r	n/r	n/r	n/r
2006	1064	286	6196	603	\$13281847	\$2470358	63%	n/r
2007	249	121	5788	341	\$12282774	\$1460113	26%	n/r
2008	1513	83	8361	862	\$16853542	\$3972210	26%	n/r
2009	472	0	10109	1979	\$17691334	\$3193278	29%	87%
2010	352	0	9590	1104	\$14452421	\$2781995	22%	9%
2011	206	0	8763	592	\$12889324	\$1637067	12%	30%
2012	50	0	7763	470	\$11930687	\$1313106	23%	5%
2013	0	0	7138	404	\$11779994	\$1250363	18%	12%

Note that third party investor plantings, joint ventures and fee for service areas are included.

Reported figures for costs of age class will increase where additional costs have been incurred and decrease where costs such as seedlings are reallocated. For example, costs for the intended areas not planted with the 2007 age class due to adverse conditions were transferred to the 2008 age-class.

An area requires restocking after one year if more than 20 per cent of seedlings have not survived. Replanting is undertaken to ensure the plantation is sufficiently stocked.

## Indicator 19b – Nursery production



<sup>1</sup> Cost associated with site preparation, planting, post planting fertilising and competition control as at 30 June for that age class.

## Indicator 20 – Mean annual growth and stocking in planted forests

Softwood plantation	
Year ended 30 June	2014
Annual increment <sup>1</sup> (cubic metres)	3 130 093
Net stocked area <sup>2</sup> (hectares)	200 647
Mean annual increment <sup>3</sup> (cubic metres per hectare per year)	15.6

Hardwood plantation	
Year ended 30 June	2014
Annual increment <sup>1</sup> (cubic metres)	387 003
Net stocked area <sup>2</sup> (hectares)	29 098
Mean annual increment <sup>3</sup> (cubic metres per hectare per year)	13.3

1 Annual increment (AI) is the change in volume of the plantation net stocked area in one year ( $AI=NSA \times MAI$ ).

2 Net stocked area (NSA) is the area of the estate where trees are planted (i.e. does not include roads, environmental exclusion areas, area awaiting reestablishment etc) as at the end of the financial year.

3 Mean annual increment (MAI) is an indication of the productive potential of an average hectare within the estate.



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## Indicator 21 – Hardwood and cypress forest harvest and regeneration

Hardwood forests		Estimated area harvested (hectares)		
Year ended 30 June	2012 <sup>1</sup>	2013	2014	
Alternate coupe	1213	1258	1702	
Thinning	4014	4898	1630	
Single tree selection	15906	15355	13791	
Cypress forests		Estimated area harvested (hectares)		
Year ended 30 June	2012 <sup>1</sup>	2013	2014	
Release/thinning	6311	9710	6684	
Regeneration <sup>2</sup> (%)	77	69	67	

Expenditure associated with harvesting in Hardwood Forests Division			
Year ended 30 June	2012 <sup>1</sup>	2013	2014
Compliance harvesting	\$3809 111	\$3091 463	\$4988 769
Compliance tree-marking	\$1 778 607	\$2 423 896	\$2 368 870
Harvest planning	\$2 587 279	\$3 206 238	\$3 273 204
Pre-harvest surveys	\$2 307 800	\$2 069 493	\$2 001 787
Regulation licence charges	\$903 895	\$613 607	\$623 760

While natural regeneration of commercial species is usually achieved, in a minority of cases regeneration of commercial species may be insufficient. This is due to a number of factors including poor seed bank, unfavourable weather conditions and competition from weeds. Follow-up treatments such as hazard reduction burning, mechanical disturbance or enrichment planting are used to regenerate these areas successfully. Note that cypress forests of Western Region are generally regenerated before harvesting. Information about silvicultural techniques referred to in this table is available in the Native Forest Silviculture Manual, available on Forestry Corporation's website.

1 Revised figures for 2012 based on standardised accounting methodology and amended scope.  
 2 Proportion effectively regenerated with commercial species.



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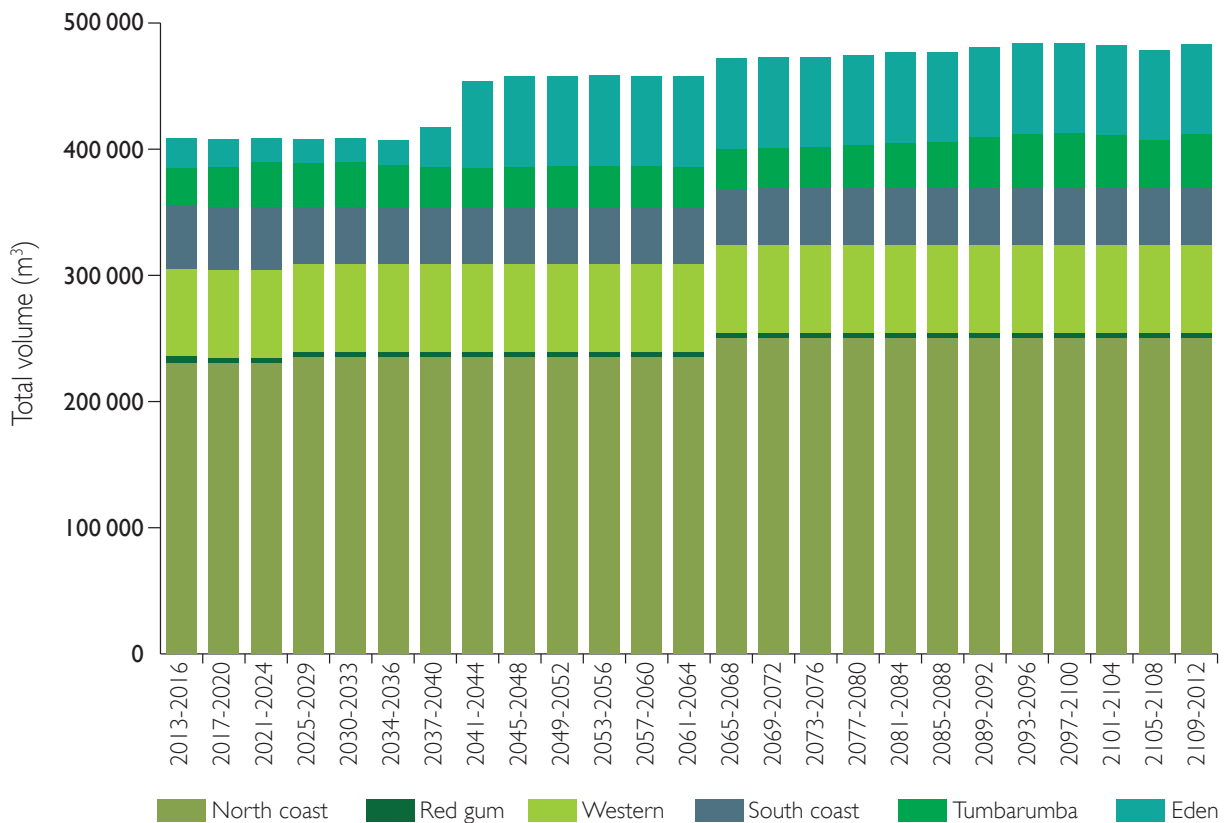
## Indicator 22 – Sustainable wood supply

The chart below shows the combined outputs from Forestry Corporation’s strategic wood supply models for high quality sawlogs. These models are informed by on-ground inventory plots. The data from these inventory plots are analysed and used in yield modelling software, which simulates future timber harvesting, growth and regeneration.

Each of the analysis regions represented is modelled separately using locally collected data. Reconciliations of these models and updates of the inventory data are completed regularly.

North coast yields include both plantation and native forest sources, which are modelled together to ensure harvesting operations can provide an even flow, or sustained yield, of high quality sawlogs.

A large increase in future yields predicted for the Eden area is derived from substantial areas of regrowth forest that are expected to reach commercial maturity from 2040.



### Committed timber harvested

Percentage of annually committed timber harvested			
Year ended 30 June	2012	2013	2014
Forest type	Per cent (%)		
Hardwood high quality sawlog	83	84	82
Hardwood native and plantation pulpwood	60	50	90
Native cypress forest	76	87	87
Softwood preservation and sawlog	90	94	105
Softwood pulpwood	88	88	90

This indicator takes the Wood Supply Agreement commitments and compares them to actual harvested amounts. These commitments are based on predicted sustainable yield models, but take into consideration the operational implementation requirements of government and industry.

An agreement to buy back part of the timber allocation from the north coast was reached just before the end of the financial year. The buy-back was negotiated with the corporation’s largest customer for high quality sawlogs, Boral, at a cost to the corporation of \$8.55 million. This ensures the corporation can continue to meet its wood supply commitments in the short, and importantly, long term.

The increase in the proportion of hardwood native and plantation pulpwood harvested for this year is a result of a reduced commitment.

## Indicator 23 – Financial performance

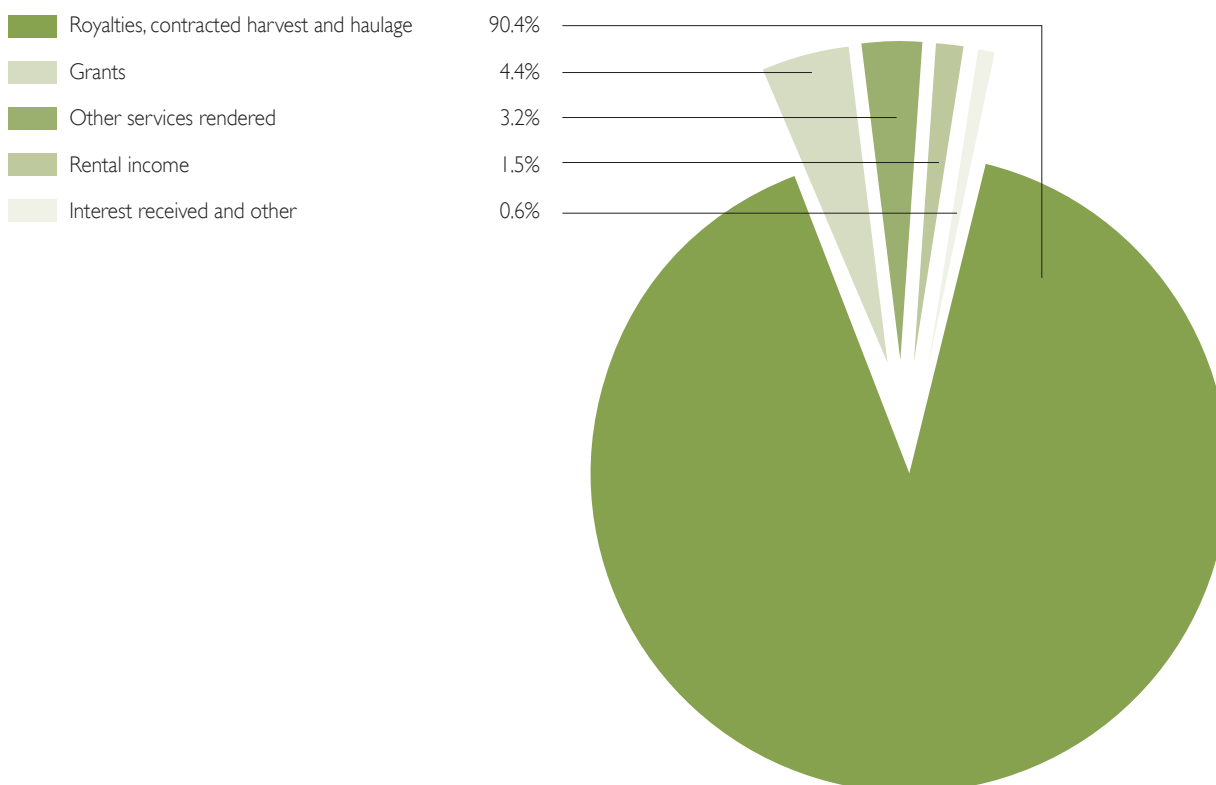
Forestry Corporation revenue for the year ended 30 June 2014		\$m
Sale and delivery of timber and other products		292.8
Community Service Obligation funding		14.2
Other services rendered		10.4
Rental income, interest received and other		6.7
<b>Total revenue</b>		<b>324.1</b>

Forestry Corporation generated \$293 million from the sale and delivery of timber and other products, representing 90.4 per cent of the total revenue. Other products include nursery stock, gravel, charcoal and broombrush. Community Service Obligation funds represent 4.4 per cent of the total revenue and are used to provide social and environmental services, which would not otherwise be undertaken by a forest management business. Services rendered included facilitating use of State forests for a range of purposes such as telecommunication sites, recreation and tourism activities, grazing and apiary. For further financial reporting from which this indicator was derived see the Forestry Corporation Annual Report.

Hardwood Forests Division				
Year ended 30 June		2012	2013	2014
Revenue	\$m	112.5	101.1	99.6
Earning before interest, tax and overheads	\$m	(3.5)	(3.9)	0.4
Operating profit after overheads before tax	\$m	(16.3)	(15.0)	(11.8)

Softwood Plantation Division				
Year ended 30 June		2012	2013	2014
Revenue	\$m	197.7	203.6	220.6
Earning before interest, tax and overheads	\$m	48.8	50.0	64.4
Operating profit after overheads before tax	\$m	32.2	34.0	48.2

### Forestry Corporation revenue for the year ended 30 June 2014



## Indicator 24 – Forest certification

Forestry Corporation was externally audited to check compliance with the Australian Forestry Standard (AS4708:2007) and Environmental Management System (ISO 14001:2004) in February 2014. Three regions and the corporate systems were audited to ensure we continued to meet and exceed the environmental, social, economic and sustainability criteria of these standards.

The Australian Forestry Standard sets criteria that our forestry management must meet, including:

- undertaking forestry activities in a systematic manner that addresses a range of forest values
- providing for public participation and fostering productive community relationships, particularly with neighbours
- protecting and maintaining the biological diversity of forests, including their successional stages across the regional landscape
- maintaining the productive capacity of forests
- maintaining forest ecosystem health and vitality
- protecting soil and water resources
- maintaining forests' contribution to carbon cycles
- protecting and maintaining the natural, cultural, social, religious and spiritual heritage values of Indigenous and non-Indigenous people
- maintaining and enhancing long-term social and economic benefits.