



annual report
supplementary data tables
2014/15

PROUDLY GROWING TASMANIAN TIMBER



Forestry Tasmania



contents

The tables and graph in this document support the statements made in Forestry Tasmania's Annual Report 2014/15. The section numbering below aligns with the chapters in the Annual Report.

1 Provide the foundation for a strong and sustainable Tasmanian forestry industry

1.1 Changes to the forest estate during 2014/15	4
1.2 Land reservation in Tasmania by Forest Type	5
1.3 Area of special management zones in wood production areas	6
1.4 Native forest harvesting and regeneration summary	6
1.5 Plantation area (hectares).....	7
1.6 Plantation established on previously cleared native forest	7
1.7 Native forest regeneration success (hectares).....	8

3 Sustainably manage the forests

3.1 Area of plantation identified as having moderate or severe damage (hectares)	9
3.2 Leaf beetle IPM system results	10
3.3 Non-chemical browsing control summary.....	10
3.4 Pesticide usage in forestry field operations	11
3.5 Pesticide usage at FT nursery	12
3.6 Fertiliser usage on forestry operations - by nutrient type	12
3.7 Fertiliser usage at FT nursery & seed orchards - by nutrient type	13

3.8 Summary of energy usage and resulting CO ₂ -equivalent emissions as a result of fuel used for transport and electricity usage within our offices	13
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3.9 Smoke complaints issued to EPA	13
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4 Actively engage with stakeholders

4.1 Non-Aboriginal cultural heritage management	14
4.2 Stakeholder interaction summary	14
4.3 Education, research and community funding.....	15
4.4 Summary of compliance with Forest Practices Act 1985	15
4.5 Summary of compliance with Work Health and Safety Act 2012	16
4.6 Audits of Forest Management Systems	16

6 Provide a safe, healthy and productive workplace

6.1 Safety statistics	17
6.2 Forest activity assessments on Permanent Timber Production Zone land ..	17

1 Provide the foundation for a strong and sustainable Tasmanian forestry industry

1.1 Changes to the forest estate during 2014/15

Gazetted changes to Permanent Timber Production Zone land (hectares):

Net decrease of Permanent Timber Production Zone land ¹ (PTPZL) resulting from gazetted changes to public land classifications	-350,000
PTPZ land created by land purchase	0
PTPZ land removed through land sale	7
Total area of Permanent Timber Production Zone land at 30 Jun 2015 ¹	812,000

Notes:

1. Areas indicative only. Major remapping of all tenures between and adjoining FPPF and PTPZ land was carried out by DPIPW in 2014/15 after final proclamations, resulting in variation to tenure figures.

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1.2 Land reservation in Tasmania by Forest Type

	Tasmania			Publicly managed land ³			PTPZ ⁴ land				
	Total Tas	Area reserved		Total publicly managed land	Area reserved		Total PTPZ land	Area reserved		Non-production	Production
Forest type ¹ ('000's hectares)	(ha)	(ha)	%	(ha)	(ha)	%	(ha)	(ha)	%	(ha)	(ha)
Tall native Eucalypt forest: Eucalypt forest with current or potential height of 34 metres or more	898	449	50%	737	441	60%	332	46	14%	65	220
Short native Eucalypt forest: Eucalypt forest with current or potential height of less than 34 metres	1,555	735	47%	860	672	78%	188	33	18%	45	110
Rainforest: Cool temperate rainforest with no significant <i>Eucalypt</i> or <i>Acacia</i> spp.	565	491	87%	538	489	91%	62	17	28%	25	20
Other native forest: Including <i>Acacia</i> , <i>Melaleuca</i> spp. etc.	161	92	57%	124	90	72%	39	8	20%	18	13
Hardwood plantation	110	0	0%	56	0	0%	55	0	0%	1	55
Softwood plantation	78	0	0%	54	0	0%	54	0	0%	1	53
Non forest ²: Including scrub, moorland, farmland, rock and lakes	3,431	1,559	45%	1,767	1,533	87%	84	16	19%	52	17
Total	6,799	3,327	49%	4,137	3,226	78%	812	121	15%	205	486

Notes:

- Major remapping including tenures between FPPF and PTPZ boundaries was carried out by DPIPWE 2014/15, resulting in variation in tenure and reservation figures.
- All areas are rounded to thousands of hectares as at 30 June 2015. Figures in the 'Total' rows are not the sum of the columns but the rounded actual totals.
- The areas for forest are derived from detailed forest type mapping, which is continually updated. Generally, mapping on PTPZ land is updated annually, but remapping of other tenures is less frequent.
- Areas reported in this table include land, inland waterbodies and islands. Macquarie Island, sea and marine estuaries are excluded.

1. Private property forest areas are as advised by Private Forests Tasmania, and generally reflect forest mapping as at December 2013.
2. Because this table is derived from the spatial integration of several independently compiled datasets, some spatial discrepancies have been inherited. Areas where neither PFT nor FT forest data extends to the DPIPWE coastline are recorded as Non forest.
3. 'Other publicly managed land' includes land owned by, or vested in, Hydro Tasmania and the Commonwealth Government; municipal reserves; and private and municipal lands managed by the Wellington Park Management Trust.
4. Permanent Timber Production Zone land as defined under the Forest Management Act, 2013.

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1.3 Area of special management zones in wood production areas

Special Value	Area (ha)
Biodiversity	23,470
Cultural heritage	10,620
Geoconservation values	44,000
Landscape	43,370

Notes:

- Rounded to nearest 10 hectares.
- An area may hold multiple special values.
- Special management zones are defined as per Forestry Tasmania's Management Decision Classification system.

1.4 Native forest harvesting and regeneration summary

Native forest	2012/13 ⁵	2013/14 ⁵	2014/15
Area clearfelled	1,890	1,500	1,890
Area of partial harvesting ¹	1,910	1,610	2,780
Total area harvested²	3,800	3,110	4,670
Area regenerated ^{3,4}	3,340	3,970	6,120

Notes:

1. Excludes thinning.
2. Totals are the rounded actual totals.
3. Regeneration treatments are often undertaken in the year following the year in which harvesting was completed.
4. Refer to Table 1.7 for summary of regeneration success monitoring.
5. 2012/13 & 2013/14 previously published figures have been updated with final mapping of boundaries (from flown photography, GPS etc)

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1.5 Plantation area (hectares)

SW: softwood HW: hardwood ¹ Ownership	Net area of plantation		FT equity ⁶	
	SW	HW	SW	HW
Forestry Tasmania (FT) plantation on PTPZ land ¹	2,810	32,133	2,810	32,133
FT joint venture plantation on PTPZ land ^{1,2}	7,595	6,836	7,595	6,836
FT joint venture plantation on private land	96	193	96	193
Tassie Trees Trust plantation on PTPZ land ³	304	959	304	959
FT plantation on private land	0	221	0	221
Private plantation on PTPZ land ⁴	42,853	15,674	0	0
Total 2014/15	53,657	56,016	10,804	40,343
(Total 2013/14) ⁵	53,262	58,088	10,748	41,413

Notes:

- Figures exclude plantation areas clearfelled but not yet re-planted.
- The majority of mixed hardwood/softwood plantations are reported as hardwood.

1. Includes small areas of plantations on other Crown land (BMTA).
2. Includes softwood plantations jointly owned with Norske-Skog, for which data is supplied by Norske-Skog as at 1st June 2015.
3. Tassie Trees Trust plantations are mainly jointly-owned with private growers, but include small proportions owned solely by FT.
4. Includes softwood plantations which are owned by New Forests P/L, for which data is supplied by Timberlands Limited as at 30th June 2015.
5. Figures in the Total rows are not the sum of the columns but the rounded actual totals.
6. Includes the total area of plantation in which FT has a financial equity in the trees.

1.6 Plantation established on previously cleared native forest (i.e. where harvesting was initiated prior to 31/12/2006) (hectares)

FT-managed land ¹	2012/13	2013/14	2014/15
Annual conversion	0	0	0
Cumulative NF converted since 1996	49,320	49,320	49,320
Proportion of 1996 baseline statewide native forest ²	1.5%	1.5%	1.5%

Notes:

1. PTPZ land together with areas managed by Forestry Tasmania on other tenures (private land, Buckland Military Training Area).
2. Native forest on all tenures, as mapped in 1996 (3.21 million ha baseline).

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1.7 Native forest regeneration success (hectares)

Forest Type	0-9% (not stocked)	10-39% (ecological stocking)	40-64% (low wood quality)	65-84% (optimum)	85-100% (maximum)	Total
Dry eucalypt ¹		20	932	562	26	1,540
Wet eucalypt ¹		192	321	1,551	315	2,360
High altitude <i>E. delegatensis</i> ¹		0	0	277	37	314
Fenced intensive blackwood ¹		0	0	73	125	198
Swamp blackwood ²		0	68	40	40	149
Rainforest ²		0	0	0	0	0
Huon pine forest ²		0	0	0	0	0
Total		212	1,321	2,503	544	4,580
	% Area met standard					87%

Notes:

1. Reported three years after regeneration treatment.
2. Reported five years after regeneration treatment.

3 Sustainably manage the forests

3.1 Area of plantation identified as having moderate or severe damage (hectares)

Eucalyptus plantations:	2012/13		2013/14		2014/15	
	Moderate	Severe	Moderate	Severe	Moderate	Severe
Soil fertility/site issues	15	984	52	529	25	303
Insect damage	4,479	1,117	3,866 ³	967 ³	1,340	272 ⁴
Multiple causes	873	1,844	274	688 ²	835	1,070 ⁵
Climate / environmental	0	83	101	51	128	72
Unknown	0	45	43	457 ¹	0	9
Silvicultural	0	24	0	88	0	0
Mammal damage	72	0	0	88	0	0
Fungal diseases	0	0.1	43	0	232	570 ⁵
Weeds	19	9	27	1	111	1

Notes:

1. The severe damage of unknown cause was primarily due to an emerging problem in mid rotation Eucalyptus globulus plantations. This is currently under investigation.
2. The continuing decrease in the "Multiple causes" category reflects the successful remediation of poor crown density caused by an interaction of leaf beetle and fungal defoliation, primarily in the northeast highlands.
3. This year's surveillance incorporated a proportion of plantations on Permanent Timber Production Zone land previously owned and managed by Gunns. Around 27% of the area of insect damage was in these plantations including 31% of the severe damage. If these plantations are removed 2,849 ha of moderate damage and 665 ha of severe damage was recorded.
4. The summer of 2014/2015 saw the lowest leaf beetle populations on record with consequently reduced areas of damage.
5. There was a localized region in the northeast of the state which experienced a very wet summer resulting in an outbreak of defoliating fungal pathogens. This also contributed to the increase in the area of damage due to multiple causes.

3 Sustainably manage the forests

3.2 Leaf beetle IPM system results

Leaf beetle IPM system	2010/11 ¹	2011/12 ¹	2012/13	2013/14	2014/15
Area monitored (ha)	28,912	19,333	14,530	13,454	11,288
Area monitored that is above threshold (ha)	9,571	3,525	6,137 ²	1,543 ³	737
Area monitored above threshold treated with alpha-cypermethrin (ha)	5,576	2,361	4,741	887	451
Area monitored above threshold treated with spinosad (ha)	208	172	0	0	0
Total area treated (ha)	5,784	2,533	4,741	1,402 ⁴	451
Area monitored above threshold-natural controls (ha)	1,313	892	341	0	58
Area monitored above threshold not treated (ha)	2,786	992	1,396	696	228
% monitored area sprayed	20%	13%	33%	10%	4%
Proportion area sprayed with spinosad: cypermethrin	0.04	0.07	0	0	0

Notes:

1. Results for years prior to 2011/12 also included Gunns Lease Project plantations on State forest that were managed for leaf beetles concurrently with Forestry Tasmania plantations.
2. The population threshold for initiating control operations was lowered to "population-present" for 2719 ha of plantations on high altitude sites in northern Tasmania that were suffering from chronically thin crowns.
3. While the threshold for chronically thin crowned coupes in high altitude sites was lowered, the threshold for initiating control operations on the majority of the estate was raised, in order to concentrate the protection effort over the most vulnerable or damaged coupes, and reduce insecticide use overall.
4. Total includes 442 ha that was sprayed without the insect population having reached threshold. Spraying is permitted in coupes where the insect population is below-threshold if they are in close proximity to over-threshold coupes and it is deemed necessary as part of risk management to control the insect population.

3.3 Non-chemical browsing control summary

Treatment Type	2010/11	2011/12	2012/13	2013/14	2014/15
Number of control operations (number of coupes)	402	259	241	296	213
Number of coupes monitored	420	433	469	334	266
Length of fencing (km)	1.4	18.7	19.9	0	0
Tree guards (number of coupes)	4	3	2	0	0
Stockings/sleeves (ha)	143	155	54	76	125

3 Sustainably manage the forests

3.4 Pesticide usage in forestry field operations

		2013/14	2014/15
Active ingredient	Type	kg applied	kg applied
Glyphosate	Herbicide	1,183.1	1,489.6
Triclopyr	Herbicide	44.3	5.4
Alpha cypermethrin	Insecticide	32.1	11
Clopyralid	Herbicide	21.7	0.7
Halixyfop - methyl	Herbicide	12.2	0
Mesulfuron methyl	Herbicide	7.9	4.8
Terbacil	Herbicide	7.0	0
Sulfometuron methyl	Herbicide	0.3	0
Picloram	Herbicide	0.2	0.8
Aminopyralid	Herbicide	0.1	0.7
Hexazinone	Herbicide	<0.1	0
Permethrin	Herbicide	0	0.2
Total active		1,309.0	1,513.3

3 Sustainably manage the forests

3.5 Pesticide usage at FT nursery

		2013/14	2014/15
Active Ingredient	type	kg applied	Kg applied
Alpha Cypermethrin	Insecticide	0	0.027
Copper Hydroxide	Fungicide	1.33	0
Copper Oxide	Fungicide	0.30	0
Deltamethrin	Insecticide	0	0.002
Dicamba	Herbicide	0.90	0
Dichlobenil	Herbicide	0.001	0
Didecyl Dimethyl NH4Cl	Fungicide	0.41	1.26
Diuron	Herbicide	1.00	1.5
Glufosinate Ammonium	Herbicide	0	3.4
Fenhexamid	Fungicide	0.92	0
Glyphosate	Herbicide	17.70	0.054
Iprodione	Fungicide	0.91	1.175
Mancozeb	Fungicide	2.63	0
MCPA	Herbicide	4.35	0
N-Methyl Pyrrolidone	Herbicide	0	3.33
Oxyfluorfen	Herbicide	0	7.99
Propamocarb	Fungicide	2.40	0
Pyrimethanil	Fungicide	0	2.71
Thiram	Fungicide	1.44	1.2
Total active		34.29	22.65

3.6 Fertiliser usage on forestry operations¹ - by nutrient type

	2010/11	2011/12	2012/13	2013/14	2014/15
Nutrient type	Amount of active ingredient (t)				
Nitrogen	315.9	47.6	18.2	56.9	7.7
Phosphorus	78.6	15.3	7.9	3.1	0.25
Potassium	0.65	0.90	0.5	0.5	0.71
Copper	0.03	0.00	0	0	0
Total	395.18	63.8	26.6	60.5	8.6
Area treated (ha)	5,589	1,589	517	1,172	405

Note:

1. On Forestry Tasmania's Defined Forest Area.

3 Sustainably manage the forests

3.7 Fertiliser usage¹ at FT nursery & seed orchards² - by nutrient type

	2010/11	2011/12	2012/13	2013/14	2014/15
Nutrient type	Amount of active ingredient (kg)				
Nitrogen	543.9	540.1	91.0	100.1	37.9
Phosphorus	317.4	29.4	25.0	35.3	14.3
Potassium	308.4	112.5	50.9	61.8	12.2
Calcium	76.7	26.5	25.8	42.8	15
Total	1,246.4	708.5	192.7	240	79.6

Note:

1. Includes sales of potting mix to external customers
2. Perth nursery & seed orchards are within Forestry Tasmania's Defined Forest Area.

3.8 Summary of energy usage and resulting CO₂-equivalent emissions as a result of fuel used for transport and electricity usage within our offices

Source	Usage	CO ₂ -e ¹
Unleaded	26,141 litres	62,224
Diesel	609,766 litres	1,645,234
Oil	4,500 litres	13,142
Electricity	1,739,567 kilowatt hours	347,913
Total		2,068,513

Notes:

1. Estimates based on Australian Government Department of Climate Change, 2014. National Greenhouse Accounts Factors, www.climatechange.gov.au

3.9 Smoke complaints issued to EPA

Year	2012/13	2013/14	2014/15
Number of complaints received by EPA	21	11	19
Contributed to by FT	11	6	8

Notes:

1. Further information about air quality monitoring is produced by the EPA.

4 Actively engage with stakeholders

4.1 Non-Aboriginal cultural heritage management

Year	Number of new sites detected	Number of old sites redetected
2010/11	33	12
2011/12	16	14
2012/13	20	6
2013/14	4	2
2014/15	17	4

4.2 Stakeholder interaction summary

Stakeholder Groups	2013/14		2014/15	
	Events	Stakeholders	Events	Stakeholders
Community	258	340	495	691
Neighbours	119	168	146	236
Commercial Users	111	76	121	178
Recreational	94	99	120	189
Environmental	110	116	112	149
State government	94	162	72	219
Industry	81	92	66	140
Tourism	57	56	52	87
Local government	46	343	41	253
Scientific	48	95	39	112
Customers	39	149	34	162
Business	57	78	32	103
Educational	23	69	29	93
Contractors	21	40	25	121
Aboriginal	35	65	19	63
Media	10	17	13	25
Suppliers	5	16	13	25
Federal government	6	22	7	25
Total	799	1,670	978	2,326

Notes:

Does not include routine operational notifications.

Data collection commenced September 2013.

4 Actively engage with stakeholders

4.3 Education, research and community funding

Contributions to forest education	value (\$)
Forest Education Foundation	204,000
Research funding	
New integrated approach for ecologically sustainable forest management (University of Tasmania)	40,000
ARC linkage project on forest influence (Sue Baker)	15,700
Operational research priorities within Australia (Australian Forest Operations Research Alliance)	10,000
Community sponsorship	
Design Centre Tasmania	20,000
Timber Communities Australia	10,000
Total	299,700

Note: Figures are GST exclusive

4.4 Summary of compliance with *Forest Practices Act 1985*

	2010/11	2011/12	2012/13	2013/14	2014/15
Number of Forest Practices Plans (FPPs) certified	Not collected	Not collected	137	208	200
Written S41 notices issued to FT	0(0%)	2	2	0	0
S41 notices issued to contractors on PTPZ land ³	0(0%)	2	2	2	1
Fines or prosecutions issued to FT by Forest Practices Authority	1 (\$3,000)	0	0	1(\$500)	0
Compliance certificates outstanding as reported by Forest Practices Authority (August) ¹	0 (100%)	0 (100%)	0 (100%)	0(100%)	0 (100%)
Number of breaches of EMPCA ²	0	0	0	0	0

Note:

1. Total percentage of certificates lodged, as reported in the FPA Annual Report.
2. Environmental Management and Pollution Control Act, 1994.
3. Permanent Timber Production Zone land as defined under the *Forest Management Act, 2013*.

4 Actively engage with stakeholders

4.5 Summary of compliance with *Work Health and Safety Act 2012*

Year	2013/14	2014/15
S.191 Improvement Notice	1	0
S.195 Prohibition Notice	1	0
S.198 Non-disturbance Notice	0	0

4.6 Audits of Forest Management Systems

Year	Internal audit program	External audit program
	Number of audits	Number of audits
2009/10	5	1
2010/11	9	1
2011/12	8	1
2012/13	6	1
2013/14	7	2
2014/15	4	2

6 Provide a safe, healthy and productive workplace

6.1 Safety statistics

	2010/11	2011/12	2012/13	2013/14	2014/15
Number of direct employees	424	383	351	295	241
Number of workers compensation claims	19	16	15	13	21
% of gross wages spent on claims	0.19	0.10	0.07	0.13	0.13
Lost time injury frequency rate (LTIFR)	9.5	5.68	4.46	5.1	19.61
All claims frequency rate	22.56	22.73	22.31	22.08	41.18
Lost time injury severity rate	10.45	6.66	1.97	5.27	13.32
Harvesting contractors LTIFR	6.9	2.82	11.60	14.33	11.84

6.2 Forest activity assessments on Permanent Timber Production Zone land

	2013/14	2014/15
Activity type	Number of assessments	Number of assessments
Commercial	2	0
Community access	2	1
Fire management	1	6
Flora collection	4	2
Infrastructure	10	5
Land management	6	2
Leases	6	5
Recreation	27	17
Research	16	11