



2011-12
stewardship report



Forestry Tasmania



Vicki Walters, Executive Team Personal Assistant, in the Forestry Tasmania Innovation Showroom, Hobart.

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Front cover: The 'number one' tree in Forestry Tasmania's *Eucalyptus nitens* breeding program, growing in north-west Tasmania. Of nearly 54,000 *E. nitens* trees evaluated, this individual has the right combination of superior characteristics in growth, form and wood quality that have made it the choice parent stock for many of the *E. nitens* seedlings being planted by Forestry Tasmania today. It has a diameter at breast height of 63 centimetres at age 24 years.

E. nitens is used in plantations in areas that are too cold for *E. globulus*. Both species are an important part of the future for long-term production of high quality logs for the forest product industry.

Forestry Tasmania's decades-long work in plantation silviculture and genetics has allowed it to adapt to the changing availability of native forest timber as more areas of reserves have been declared. Its long history of applied research has seen the development of high quality eucalypt plantations that, when mature, will contribute substantially to Tasmania's timber supply. These plantations will be of major importance as we take advantage of the new opportunities envisioned in the *Forestry Innovation Plan*.





Sustaining biodiversity and habitat

- ✓ We completed a major project that showed informal reserves and 'set-asides' in wood production areas maintain biological diversity in production forest landscapes to a level that is comparable to that in and around large reserves.
- ✓ We continued to consult with the Forest Practices Authority in developing a planning system that delivers better conservation outcomes by retaining areas of mature forest within wood production landscapes.
- ✓ We continued to assess the environmental impacts of proposed activities undertaken in our reserve system. This year we assessed 17 different activities using our State forest Activity Assessment process.
- ✓ By harvesting only 147 hectares of old growth forest using clearfelling, we achieved our Tasmanian Community Forest Agreement target of harvesting less than 330 hectares of old growth forest using this silviculture. We harvested a further 456 hectares using partial harvesting techniques.
- ✓ We added 10 new trees to our giant tree register. Most of these were found using our innovative LiDAR (Light Detection and Ranging) technology.

Sustaining jobs for current and future generations

- ✗ We recorded an operating loss (after tax) of \$27.6 million, reflecting the difficult economic circumstances surrounding our business.
- ✓ We produced 1.36 million tonnes of logs, with a final product value of \$314 million. This is the equivalent of employing 5,500 Tasmanians.
- We paid suppliers, contractors and employees \$132 million (down from \$172 million in 2010/11).
- ✓ Evaluation of 9,377 hectares of native forest regenerated showed that 96 per cent met our regeneration stocking standards, which is above our benchmark of 85 per cent.
- ✓ Of the 2,567 hectares of native forest that we sowed with seed, 75 per cent met our strict seed provenance requirements. This is the best result on record.
- ✗ We found it difficult to regenerate all harvested coupes within the prescribed period due to smoke management issues, coupe complexity and wet weather conditions. However, we have developed plans to deal with the carry-over.
- ✗ Our logging assessments showed that we left excess residue on the forest floor this year, due to the market conditions that made it difficult to export our harvest arisings.
- ✗ Scheduled thinning and fertilising of some plantations were not undertaken, due to market and budget considerations.
- ✓ Work progresses on our *Forestry Innovation Plan*, with the development of Hardlam, a laminated veneer lumber product.

Sustaining carbon stores, clean air, water and healthy forests

- ✓ We had no chemical detections in the 56 stream water samples we took near our chemical applications.
- ✓ 94 per cent of the chemical application operations we classified using the Pesticide Impact Rating Index were low to very low risk.
- ✓ We measured and modelled plantation water use. This work now enables us to examine how our operations affect landscape level water production.
- ✓ We reduced our use of herbicides and pesticides by 896 kilograms on the previous year's usage. We applied a total of 1,810 kilograms of active ingredient to 3,374 hectares.
- ✓ We had no major hydrocarbon or chemical spills. We had one minor herbicide overspray incident, which caused the deaths of six trees in an adjacent private eucalypt plantation.
- ✓ We conducted 187 planned burns, of which only two led to significant air quality issues in the St Helens and D'Entrecasteaux Channel areas. We have implemented new measures to further reduce the likelihood of air quality impacts.
- ✓ We reduced our fossil fuel carbon emissions from transport and electricity use by 25 per cent compared with 2010/2011.

Sustaining safety, community access and heritage

- ✓ We achieved our best safety performance on record, with only 5.68 lost time injuries per million hours worked – comfortably achieving our performance target of eight. This statistic was 50 per cent less than our previous lowest figure.
- ✓ We were not issued with any infringement notices under the Workplace Health and Safety Act.
- ✓ The community continues to support our open days, with an estimated 1,800 people attending our Head Office to take part in activities and to learn about forest management.
- ✗ Budget constraints reduced our capacity to maintain all non-essential roads in our 13,500-kilometre network. However, Australian Government funding under the Natural Disaster and Recovery Relief Arrangements allowed us to repair the storm damage on some major tourist roads in north-east Tasmania.
- ✓ Our *Going Bush* television series went national, incorporating stories from around the country's forests for the first time.
- ✓ We continued to provide sponsorship under the Forestry Tasmania-Southern Cross Community Assist Program.

Sustaining science-based stewardship

- ✓ We retained our Australian Forestry Standard certification following a comprehensive and stringent audit across the full scope of our operations. The independent auditor made particular mention of the professionalism of our team.
- ✓ An investigation initiated by the Programme for the Endorsement of Forest Certification cleared us of assertions of over-harvesting made by Professor Jonathon West in his Independent Verification Group Chairman's Report. The auditor determined we had applied best practice in determining sustainable yield.
- ✓ Our research staff authored 22 technical reports and 18 peer-reviewed papers, delivered 21 conference presentations, maintained the Warra Long Term Ecological Research site, hosted nine lunchtime talks and led numerous field days.
- ✓ We invested \$3 million in forest research.
- ✓ We have increased efficiency and are well placed to meet the challenges of the future by reducing our staff head count by almost 10 per cent, from 424 to 383. This equates to 349 full-time equivalent staff as of 30 June 2012.
- ✓ Audits of our operations by the Forest Practices Authority continued to show that our forest practices planning and operations rated 'above sound' on all 11 criteria examined, a result that was above our own internal performance benchmark.
- ✗ The Forest Practices Authority issued us with two infringement notices under the Forest Practices Act. We have since rectified both issues.
- ✓ We continued to maintain our capacity as a Registered Training Organisation, with eight staff completing Certificate IV in Training and Assessment.

the year AT A GLANCE

Year at a glance 2012

	2009/10	2010/11	2011/12
Forest estate ('000 hectares) at 30 June			
Total State forest (includes forest reserves) ¹	1,490	1,490	1,490
Total forest reserves	222	222	222
Total plantations ²	107	109	108
Area certified to Australian Forestry Standard ³	1,504	1,506	1,505
Forest areas established ('000 hectares)⁴			
Native forest treated for regeneration	9.2	8.1	4.4
Hardwood plantations established (includes replanting)	1.4	0.7	0.9
Softwood plantations established (including replanting)	1	0.9	1.1
Native forest area harvested ('000 hectares)⁴			
Clearfell, selective harvesting and thinning ⁵	8.7	10.5	2.6
Wood production			
Hardwood – high quality sawlog (m ³)	210,538	196,702	109,946
Hardwood – sawlog, veneer and peeler – all grades (m ³)	559,888	691,103	584,284
Hardwood – pulpwood (tonnes)	1,388,986	1,376,554	315,037
Hardwood – plantation pulpwood (tonnes)	179,495	171,205	61,303
Softwood – sawlog (m ³) ⁶	252,298	269,985	18,930
Softwood – pulpwood (tonnes) ⁶	276,206	353,092	255,543
Special timbers sawlog	12,887	14,477	12,486
Fire management services			
Number of fires attended	65	36	51
Area of State forest burnt (hectares)	6,461	375	447
Cost of suppression (current values \$'000)	3,701	133	304
Roads			
Constructed (kilometres)	109	104	56
Employment			
Lost time injury frequency rate	8.6	9.5	5.7
Operating revenues per employee (\$'000)	312	415	270
Earnings before interest and tax per employee (\$'000)	(14)	(20)	(80)
Wood production per employee (tonnes)	5,179	6,750	3,237
Finance (\$'000) ^{7,8}			
Operating revenue (including interest)	160,119	175,968	103,484
Operating expenditure before costs of non-commercial zones	(161,323)	(179,307)	(128,682)
Profit (loss) after tax, before other items	(12,261)	(12,090)	(27,598)



Regrowth from harvesting, Styx Valley.

Notes:

1. Excludes crown land (Buckland Military Training Area) managed by Forestry Tasmania.
2. Figures exclude plantation areas harvested but not yet replanted, and former plantations which are now managed for recreation within Forest Reserves. Includes all plantations in State forests and Forestry Tasmania managed plantations on other land tenures.
3. This area excludes some leases over State forest, and joint venture and leasehold plantations that are not managed by Forestry Tasmania, but may be separately certified. It also includes waterbodies outside State forest from which FT is licensed to collect and salvage floating and beached native softwood special timbers.
4. Figures are for operations that were completed during the 2011/12 financial year
5. Thinning includes both commercial and non-commercial thinning.
6. These data exclude harvesting from softwood plantations on State forest owned by New Forests Pty Ltd and Norske Skog.
7. Changes in reporting format relating to treatment of unfunded superannuation liability are reflected in 2010-11 and 2009-10 statistics. Comparisons prior to 2009-10 are not available.
8. Full details of the financial statements are provided in Appendix 1.

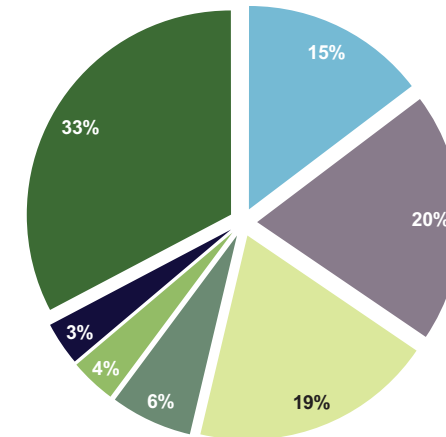
OUR ORGANISATION

Forestry Tasmania is entrusted by the Parliament of Tasmania with the stewardship of the 1.5 million hectares of State forest on public land within the State. This land contains approximately 39 per cent of Tasmania's forests. Less than half of State forest (706,000 hectares) is available for wood production, with the rest being set aside for conservation and recreation.

We are a government business enterprise employing 340 full-time equivalent employees and 859 contractors. We have a Head Office in Hobart and four district offices around the State.

In 2011/12, 1.36 million tonnes of sawlog, veneer log and pulpwood were harvested from State forest for processing into sawn timber, rotary peeled veneer, and pulp and paper products. The estimated final value to the Tasmanian economy of wood products produced from State forest timber was \$314 million in 2011/12.

Land use on State forest and areas managed by Forestry Tasmania
(includes Buckland Military Training Area)



- Forest reserves
- Informal reserves
- Native forest outside wood production areas
- Special timbers zone
- Hardwood plantation
- Softwood plantation
- Native forest available for wood production

OUR PURPOSE

Our vision

Tasmania's State forests will be a globally trusted source of sustainable timber and other forest products and services for this and future generations.

Our mission

Forestry Tasmania manages State forests for optimum community benefit, using environmental best practice to create long-term wealth and employment for Tasmanians.

Our values

- We care for people and their environment.
- We get things done.
- We do what we say we will do.
- We are proud of who we are and what we do.
- We think before we act.

Statement of corporate intent AND BUSINESS OVERVIEW

Forestry Tasmania's fundamental statutory responsibility is to manage 1.5 million hectares of State forest, representing 22 per cent of Tasmania's total land area and 39 per cent of its forested land area. Its main undertaking is the sustainable management of Tasmania's State forests to optimise community benefit, including the sustainable production and delivery of forest products and services, the facilitation of new forest-based industries, the conservation of natural and cultural heritage values and the provision of education, recreation and tourism services.

This responsibility is delivered through the following key activities:

(a) management of native forests, hardwood plantations and softwood plantations, including the planning, conduct, monitoring and review of operations to access, assess, establish, tend, protect, monitor, conserve and/or harvest forests; and

(b) supply of forest products and services under negotiated contracts, to businesses in Tasmania, elsewhere in Australia and overseas.

In addition to its main undertakings, and the key activities that support them, Forestry Tasmania engages in the following other activities:

(c) part ownership of various softwood plantation and hardwood plantation joint ventures, e.g. with Plantation Platform Tasmania, Gunns Limited ("Gunns") and Norske Skog;

(d) ownership of Newood Holdings Pty Ltd, established to develop new forest industry infrastructure at the Huon and Smithton Wood Centres;

(e) ownership of Adventure Forests brand and portfolio of commercial tourism properties. Tahune AirWalk and Maydena Adventure Hub are wholly owned by Forestry Tasmania, Hollybank Treetops Adventure is 50 per cent owned by Forestry Tasmania, and Tarkine Forest Adventures is leased to a private operator; and

(f) ownership of Forest Services International, providing external consultancy services based on Forestry Tasmania's international reputation as a leader in forest research, forest assessment, forest management and forest product development.

Forestry Tasmania's underlying ethos is sustainability and stewardship. Its forest management activities are certified under the internationally recognised Australian Forestry Standard. Forestry Tasmania operates under specified criteria, in relation to its targets for environmental, economic and social sustainability. These criteria are published in Forestry Tasmania's Sustainability Charter. Forestry Tasmania reports its performance against each of these criteria in its annual Stewardship Report.

It is a requirement for government business enterprises to include a Statement of Corporate Intent in their annual reports. However, the Premier and Treasurer has advised that it would be inappropriate to finalise a Statement of Corporate Intent at this time, because of the current level of uncertainty facing the business. The Treasurer has therefore

exempted Forestry Tasmania from the requirements of the Treasurer's Instructions (GBE 08-55-04) to include the Statement of Corporate Intent in this year's report.



corporate GOVERNANCE

The Board of Directors of Forestry Tasmania comprises five independent non-executive Directors and the Managing Director. It is responsible for the overall corporate governance of the organisation.

This includes setting strategic direction, overseeing financial performance and business affairs, setting management goals and monitoring management's performance.

The Board of Directors is responsible directly to the Treasurer and the Minister for Energy and Resources for its operations.

All current Directors have been appointed in accordance with the *Forestry Act 1920* and their responsibilities are outlined in the *Government Business Enterprises Act 1995*. As a result of recent changes in legislation future appointments will be in accordance with the

Government Business Enterprises Act. Remuneration fees for non-executive Directors are set by government.

The Board aspires to a high degree of ethical behaviour and accountability and has developed a set of policies and procedures to govern its operations in accordance with these principles.

Monthly reports on operations and finance are supplied to the Board about the outputs of the organisation. This is reviewed monthly with senior managers, who also regularly contribute advice on strategic issues to the Board.

The Board visits operating sites and major customers as part of its corporate governance role. The Chairman of the Board has meetings from time to time with the Minister for Energy and Resources, and reports quarterly financial performance to the Treasurer.

Board of Directors

Adrian Kloeden (Chairman) – MSc (BusStudies) *Lond*, BScFor (Hons) *ANU*, FAICD

Humphrey J Elliott – BScFor *ANU*, DipAgricEnt *Syd*, PhD *Syd*

Miles Hampton – BEc (Hons) *Tas*, FCPA, FCIS, FAICD

Geoff Coffey – FCPA, ACIS, ACIM, GAICD, Dip FP

Robert Smith – BScFor (Hons) *ANU*, MSc (ResEcon) *Purdue*, PhD *Purdue*, MBA *Macquarie* (appointed 9 July 2012)

Robert L Gordon – BSc, MIFA, MAICD, FAMI

Deborah Radford – BEc *LaTrobe*, GradDipFin&Inv
SecInstAust (retired 30 June 2012)

Secretary to the Board

Sue Shoobridge – BCom, FCPA, FAICD

The following is also noted with respect to the Board:

- All the Directors are soundly experienced in corporate law and governance issues.
- The combined skills of the Directors include corporate management, marketing, finance and forest management.
- The Directors adhere to the Forestry Tasmania Corporate Governance Policy and Human Resources Policies and Procedures.

The Directors have fully reviewed the set of Guidelines for Tasmanian Government Businesses produced by the Department of Treasury and Finance in October 2008 and have considered their application to the governance of Forestry Tasmania.



Forestry Tasmania Board of Directors 2011/12: (L-R) Bob Gordon, Humphrey Elliot, Geoff Coffey, Deborah Radford, Adrian Kloeden and Miles Hampton.

reporting STRUCTURE AND SCOPE

This Stewardship Report combines reporting against the objectives and aims in our Sustainability Charter with our annual financial report, to provide a comprehensive analysis of our economic, environmental and social performance.

Information in this report provides a summary of our performance for the 2011/12 financial year. Footnotes are used to clarify data collected on a calendar year basis.

The 2011/12 financial statements and the sustainable forest management data underpinning this report are available as appendices on the DVD accompanying this report, and may also be downloaded from forestrytas.com.au

Our Sustainability Charter, released in November 2008 after three rounds of stakeholder input, provides a 10-year framework for the sustainable management of Tasmania's State forests. Accordingly, it also provides the structure to this report. This will be the fourth year that we have used this format for our annual report data collection methodology. There has been no significant change in the scope or boundary of our reporting since our previous report.

We expect areas of interest will change over time and the content of the Stewardship Report will be modified year to year to ensure the document remains useful and relevant to our stakeholders. However, most of the data tables used in this report will continue to be provided in future years, so that long-term trends become apparent over time. Any corrections to information provided in earlier reports are noted in the footnotes of the relevant tables.

In addition to reporting against the Sustainability Charter, we have again chosen to report against the G3 Global Reporting Initiative sustainability reporting guidelines. These voluntary guidelines are recognised throughout the world. Through the self-assessment process, this report fulfils application level 'C' of the Global Reporting Initiative guidelines.

The Global Reporting Initiative content index is available at the end of this report and shows the Global Reporting Initiative indicators against which we have reported, and where this information can be found.

Read more about the Global Reporting Initiative at:
globalreporting.org

The Stewardship Report covers all the processes and activities involved in the management of State forests. This includes forest land management, road establishment and maintenance, plantation and native forest timber establishment and maintenance, timber harvesting and sales, and tourism and recreation management and development. Where Forestry Tasmania is a joint venture partner, Forestry Tasmania's share of the contribution or benefits is specified.

The 'year at a glance' section provides a quick reference to some of this year's statistics. The 'report card' section provides a snapshot of our overall performance, showing the areas where we have been successful in improving our performance and acknowledging those areas where more focus and improvement is required. We also have a 'where to next' section that identifies our main priorities for the coming

year. This is set within the framework of our sustainable forest management objectives and our corporate objectives.

The majority of the data used in this report have been obtained through internal data sources such as our forest operations database (an in-house asset management system) and through the overlaying of spatial information using our geographical information systems. The remaining data have been obtained from external sources such as the Forest Practices Authority and the Department of Primary Industries, Parks, Water and Environment.



message FROM THE CHAIRMAN AND MANAGING DIRECTOR

The difficult market conditions and ongoing political uncertainties made for a most challenging set of circumstances in 2011/12.

Indeed the year under review has almost without doubt been the most challenging period since our organisation was corporatised in 1994.

Financial results

Our trading results were significantly impacted by the closure of the Triabunna woodchip export facility, our inability to export woodchips through the Burnie Port, the closure of the Southwood sawmill, the effect of a high Australian dollar, campaigns against overseas customers by activists outside the Tasmanian Forests Intergovernmental Agreement process, and the lingering effects of the global financial crisis in our established export markets.

Timber sales revenue fell by \$67 million to \$89.4 million. Reflecting lower sales volumes, payments to forest contractors also fell by \$38.6 million to \$50 million. To offset the significant decline in revenue, senior management continued an aggressive program of cost savings, including reducing the size of the workforce to 349 full-time equivalent staff.

Despite these mitigation measures, the 2011/12 operating loss was \$27.6 million – up from \$12 million the previous year.

The total comprehensive loss included substantial negative adjustments relating to unfunded superannuation liabilities and reversal of accumulated increments relating to the sale of the softwood joint venture.

The 2011/12 financial year saw a modest increase in the value of our biological asset – standing timber – as a result of a valuation by James W Sewall. In the absence of any clarity around the outcome of the Tasmanian Forests Intergovernmental Agreement and Statement of Principles process, the Directors determined that the most appropriate valuation to use this year was that which most accurately reflects Forestry Tasmania's current contractual commitments.

In December, we announced that Taswood Growers' joint venture partners, GMO Resources and Forestry Tasmania, had agreed terms for the sale of the forestry rights to its 46,000-hectare plantation estate to New Forests for \$156 million.

Forestry Tasmania's proceeds from the sale were \$76 million, which was used to retire debt and to maintain working capital.

The Tasmanian Government has set aside \$35 million in contingency funding for the coming financial year to support FT if necessary as the industry moves through transition phases associated with the Tasmanian Forests Intergovernmental Agreement and the outcomes of the URS strategic review.

As foreshadowed in last year's report, during the year we formally lodged an application to the Tasmanian Government for funding for Community Service Obligations. This matter remains under government consideration, pending the outcome of the URS strategic review of our business.

Tasmanian Forests Intergovernmental Agreement and URS strategic review of Forestry Tasmania

The strategic certainty that we had anticipated at this time last year has not eventuated.

Managing the impact of the delay in finalisation of the Tasmanian Forests Intergovernmental Agreement ('the Agreement') and the URS strategic review of our business has been very challenging.

While not a signatory, Forestry Tasmania was actively involved in assisting industry and environmental negotiators involved in the Agreement process, by providing accurate and up-to-date resource modelling. The data we have provided to the process have been independently verified on numerous occasions by external experts appointed by the Australian and Tasmanian governments.

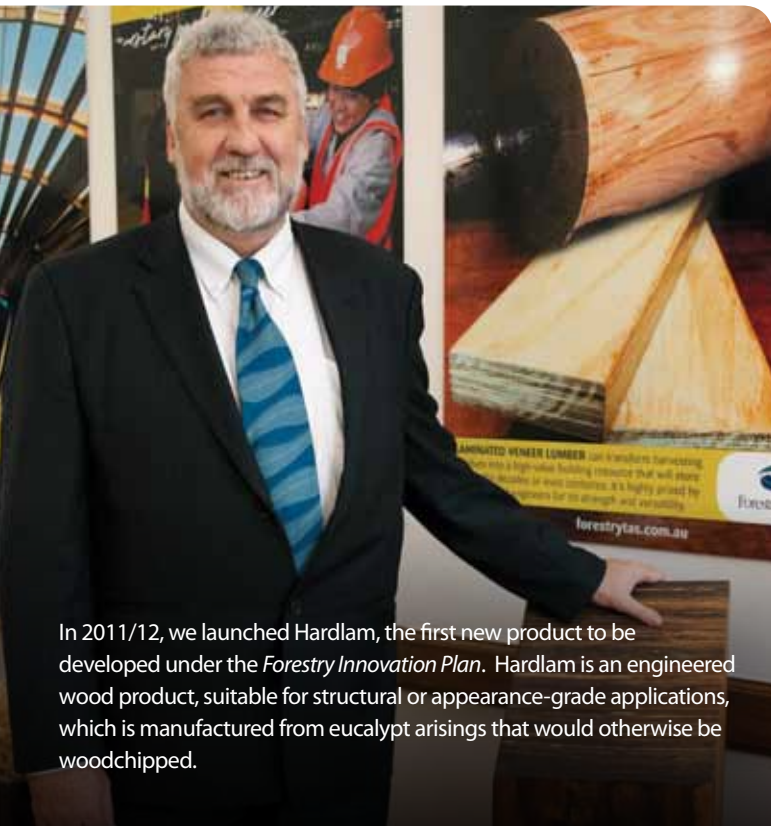
It is our hope that both the Agreement and URS strategic review will be finalised as soon as possible. It is only in that context that we can determine the appropriate actions necessary to return to profitable trading.

Prospects

Looking to the future there is evidence that market demand remains strong for some products and is recovering for other products. We are confident that, providing we can offer certainty of supply and secure the necessary port access, the business is well placed to meet future wood product demand.

message FROM THE CHAIRMAN AND MANAGING DIRECTOR

Forestry statistics produced by the United Nations' Food and Agriculture Organisation show global demand has significantly shifted within wood product categories over the past decade: worldwide there was a three per cent decrease in export volumes of sawn timber between 2000 and 2010, combined with a 34 per cent increase in export volumes of wood panels (which include plywoods and other manufactured wood products). With these trends expected to continue, overall demand for wood products is also expected to increase over the next 10-15 years, led by growth in China. Other key development areas will be biofuels.



In 2011/12, we launched Hardlam, the first new product to be developed under the *Forestry Innovation Plan*. Hardlam is an engineered wood product, suitable for structural or appearance-grade applications, which is manufactured from eucalypt arisings that would otherwise be woodchipped.

Global supply, however, will not keep pace with this demand, as forestry will compete with other land uses such as agriculture and, in North American markets, is expected to be subject to continued pressure from environmentalists. In response, forestry investment is forecast to expand in the Southern Hemisphere, placing industry capacity close to growing markets.

Forestry Innovation Plan

Against this background, we have forged ahead with our *Forestry Innovation Plan*, launched in the previous reporting period, as a blueprint for developing new engineered wood products and renewable energy industries in Tasmania.

The plan is based on a future resource supply scenario of approximately 155,000 cubic metres of sawlog, as well as the arisings from that harvest, and seeks to transform Tasmania into a regional processing centre for in-demand products such as laminated veneer lumber and torrefied wood.

In a significant milestone, we launched Hardlam, the first new product to be developed under the plan, at the Australian Woodworking Industry Suppliers Association exhibition in Sydney in 2012. Manufactured from eucalypt arisings that would otherwise have been woodchipped, Hardlam is a versatile and strong product suited to a range of structural and appearance-grade applications.

Certification and sustainability

Away from the strategic challenges that weighed so heavily during the year, it was gratifying to see our business recertified under the Australian Forestry Standard for another three years. Simultaneously with the recertification, we were also formally cleared of claims that we had been over-harvesting State forest, which had been made by Professor Jonathon West in his Independent Verification Group Chairman's Report for the Agreement. The investigation into Professor West's claims was led by Australia's foremost expert in forest sustainability, Emeritus Professor Ian Ferguson, who found we had followed best practice in our determination of sustainable yield.

The recertification followed an extensive audit of our business by independent conformity assessment body, NSCI. In a great boost to our team's morale, the auditor made particular note of our staff culture of professionalism, which is so often overlooked by our critics. To quote from its report:

"The auditors noted the high level of professionalism and commitment from staff involved in the audit process. It is clear that staff take pride in their work and endeavour to deliver the highest possible standards in all aspects of forest management. Where opportunities for improvement were identified, staff responded positively and constructively."

Safety outcomes

Forestry Tasmania achieved its best ever safety result in 2011/12. In an exceptional outcome, the key performance indicator of the Lost Time Injury Frequency Rate, which measures the number of lost time incidents per one million hours worked, fell by 43 per cent: from 9.50 in 2010/11 to 5.68 in 2011/12.

The result follows the introduction of programs such as the 'Safety Circle' training program and 'Crash Free' driver training, as well as Root Cause Analysis for safety incidents. Our staff are to be congratulated for this result, most particularly because they improved safety outcomes at a time of such uncertainty for the forest industry.



Adrian Kloeden
Chairman



Bob Gordon
Managing Director

After 12 years as a member of the Forestry Tasmania Board – five as Chairman – it is time for me to move on.

While I was due to retire at the end of the financial year, I remained as Chairman until September to help guide the organisation through the final stages of the Intergovernmental Agreement and the Strategic Review.

The past few years have been challenging for the Board, management and staff, but I am and will remain an admirer of the professionalism and resilience of all associated with Forestry Tasmania.

I am proud of the economic contribution Forestry Tasmania has and will continue to make, as well as the steadfast adherence to forest stewardship and environmental outcomes.

I would like to wish the Board the very best for the future. To the management and staff, thank you for your support and loyalty for the past dozen years.



Outgoing Chairman Adrian Kloeden.

sustaining BIODIVERSITY AND HABITAT



The masked owl, one of many species on State forest for which we must implement effective landscape-level conservation planning.

Managing biological diversity is a key part of our role, as a considerable area of land managed by Forestry Tasmania forms an important component of Tasmania's reserve system. We also ensure that old growth forest, rare and threatened vegetation communities, habitats and threatened species are maintained outside reserves.

Science informs us that not all values can be represented in any one part of the forest estate at a particular time. Our aim, therefore, is to ensure that these values are maintained across the landscape and across various age classes.

Reserve system

The Comprehensive, Adequate and Representative reserve system was established under the Regional Forest Agreement to:

- include the full range of vegetation communities;
- ensure the level of reservation is large enough to

maintain species diversity, as well as community interaction and evolution; and

- conserve the diversity within each vegetation community, including genetic diversity.

In State forests the Comprehensive, Adequate and Representative reserve system is made up of formal reserves (known as forest reserves) and informal reserves.

All reserves are zoned for protection under our Management Decision Classification system. Formal reserves have been proclaimed by Parliament. While the informal reserve system is also used to maintain Comprehensive, Adequate and Representative reserve values identified in the Regional Forest Agreement, its physical configuration may be adjusted to meet forest management requirements, provided the overall level of protection of reserve values is maintained.

Area protected in State forest

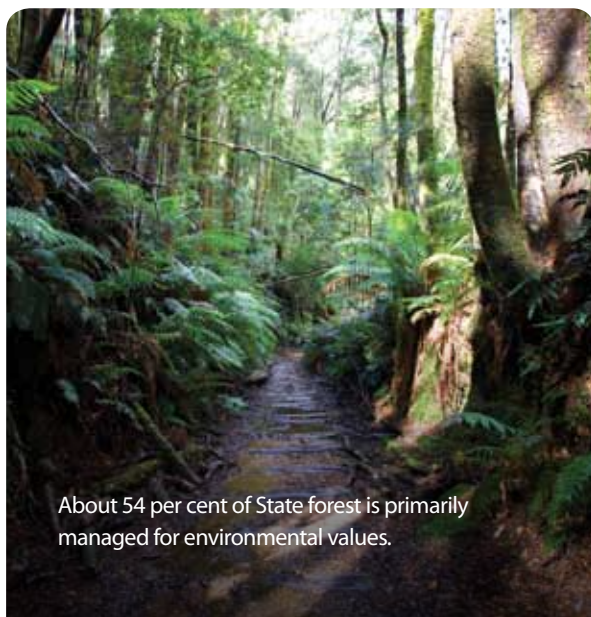
Land classification State forest ¹ area (ha)	2007/08 ⁵	2008/09	2009/10	2010/11	2011/12	(%) SF area at 30/06/12
Forest Reserves	222,200	222,100	221,900	221,900	221,900	14.7%
Informal Reserves	295,600	298,000	299,100	300,500	301,300	19.9%
Outside wood production areas ^{2,3}	295,500	306,900	278,000	282,800	288,000	19.1%
Non-production total⁴	813,400	827,000	799,000	807,300	811,300	53.7%

Notes:

1. Area includes Buckland Military Training Area managed by Forestry Tasmania.
2. Areas currently not part of the wood resource due to such factors as non-commercial forest, excessive slope, streamside reserves, inaccessibility, etc.
3. Reduction since 2008/09 is as a result of assigning areas to Special Timbers Zones.
4. Figures in total row are not the sum of the columns but the rounded actual totals. Percentages based on actual areas.
5. Some figures amended to include reserved plantations within reserves, rather than production forest.

Comprehensive, Adequate and Representative reserves provide security for species that might otherwise be disadvantaged by production forestry. They provide continuity of habitat and, for many plants and animals, recolonisation sources. In this sense, Comprehensive, Adequate and Representative reserves have ecological 'influence' over the surrounding production forest, with the level of influence proportional to the distance from the reserve to the production forest (refer to article right: *Assessing the effectiveness of our Comprehensive, Adequate and Representative reserve system*).

About 54 per cent of the State forest estate is primarily managed for the protection of environmental values, including nearly 35 per cent within the Comprehensive, Adequate and Representative reserve system and another 19 per cent that lies outside areas identified for timber production.



About 54 per cent of State forest is primarily managed for environmental values.

Assessing the effectiveness of our Comprehensive, Adequate and Representative reserve system

Our scientists recently completed a study that has provided important new knowledge about how our management works to maintain biodiversity throughout production forest landscapes. The study was done in the Southern Forests Experimental Forest Landscape: a 100,000-hectare landscape dominated by tall, wet eucalypt forest (predominantly *Eucalyptus obliqua*) extending from the Tasmanian Wilderness World Heritage Area to the Huon estuary near Geeveston.

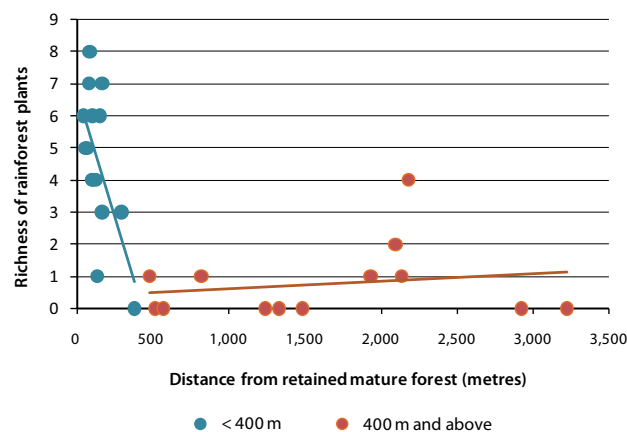
We found that mature eucalypt forest retained in the most intensively managed parts of that landscape continued to support similar populations of those species most sensitive to disturbance as similar forest in the least modified parts of the landscape. Thus, by using informal reserves and other set-asides (for example, to meet Forest Practices Code prescriptions) within production forest landscapes, we can maintain mature forest biodiversity comparable with that in and around large reserves.

An important role of retained mature forest is to assist species to recolonise harvested areas. We found that areas that were clearfelled 30-50 years previously were being recolonised by rainforest species when there was mature forest within 400 metres. Below this threshold distance, the abundance and richness of mature forest species in 30-50-year-old silvicultural regeneration rose steeply with decreasing distance to the retained mature forest.

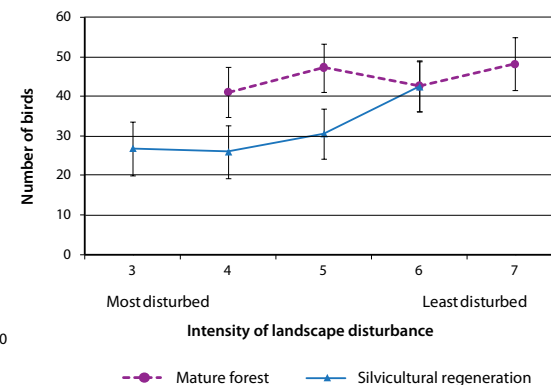
Together, these findings provide an ecological underpinning to guide the management of tall, wet eucalypt forests in a way that will ensure key elements of mature forest biodiversity are maintained throughout production landscapes.

More information on this study may be found at the Forests and Wood Products Australia website: fwpa.com.au

Number of wet forest dependent birds recorded in mature eucalypt forest and 30-50-year-old silvicultural regeneration that were situated in landscapes with differing intensities of disturbance



Richness of rainforest plants in 30-50-year-old silvicultural regeneration at differing distance from retained mature forest



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State forest activity assessments

Those activities that occur in forest reserves, or those that are not covered by the forest practices system, are assessed using our State forest activity assessment process. These activities range from recreational events through to communication towers, construction of visitor facilities, new beekeeping sites and, in some cases, scientific research.

The State forest activity assessment process ensures that natural and cultural values (such as flora, fauna, geology, soil, water and heritage), stakeholder values and operational needs can be assessed and considered, and that potential negative effects of the activity can be mitigated or avoided. It also ensures that any proposed activities occurring on State forest meet legislated requirements.

Although the State forest activity assessment process has now been established for several years, new challenges continue to arise both with proposed developments and the need for continuous improvement. The latter of these issues saw the commencement of a comprehensive review of the entire process during 2011/12. Although it is still in progress, the review aims to streamline the process so that it can be applied more efficiently to a wider scope of activities. As we continue to pursue better environmental outcomes, a goal for the year ahead is for a more robust and efficient system that allows for more effective assessments and clear prescriptions for activities.

While the process doesn't aim to prevent any activity or event occurring on State forest, our obligation for responsible management has resulted in one proposed

activity over the past year not being allowed due to the sensitive environment of the forest reserve in which it was proposed to occur. There have also been several successful events that were made possible through the flexible attitude of event organisers, who were willing to follow prescriptions suggested by Forest Practices Authority experts, despite being under no legislated obligation to do so. These events highlighted that although active recreation events such as four-wheel driving and motocross events, can provide some of the bigger management challenges for activities on State forest, successful stakeholder engagement and the pro-active attitudes of forest planners can result in positive outcomes.

The table below reports the State forest activity assessments that have been conducted for forest reserves, as part of our obligation to manage reserves in accordance with the Reserve Management Code of Practice.

State forest activity assessment in forest reserves (Non-harvest related activities covered by an assessment)

Type of Activity	2007/08	2008/09	2009/10	2010/11	2011/12
Fuel reduction burns	5	0	4	8	1
Tourism infrastructure	2	1	7	4	0
Roads and related infrastructure	1	1	3	5	2
Water and utility infrastructure	2	0	2	1	8
Recreation events	1	0	9	4	2
Other	0	9	2	5	4
Total	11	11	27	27	17

Note:

- Permits are issued for third-party collection activities on State forest, mostly of plant specimens for research purposes.

Biodiversity

We ensure the integrity of biodiversity in State forests by maintaining our permanent native forest estate, maintaining our part of the Comprehensive, Adequate and Representative reserve system, and applying and adhering to the Forest Practices Code. The maintenance of a permanent forest estate means that 95 per cent of native forest as mapped in 1996 is to be maintained as native forest on a statewide basis. This objective is achieved through Tasmania's permanent native forest estate policy and is given effect by the Forest Practices Authority through Forest Practices Plans. Forestry Tasmania has its own, more stringent guidelines for maintaining its permanent native forest estate. These prohibit broad-scale conversion of native vegetation in State forest.

We use our Management Decision Classification system to assist us in managing biodiversity values across State forests. Under this system, land is divided into management zones according to its availability for wood production. Management zones help balance competing demands across the forest estate. They make it easier to prioritise management objectives and enable areas with particular values to be identified and managed to protect, maintain and enhance these values.

Through this system, all land is initially classified in primary zones according to whether it is to be managed for production or protection. A second tier of Special Management Zones is then used to define and indicate where management for special values is needed.

Threatened species, communities and habitats

We manage threatened species, communities and habitats in accordance with the Regional Forest Agreement and Tasmanian Community Forest Agreement, threatened species legislation and the Forest Practices System. The statewide network of formal and informal reserves includes viable examples of all 50 forest types described in the Regional Forest Agreement.

We pro-actively manage threatened species and apply management prescriptions at both the strategic and local level. At the strategic level, together with specialists from the Forest Practices Authority and the Threatened Species Section of the Department of Primary Industries, Parks, Water and Environment, we develop strategic plans for

the management of threatened flora and fauna species in State forests. At the local level, we identify threatened species through searches undertaken as part of our operational planning. We then develop Forest Practices Plans containing specific prescriptions to protect special values.

Areas managed for additional protection of biodiversity values in State forests*

Area managed (hectares)	2007/08	2008/09	2009/10	2010/11	2011/12
Biodiversity spines	201,500	201,800	201,100	201,100	201,100
Fauna	63,100	92,900 ¹	80,900	81,300	82,000
Flora	399,600	386,800 ²	388,100	389,800	391,000
Wildlife habitat strips	72,600	71,900	71,700	72,600	72,600

Notes:

* These management categories are not mutually exclusive.

1. Change in methodology from previous years. Previously wildlife habitat strips were simply subtracted from total fauna area, but this then meant that any wildlife habitat strips that also had other fauna values were not counted for those fauna values. From 2008/09, they were run as separate queries, which showed that in fact about 30,000 ha in wildlife habitat strips also have other specific fauna values.
2. The area in 2007/2008 included some erroneous polygons, which had no giant trees. These were removed in 2008/2009 as part of a management decision classification review.



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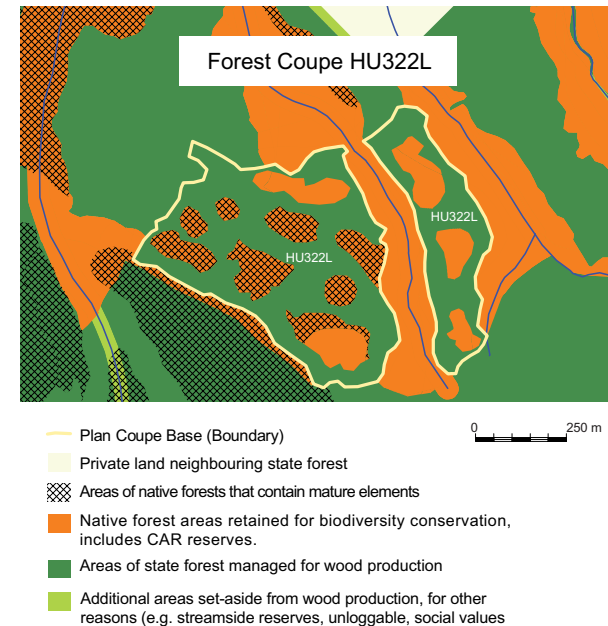
Developing a simple planning system for landscape-level conservation

Effective conservation planning requires knowing how forest management affects biodiversity and how biodiversity responds to this management. It also requires balancing biodiversity conservation outcomes with social and economic priorities. Forestry operations take place within individual harvesting areas (coupes), in accordance with Forest Practices Plans. Yet in State forest they form part of a broader schedule of operations that are planned for a particular period, such as a three-year period or longer, across the landscape. Many conservation issues, such as management requirements for threatened species, are evident at this larger scale. For instance, the home range of a single masked owl may encompass hundreds of hectares of forest; swift parrots may nest in mature forest several kilometres from the blue gums in which they forage; keeled snail populations recover as the regenerated forest is recolonised from neighbouring sources; and the effects of forest harvesting at the head of a catchment on water flows may be evident lower down in the catchment where threatened native fish and crayfish may live. As our knowledge of threatened species ecology increases and planning tools become more sophisticated, we intend to progressively implement a simple, streamlined, conservation planning system that we expect to deliver better outcomes for both forestry and conservation across the estate.

One approach to managing these issues, which we have been developing in consultation with the Forest Practices Authority, is a coupe context planning system. This system uses geographic information systems and local knowledge to prescribe a minimum proportion of undisturbed native forest to be retained within the vicinity of any harvesting coupe. This approach is in line with current conservation management paradigms, whereby maintaining undisturbed forest at the local scale can significantly improve the ecological value and resilience of managed landscapes.

The area of mature forest that is appropriate to set aside is likely to vary by conservation objective and position in the landscape. For example, a higher retention level may be more important in areas where mature forest elements are sparse, or in areas important for hollow-dependent threatened birds, such as the swift parrot and masked owl. Whatever the targets and reasons may be, a coupe context planning system could provide a well-devised planning tool that streamlines the planning for special values, particularly biodiversity and threatened species. As native forestry becomes increasingly constrained spatially because of additional large-scale forest reservation, a coupe context planning system may enable us to monitor how the reserve system and any new reserves contribute to the management of biodiversity within the remaining estate available for wood production.

Aggregated retention planning and harvesting in southern Tasmania



We have been developing a coupe context planning system in consultation with the Forest Practices Authority. This system aims to prescribe a minimum proportion of undisturbed forest to be retained in the vicinity of a coupe.

Old growth forests

Old growth forests are mature forests in which the effects of disturbance are now negligible. They are important environmentally, socially and economically to Tasmania.

Within Tasmania, old growth occurs across all land tenures and it is our aim to maintain a minimum of 250,000 hectares of old growth forests in State forest reserves for conservation values. Seventy-nine per cent, or one million hectares, of old growth forest is protected across all land tenures in Tasmania.

In addition, a small proportion of old growth in State forest is available for harvesting and this portion is vital for sustaining the supply of high quality sawlogs. The total area of old growth harvested in 2011/12 (using clearfell and non-clearfell methods) was 603 hectares, which is significantly less than in previous years. Of this area, 456 hectares (76 per cent) was harvested using non-clearfell techniques and 146 hectares (24 per cent) was clearfelled. The total area of old growth forest clearfelled in state

Old growth harvesting (clearfell and partial)

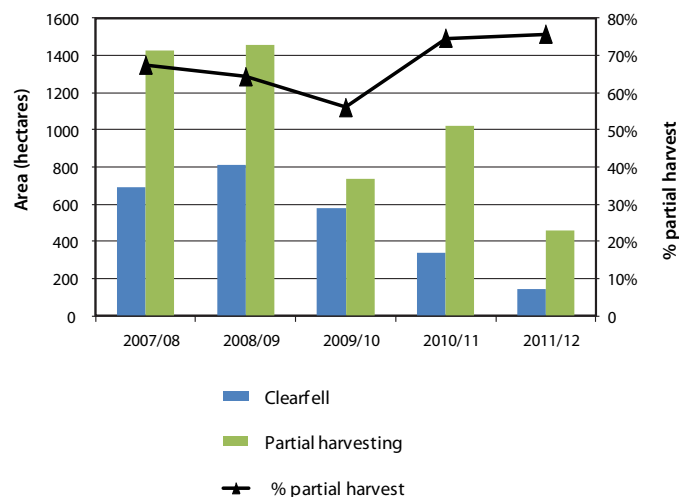
Harvest year	2007/08	2008/09	2009/10	2010/11	2011/12
Old growth clearfelled (ha)	690	810	580	340	150
Cumulative area of clearfell from 2001 (ha)	7,390	8,200	8,780	9,120	9,270
Cumulative clearfell as % of total OG in Tas (ha)	0.60%	0.67%	0.72%	0.74%	0.79%
Old growth partial harvesting (ha)	1,420	1,460	740	1,020	460
Total old growth harvesting (ha)	2,120	2,270	1,320	1,370	600

Notes:

- Figures are rounded actual totals.
- Harvested areas for past 5 years, but cumulative totals since 2001.
- Area includes Buckland Military Training Area managed by Forestry Tasmania.

forests since 30 June 2001 is 9,690 hectares. Based on 1996 baseline mapping, this represents 0.79 per cent of the total old growth forest area in Tasmania.

Old growth harvesting (clearfell and partial)



The Tasmanian Community Forest Agreement set a target to reduce clearfelling to less than 20 per cent of the annual harvest in old growth forests, or to limit the annual clearfelling of old growth forests to less than 330 hectares. As the area of old growth forest harvested by clearfelling this year was just 146 hectares, the target was achieved.

In Tasmania's tall old growth forests, the main silvicultural alternative to clearfelling has been the development of variable retention silviculture. The research program has provided assurance that the variable retention technique can be safely and effectively implemented in old growth forests and is supported by science, validated by peer-reviewed research papers and summarised in a major report titled *A New Silviculture for Tasmania's Public Forests* (available at forestrytas.com.au)

Giant trees

Our giant tree policy requires that all trees over 85 metres in height or 280 cubic metres in volume be protected. We implement this policy by pro-actively searching for giant trees, using LiDAR and on-the-ground surveys. When giant trees are located they are protected in reserves of at least 100 metres in radius. Most giant trees are protected in larger reserves.

In 2011/12, 10 new giant trees were added to the giant tree register, taking the total in the register from 125 to 135 trees.

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Financial performance

Under Tasmanian legislation, Forestry Tasmania's business model includes both commercial and non-commercial objectives. We perform and fund a range of community services, including the management of significant areas of forest for which we receive no commercial return. Forestry Tasmania also operates with a number of commercial constraints, such as the need to manage production forests on long rotations that aim to ensure a long-term sustainable forest industry. These policies affect our profitability and so it is appropriate to assess our financial performance with reference to these issues.

The Financial Statements for 2011/12 (Appendix 1) provide full details of the financial performance of Forestry Tasmania.

Markets

Forestry Tasmania and the Tasmanian forest industry as a whole continued to experience significant challenges in 2011/12. The current operating environment represents a continuation of the most difficult trading conditions that Forestry Tasmania has encountered, and there is a great deal of uncertainty about the future. Each of these observations is equally true for almost all of Forestry Tasmania's customers, and for most other businesses operating in the forestry sector in Tasmania.

The difficult trading conditions arise as a result of:

(a) the ongoing impacts of the global financial crisis, and recent natural disasters, on global trade and on domestic spending patterns;

(b) the continued relative strength of the Australian dollar;

(c) strategic decisions by Forestry Tasmania's former largest customer;

(d) the prolonged cessation of operations at critical sites for the processing and/or export of forest products (Burnie and Triabunna ports);

(e) unprecedented attacks by environmental activists on the reputation and credentials of Forestry Tasmania and of its customers, in domestic and overseas markets for products manufactured from Tasmanian timber; and

(f) significant uncertainty associated with, or arising from:

(i) the Tasmanian Forests Statement of Principles (19 October 2010), signed by various Forestry Tasmania stakeholders;

(ii) the Tasmanian Forests Intergovernmental Agreement (7 August 2011), signed by the Australian and Tasmanian governments;

(iii) the Strategic Review of Forestry Tasmania (being undertaken on behalf of the Tasmanian Government by URS Forestry and Deloitte), of which stages one and two have been completed; and

(iv) the proposed pulp mill at Bell Bay, which, following the announcement by Gunns Ltd on 6 August 2012, appears unlikely to proceed.

These conditions have resulted in dramatic reductions in the demand and/or prices for some key forest products produced by Forestry Tasmania, as well as further constraints to supply and increases to costs.

Profitability

Forestry Tasmania made an operating loss (after tax before other items) for 2011/12 of \$27.6 million, which reflects the ongoing challenging market conditions.

Net finance costs were \$9.1 million and the cost of managing non-commercial forest zones (forest reserves and the Special Timbers Zone) was \$5.3 million.

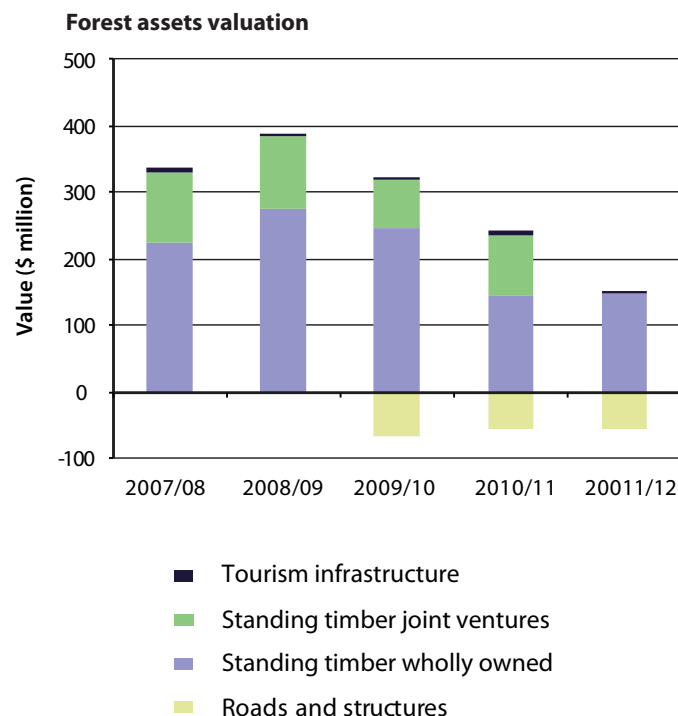
An operating loss of \$25.2 million resulted from general forest operations.

In response to our difficult financial position, the Board and senior management implemented an aggressive program of cost savings across the organisation, as well as staff reductions that saw savings of approximately \$3.5 million.

Forest assets valuation

In 2011/12, we again commissioned an independent valuation of our forest assets by James W Sewall, a US-based firm with specific expertise in the valuation of forest assets, including Australasian forests.

This review resulted in a slight increase in the value of the biological assets (standing timber). This movement has been taken through the income statement as required, leading to an overall reported comprehensive loss for the year of \$71 million. The changes in valuation of the forest assets are shown in the following diagram:



Sale of softwood joint venture

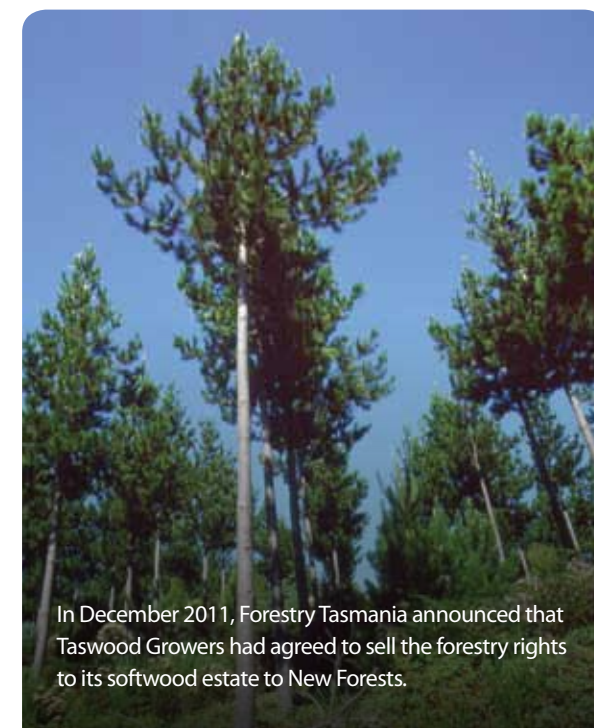
On 9 December 2011, Forestry Tasmania announced that Taswood Growers, of which Forestry Tasmania was a 50 per cent shareholder, had agreed to sell the forestry rights to its 41,000-hectare northern Tasmanian plantation estate to Sydney-based global timber investment manager New Forests for \$156 million.

The sale price was consistent with the valuation of the plantation estate provided by independent experts James W Sewall. Funds from the sale were used to retire debt and to provide working capital.

The transaction relates to the trees only – Forestry Tasmania remains owner of the land. New Forests will establish, maintain and harvest the estate until the forestry rights expire in 2069. The estate will continue to supply sawlogs to the Bell Bay sawmill and pulpwood to Norske Skog. Ongoing operations will also continue to provide employment opportunities in the region.

New Forests manages investments in sustainable forestry and associated environmental markets, such as carbon, biodiversity and water, for institutional and other wholesale investors.

New Forests satisfied all the criteria for the sale, including a blemish-free environmental record, and Forestry Tasmania wishes it well with its new investment.



In December 2011, Forestry Tasmania announced that Taswood Growers had agreed to sell the forestry rights to its softwood estate to New Forests.

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Tasmanian Community Forest Agreement

In May 2005, the Tasmanian and Australian governments signed the Tasmanian Community Forest Agreement. Forestry Tasmania is a recipient of funds for specific projects within the agreement. In 2011/12, \$6.355 million was spent on projects associated with the establishment, fertilising, pruning and thinning of hardwood plantations, forest management activities such as variable retention silviculture, recovery and marketing of special timbers and various research-related tasks.

The majority of funds were expended on capital programs. However, in compliance with Australian accounting standards, the funds received for the completion of these programs are taken to profit and appear on the face of the income statement and are split between income for capital and for operating activities. This accounting treatment will continue while Forestry Tasmania is undertaking commitments under the Tasmanian Community Forest Agreement.

Community Service Obligations

In addition to deriving economic returns from wood production activities, Forestry Tasmania is responsible for a range of activities to maintain the non-commercial values of State forests. These are referred to as Community Service Obligations and include the following:

- conservation of flora, fauna, land forms and cultural heritage;
- management of forest reserves for conservation;
- the provision and maintenance of forest roads and other facilities for public access; and

- provision of public information and education programs.

Forestry Tasmania incurs significant costs in performing these obligations. Unlike other public forest managers in Australia, Forestry Tasmania's costs for Community Service Obligations have not been separately funded since 1998. From that time, they have been funded from our commercial activities. These costs are included in deriving the annual profit from the commercial operations of the business, and should be excluded when assessing the purely commercial performance of our business.

Forestry Tasmania made a formal application last year to the Portfolio Minister for funding of these Community Service Obligations and was advised that this application will be considered as part of the Strategic Review process.

Forestry Tasmania separately reports costs incurred for managing two non-commercial categories of land as Community Service Obligations. They include forest reserves formally gazetted under the Forestry Act (222,200 hectares), and the majority of the Special Timbers Zone, including the blackwood and predominantly rainforest areas (covering 77,300 hectares), which is managed under the Special Timbers Strategy released during 2010. As part of the responsibility for this land, Forestry Tasmania incurs costs for providing public access roads, walking tracks, picnic areas and related infrastructure, pest, disease and fire control, and weed management. The cost of managing these forest areas was \$5.3 million in 2011/12.

Forestry Tasmania manages additional areas of land set aside from commercial forest production, including informal forest reserves and other areas unavailable for

harvest, for which similar Community Service Obligations are incurred as outlined above. These lands are more intimately integrated with productive forest lands, and costs have not been separately identified.

Wood products

The estimated final value of wood products produced from logs supplied from State forest managed by Forestry Tasmania in 2011/12 was \$314 million. This estimate is based on the actual quantities produced and the best available information on the recovery and value of each derived product. When indirect flow-on effects are taken into account, assuming the current annual average salary for Tasmanian adults in full-time employment of just under \$57,000 per year, this final value represents full-time employment for about 5,500 Tasmanians.

Forestry Tasmania's direct contribution to the economy included \$132 million in payments to staff, contractors and suppliers, of which salaries and wages paid to Forestry Tasmania's employees accounted for \$27 million.

Overall production from State forests managed by Forestry Tasmania in 2011/12 was 1.36 million tonnes. This consisted of 1,009,267 tonnes from native forests, 61,303 tonnes from hardwood plantations, and 292,091 tonnes from softwood plantations.

Note that these production and value figures do not include information related to logs produced from the area of the former Taswood Growers softwood joint venture.

Wood quality

As a result of the reduced availability of logs from mature native forests, and the increased proportion that will be supplied from regrowth forests and eucalypt plantations, the average size of eucalypt sawlogs is forecast to decrease over time. The internal characteristics of logs used for sawn timber will also change, based on the different physical properties of younger wood. At the same time, overseas markets for lower grade logs (exported as woodchips) are undergoing radical adjustments arising from the availability throughout Australia and south-east Asia of plantation-grown eucalypt and acacia pulp logs, as well as from the relative strength of the Australian dollar. All sectors of Tasmania's forest industry are preparing for a transition to new products and technologies over the next five to 10 years. It is evident that this transition is already under way, with an ever-increasing proportion of Forestry Tasmania's production being directed into peeler logs for rotary veneer.



The estimated final value of wood products produced from State forest in 2011/12 was \$314 million. This value represents full-time employment for about 5,500 Tasmanians.

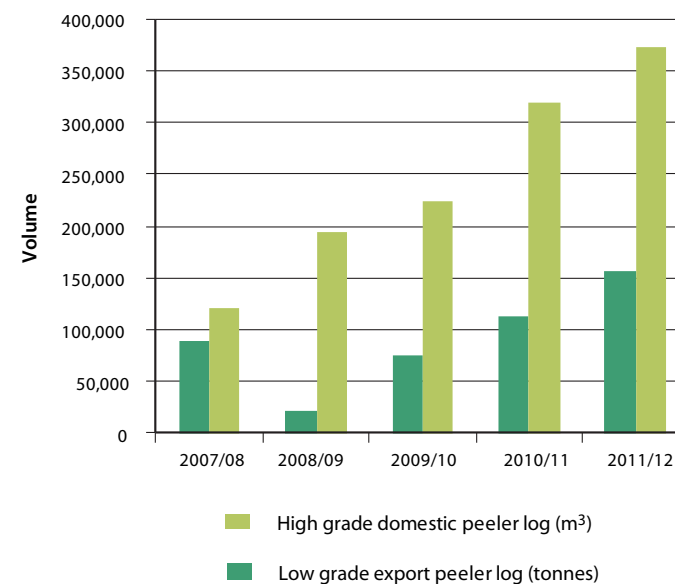
Eucalypt wood production

Product Group	2007/08	2008/09	2009/10	2010/11	2011/12
High quality sawlog and veneer (m ³) ¹	303,951	245,154	210,538	196,702	109,940
Low quality sawlog (m ³)	87,090	56,613	37,897	48,532	42,011
Peeler log (m ³)	209,590	208,334	299,101	431,391	529,787
Plantation pulpwood (t)	176,703	135,549	179,495	171,205	61,303
Native forest pulpwood (t)	2,230,874	2,005,448	1,388,986	1,376,554	315,037
Total arisings ^{2,3}	2,704,257	2,405,944	1,905,479	2,027,682	948,138

Notes:

1. The indicative sustainable yield level based on FT (2007) Sustainable high quality eucalypt sawlog supply from Tasmanian State forest, Review No. 3. is 320,000 m³ per annum.
2. Potential supply level of native forest arisings from the sustainable yield of high quality sawlog supply is 2,800,000 tonnes, based on FT (2007).
3. Arisings include pulpwood (t), peeler (m³) and low quality sawlog (m³).

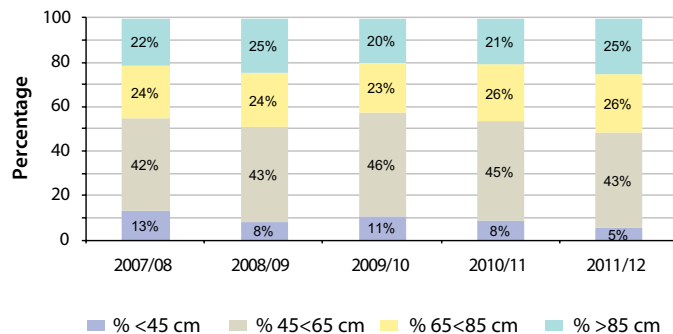
Production of peeler logs



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In the meantime, Forestry Tasmania continues to monitor the quality of eucalypt sawlogs provided to the conventional hardwood sawmilling industry. The two indicators used are log diameter (a well-recognised proxy for sawn timber recovery and end product value) and the percentage of non-seasoning species. Non-seasoning species are generally from the peppermint and gum eucalypt groups and are challenging to kiln dry. Minor variation in these two indicators over the past five years reflects the many factors that influence harvest scheduling from year to year. The absence of a clear trend in either case indicates that Forestry Tasmania has been able to maintain the quality of eucalypt sawlogs, with a slight overall improvement in the proportion of the larger diameter classes.

Percentage of eucalypt Category 1 and 3 (high quality) sawlogs by diameter group and species group



Note: Does not include small quantities of high quality eucalypt sawlogs sold through Island Specialty Timbers.

Percentage of non-seasoning species sold over the past five years



Product recovery

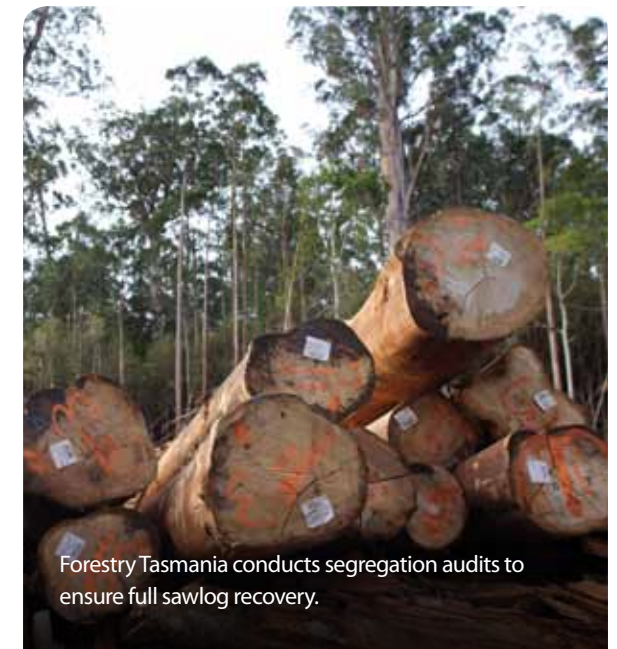
We maximise the use of all felled trees from harvested areas through the selection of craftwood, special timbers, high quality sawlogs and veneer, with the remainder being available as peeler logs, pulpwood and fuelwood.

We have three main processes in place in order to ensure the recovery of wood volume and value is maximised. These are as follows:

- (i) Segregation audits carried out by our staff to determine the presence of any logs that may have been misclassified as a lower grade product. These audits take place on coupe landings, at mills and on log trucks.
- (ii) A feedback docket system that enables purchasers of logs to advise us of any log grading issues.
- (iii) Post-logging residue assessments, to ensure the efficient removal of forest products and to quantify merchantable wood being left on the forest floor after harvesting operations.

This year, we conducted audits on 11,192 tonnes of wood classified as pulpwood, to determine whether any sawlogs had been misclassified as lower-value products. This represents three per cent of the total quantity of pulpwood produced. Information collected from these audits showed that no sawlogs were misclassified. The volume of wood audited is considerably less than that audited in previous years, and reflects the downturn in pulpwood sales from Tasmania.

In 2011/12, we conducted logging residue assessments in 45 harvested areas. The amount of timber that we can presently sell left on these coupes was low. However, wood residue levels were considerably higher than desirable due to the depressed pulpwood market. We will endeavour within the next two years to return to these coupes and obtain this product if we find an appropriate market for it.



Forestry Tasmania conducts segregation audits to ensure full sawlog recovery.

Forestry Innovation Plan on track with Hardlam launch

In 2011/12, we reached a significant milestone towards achieving the goals of the *Forestry Innovation Plan*.

The launch of Hardlam, the first product to be developed under the plan, has positioned us to take advantage of the growing demand for strong and versatile engineered wood products. Hardlam is a veneer-based product that can be reprocessed and finished like traditional lumber for use in a range of structural and appearance grade applications.

Engineered wood products are typically superior to solid wood equivalents in terms of strength and stability. They represent a practical low-carbon alternative to competing materials such as concrete and steel.

Importantly, engineered wood products can utilise low-grade logs arising during the harvest of both native and plantation forests that would otherwise be converted to woodchips, and thus represent a significant value-adding opportunity for Tasmania.

The Tasmanian forest industry has traditionally been geared around the availability of large logs that have been used to produce large boards of sawn timber and veneer. As time goes on, it is expected that there will be a decrease in the volume of large-diameter high-quality sawlogs available from State forest. As a consequence, there will be a reduced supply of these traditional products. This has led to growing interest in the development and application of engineered wood products.

We completed the development of Hardlam with our overseas partners, who will continue to service Asian markets, specifically China. Closer to home (in Australian and New Zealand markets), we are now looking to produce Hardlam in Tasmania with local industry partners.

With the launch of Hardlam, our aim to develop Tasmania as a regional hub renowned for innovation in value-added wood products is firmly on track.

To find out more about Hardlam, visit: hardlam.com.au

To view the *Forestry Innovation Plan*, go to: forestrytas.com.au



HARDLAM
TASMANIAN LAMINATED HARDWOOD



(L-R) Sid Sidebottom MP, Parliamentary Secretary for Agriculture, Fisheries and Forestry, with Forestry Tasmania's Matt Wood at the Hardlam stand, Australian Woodworking Industry Suppliers Association exhibition, Sydney, 2012. Hardlam is a new engineered wood product manufactured from eucalypt arisings, which would otherwise be woodchipped.



A sideboard crafted from Hardlam.

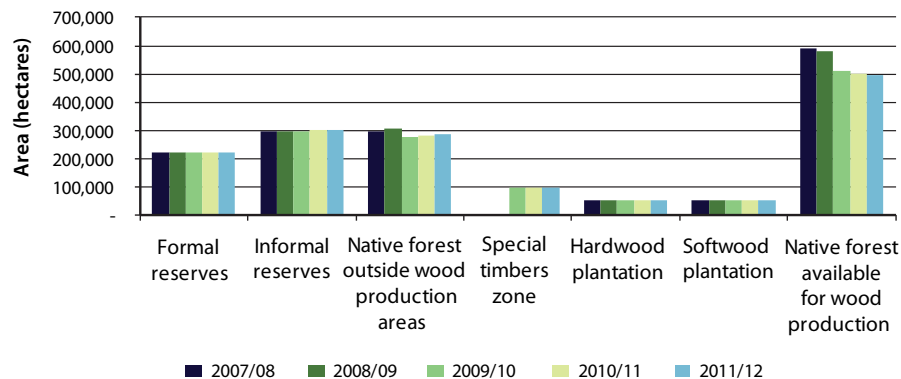
sustaining JOBS FOR CURRENT AND FUTURE GENERATIONS

Sustainable yield

A vital prerequisite for sustainable forest management is that the volume of timber harvested from the forest estate does not exceed its productive and regenerative potential over a given time period. We manage harvesting in State forests to maintain a sustainable supply of at least 300,000 cubic metres of high quality eucalypt sawlog and veneer log. This management approach is required by the Forestry Act and by Clause 77 of the Regional Forest Agreement. Managing the forest for the legislated high quality eucalypt sawlog supply will inevitably produce other products, such as lower grade sawlogs, peelers and pulp wood. We describe these products collectively as 'arisings'.

In 2011/12 we produced a total of 109,946 cubic metres of high quality sawlog and veneer, which was indicative of the depressed sawlog market. The five-year average sawlog yield remained within the 300,000-cubic metre sustainable yield. Similarly, the five-year average arisings production was below the potential supply level of 2.8 million tonnes.

Areas of land managed by Forestry Tasmania



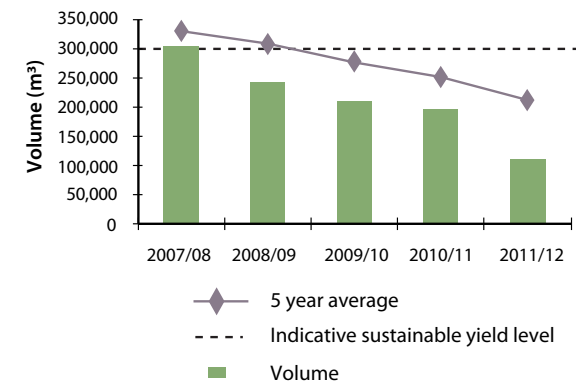
To maintain the ongoing supply of timber a sufficient area of production forest is required. Only 46 per cent of the 1.5 million-hectare State forest estate is available for wood production. This area comprises native eucalypt forest (494,000 hectares, or 33 per cent), the Special Timbers Zone (98,000 hectares, or six per cent) and plantations (108,000 hectares, or seven per cent). The remaining area (54 per cent) comprises formal and informal reserves and other areas outside production forests.

Setting the scene for the next wood review

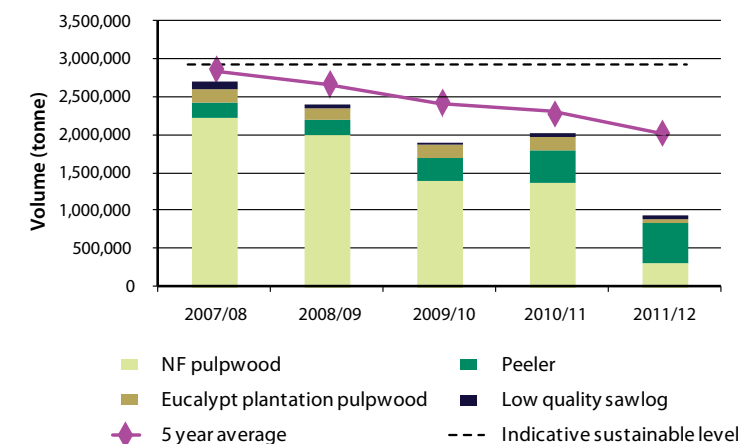
Maintaining the productive capacity of the forest is one of Forestry Tasmania's key criteria for sustainable forest management. This criterion is most relevant when discussing high quality eucalypt sawlog supply. We model and monitor this sawlog supply to ensure harvesting is consistent with the long-term productive capacity of Tasmania's State forests.

The Regional Forest Agreement requires us to review our sustained yield calculation for high quality eucalypt sawlog supply every five years. The fourth such review since the Regional Forest Agreement was signed in 1997 is due this calendar year.

Production of high quality sawlog and veneer



Arisings production levels against potential supply level



Each review involves the major components of resource estimation, yields of log products and a forest management strategy. To estimate sawlog supply from the forest, we use forest inventory, future growth estimates and historical harvest records. At each review since 1997, we have identified significant changes to sawlog supply. These changes are usually associated with a reduction in the area of native forest available for wood production, and an increased contribution from a maturing plantation resource. For example, in 2005, the Tasmanian Community Forest Agreement reserved more old growth forest, thus reducing the potential supply of sawlogs from native forest.

We commenced preparations for the next review of our sustained yield calculation in 2010/11. However, the review has been delayed by the uncertainty surrounding the resource base that will arise from the Tasmanian Forests Intergovernmental Agreement. We hope to be able to conduct the review in 2012/13.



The Tasmanian Forests Intergovernmental Agreement – Forestry Tasmania’s contribution

The Australian and Tasmanian governments signed the Tasmanian Forests Intergovernmental Agreement (‘the Agreement’) signed in August 2011. Forestry Tasmania made a substantial contribution towards the process during the year.

Forestry Tasmania cooperated fully with independent schedulers to re-schedule harvesting, as far as economically possible and while meeting contractual obligations, to areas outside the interim ‘Immediate Protection Area’ described in the Agreement.

Forestry Tasmania also signed a Conservation Agreement with the Australian and Tasmanian governments to provide interim protection for the Immediate Protection Area, for all but 1,950 hectares (0.5 per cent), which were required to meet supply contracts. The Conservation Agreement was initially designed to end on 31 December 2011, but delays in the Independent Verification Process required it to be extended until the end of February and then to the end of June 2012. Ongoing negotiations by the signatories to the Statement of Principles have subsequently required the Conservation Agreement to be extended.

Forestry Tasmania fully cooperated with the Independent Verification Process established under the Agreement. This included providing data sets to an Independent Verification Group and assisting Professor Mark Burgman and Dr Andrew Robinson with their review of Tasmanian forest estate wood supply scenarios. Their review compared a scenario of 572,000 hectares of new reserves with a scenario in which no new reserves were created. They found that if no new reserves were established, minimum wood supply guarantees for high quality sawlog supply (155,000 cubic metres per year) could be met from native forests until 2030. This could be achieved even if up to 20 per cent of the wood supply was foregone due to unforeseen events such as more stringent forest practices regulation, wildfire and potential impacts due to climate change. However, if 572,000 hectares of new reserves were created, there would be a substantial shortfall in the supply of sawlogs, even if existing sawlog plantations formed part of the supply.

Forestry Tasmania also provided contracted technical services, particularly in forest estate modelling. This information was used by the signatories of the Agreement to explore alternative scenarios towards identifying reserve solutions that are compatible with the wood supply targets specified in the Agreement.

More information: forestsagreement.tas.gov.au

sustaining JOBS FOR CURRENT AND FUTURE GENERATIONS

Native forests

Of the 706,000 hectares of State forest available for wood production, the majority (592,000 hectares) is native forest. This area provides the majority of the high quality eucalypt sawlogs and veneer logs, peeler logs and pulpwood as well as special timbers from non-eucalypt species.

Eucalypt forests

We aim to ensure that productivity in State forests is always maintained. In order to achieve this, forest regeneration practices are constantly monitored and reviewed.

Successful eucalypt regeneration generally requires:

- effective site preparation by fire or by mechanical disturbance to create receptive seedbeds;
- an adequate supply of high quality seed; and
- freedom from heavy frosts, drought and excessive damage by insects and browsing animals.

To ensure high quality native forest regeneration, we actively maintain a native forest quality standards process. This process enables the timely, effective and accurate monitoring and reporting of silvicultural operations in native forests. The process uses goals, targets, standards and performance indicators to assess and determine the success of regeneration operations. An annual quality standards review is held to discuss issues of concern relating to silvicultural operations, to ensure a constructive approach to improving practices, and to provide a forum for exchange of information and ideas. The following is a summary of the results collated from this process.

Site preparation

Site preparation has a significant impact on the success of regeneration. Site preparation techniques include high or low intensity burning, mechanical loosening of the soil or excavator heaping and subsequent burning of logging slash. In some cases the disturbance caused by harvesting produces sufficient seedbed for adequate regeneration.

The quality standard for clearfelled areas is that receptive seedbed is created over at least two-thirds of the area to be regenerated. In partially harvested areas, the quality standard is that receptive seedbed is created over at least one-third of the area to be regenerated, with less than 10 per cent scorching of retained stems, and the achievement of an acceptable level of fire protection.

In 2011/12, we assessed 5,556 hectares of native forest (2,485 hectares of clearfelled area and 3,071 hectares of partially harvested area) against these standards. A total of 84 per cent of clearfell and 94 per cent of partial harvest areas respectively achieved the site preparation quality standard. This compares with the five-year average of 90 per cent and 88 per cent for clearfell and partial harvest respectively. Fourteen clearfelled areas did not meet the site preparation standard as a result of poor burns. Five partially harvested coupes did not meet the standard because insufficient seedbed was created, or because an acceptable level of fuel management was not reached.

One of the many challenges we are presently facing is our inability to be able to burn all of the coupes we need to regenerate in a timely manner. We have not been able

to carry out regeneration burns on approximately 2,500 hectares of harvested forest. This situation has arisen due to smoke management considerations (see 'Air Quality' on page 37), the complex requirements of the Forest Practices Code, and two wet years in which appropriate conditions for burning have not presented themselves. We are actively managing this issue, and considering alternative options to burning in some circumstances where regeneration is already present.

Seed and sowing

Forestry Tasmania classifies the source of seed sown onto harvested native areas into three categories:

On-site seed is collected from the harvested area or from a similar area within one kilometre.

In-zone seed is from the same seed zone as the nominated harvesting area. The seed zones are detailed in Native Forest Silviculture Technical Bulletin No. 1 *Eucalypt seed and sowing*. For the purposes of the performance indicator, in-zone seed does not include the on-site seed component.

Out-of-zone seed is collected from outside the seed zone of the nominated harvesting area. This is the least preferred seed source.

The seed provenance quality standard is that each harvested area should be regenerated with at least 10 per cent on-site seed, with the remainder being in-zone seed matched to forest type.

In 2011/12, we sowed 2,567 hectares with eucalypt seed. A total of 1,910 hectares (74 per cent) of this area achieved the seed provenance quality standard. This is 12 per cent higher than the five-year average of 62 per cent. The improvement in performance has occurred due to a combination of some excellent seed crops and improved techniques for managing our seed allocation process. Where the standard was not reached, the main reason was lack of on-site seed.

In 2011/12, we sowed 2,551 kilograms of eucalypt seed, of which 57 per cent was on-site, and 42.7 per cent in-zone and only 0.3 per cent out-of-zone. This is a better performance than the five-year average of 46 per cent on-site, 51 per cent in-zone and three per cent out-of-zone seed.



The quality standard for sowing operations requires that the delay between site preparation and sowing be less than 21 days. In 2011/12, we achieved this benchmark in 94 per cent of areas sown.

The quality standard for sowing operations requires that the delay between site preparation completion and artificial sowing be less than 21 days. This ensures the best chance of successful regeneration. In 2011/12, we achieved this standard in 94 per cent of the artificially sown area. This is greater than the five-year average of 90 per cent. Poor weather conditions, which restrict aerial sowing operations, were the main reasons the standard was not met.

Regeneration success

Regeneration success of eucalypt areas is reported when they are three years old. Swamp blackwood, rainforest and Huon pine forest coupes are reported when they are five years old. Regeneration success is determined by undertaking surveys. For each forest type, there is a set minimum stocking standard that needs to be achieved. This approach complies with the recommended national methodology for regeneration success monitoring.

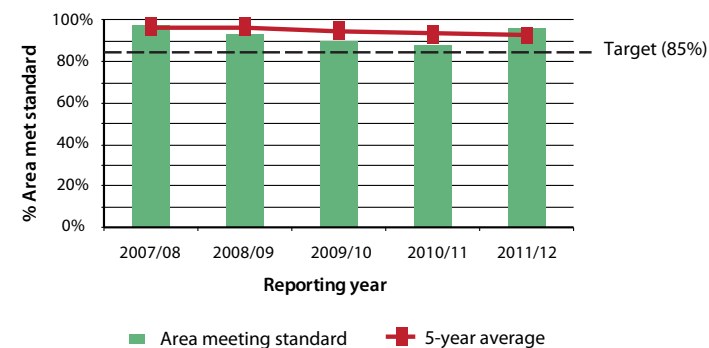
In 2011/12, 9,377 hectares of native forest regeneration reached the relevant reporting age for regeneration success, and we achieved the required stocking standard in 96 per cent of this area. This is an increase of three per cent on the five-year average of 93 per cent and exceeds our target of 85 per cent of harvested area being regenerated to standard.

We did not meet the stocking standard in 12 coupes, totalling 387 hectares. The main reasons for understocking were poor regeneration burns, insufficient natural seed-fall, frost events and browsing by native mammals. All of these areas contained sufficient regeneration or retained trees to

be considered as ecologically stocked and useful for wood production at a reduced rate. Seven of these coupes were forests that were logged using partial harvest silviculture. Mature standing trees remaining on these areas will continue to provide seed for further seedling recruitment, and stocking is likely to improve further in the near future.

Under this year's native forests quality standards program, Derwent District was awarded the Gilbert-Cunningham trophy, which recognises the achievement of excellence in regrowing native forests following harvesting. This was the ninth year that Forestry Tasmania has presented the Gilbert-Cunningham trophy.

Native forest regeneration success summary



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Special timbers

Special timbers are an integral part of the Tasmanian brand. They are used to produce high value furniture and craftwood products, and include blackwood, blackheart sassafras, myrtle and celery-top pine. With the exception of blackwood, special timbers are mostly derived from old growth forests. Our Special Timbers Strategy (forestrytas.com.au) provides for the ongoing, long-term supply of these timbers to the Tasmanian craft and design industries.

During 2011/12, we sold a total of 12,938 cubic metres of special timbers. Most of this volume was high quality special species sawlog, with the remainder craftwood. Blackwood made up 87 per cent of this volume, with the rest comprising species such as Huon pine, myrtle,

celery-top pine and eucalypts with attractive craft features such as burls. These figures are in line with annual supply targets as outlined in our Special Timbers Strategy.

While access restrictions were applied as required by the Tasmanian Forests Intergovernmental Agreement, State forests in the north-west and on the west coast in particular have kept up a small but steady supply of speciality timbers for a demanding niche market.

More than half of the blackwood volume came from the north-west swamp forests. This was a result of the relatively dry season that enabled us to access these areas. In previous years, we have not been able to access these areas due to wet conditions. Of the swamp blackwood we harvested, nearly 60 per cent was quality sawlog destined for high end furniture, veneer or cabinetry. The swamp

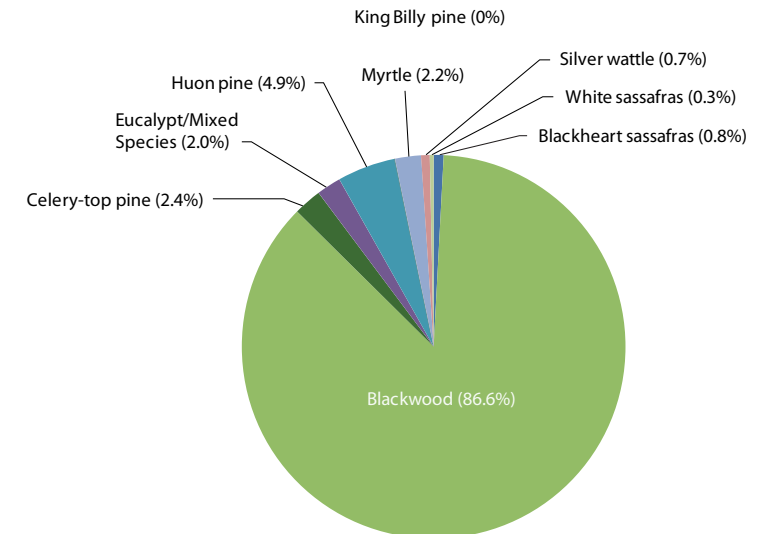
grown timber is sought after for its grain uniformity and depth of colour.

Forestry Tasmania is the only legal supplier of the famed Huon pine, salvaging it from the banks of the Gordon River and beaches around Macquarie Harbour, as well as the historically cut-over Teepookana Plateau.

Of the 637 tonnes of Huon pine salvaged just over half was sawlog grade – going into projects like old boat repairs or brand new vessels. As normal, timing of the salvage operations on both the plateau and the riverbanks was restricted by the weather and had halted by late April.

There was limited harvesting of other areas within the Special Timbers Zone.

Production of special timbers sawlogs in 2011/12



(L-R) Contractor Leigh Clark and Forestry Tasmania Team Leader Paul Bugg salvaging Huon pine on the west coast. Forestry Tasmania is the only legal supplier of Huon pine. We salvage it from the Gordon River and beaches around Macquarie Harbour, as well as the Teepookana Plateau.

Forestry Tasmania supporting marine heritage

A stand of Douglas fir trees that was cleared as part of the Springfield Irrigation Project in north-east Tasmania was put to good use during 2011/12.

Douglas fir, known commercially as Oregon, is an uncommon commercial tree species in Tasmania, but it is highly prized by ship builders.

Forestry Tasmania provided the Tasmanian Sail Training Association with some sturdy lengths of timber, which were required to replace the jib boom and bowsprit of the Hobart based *Lady Nelson* replica.

Masts were also provided for the *Julie Burgess* at Devonport and some spars went to a smaller ketch rebuild being undertaken by a Vietnam Veterans group in Hobart.



(L-R). Sail Training Association Chairman Rob Thomas and Forestry Tasmania's Peter Bird check the dimensions on a Douglas fir log destined for the *Lady Nelson*.

Plantations

Plantations will play an increasingly vital role in the future production of wood products from our State forests. We apply the principles of sustainable forest management to both softwood and hardwood plantations on State forest and these ensure long-term benefits to the community, the environment and the wood products industry. In line with the requirements of the Australian Forestry Standard, there is no longer any conversion of native forests to plantations.

We have established softwood (*Pinus radiata*) and hardwood (*Eucalyptus globulus* and *E. nitens*) plantations primarily to supply local industry but also interstate and overseas markets. Products include sawn timber, veneer, posts and poles and pulpwood for paper. These are sourced from a hardwood estate of some 56,000 hectares and a softwood estate of 52,000 hectares. There are plantations on State forest that FT has no equity in, including 41,000 hectares of softwood plantation and 15,000 hectares of hardwood plantations with various owners. Further details on ownership of plantations can be found in the appendix.

The current hardwood plantation estate comprises approximately 85 per cent *E. nitens* and 15 per cent *E. globulus*. Historically, *E. globulus* was planted only below 300 metres elevation due to its frost sensitivity. In the late 1990s, planting of *E. globulus* was stopped altogether in the north-west of Tasmania, following some severe episodes of *Mycosphaerella*, a disease that attacks the leaves of the trees, causing reduced growth.

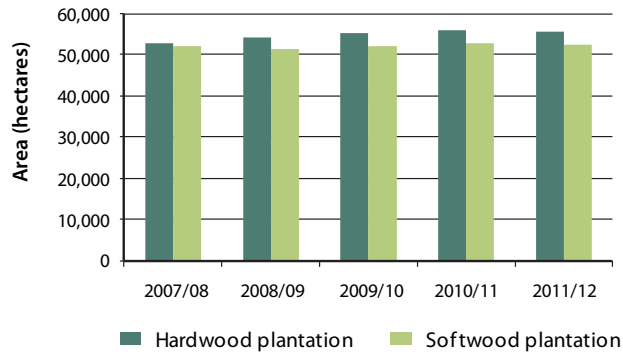
However, *E. globulus* has some significant advantages over *E. nitens*. The wood has a higher Kraft pulp fibre yield per hectare, and better solid wood qualities. *E. nitens* is also known to be more susceptible to infestation by *Phytophthora cinnamomi*, the root-rot fungus. A review and risk analysis of the planting strategy found that over the course of a rotation, the loss due to pests and diseases such as *Mycosphaerella* was manageable, and that the perceived slower early growth of *E. globulus* was compensated for by faster later growth, with both species growing equally well by rotation end.

Following the review, the decision was made to extend plantings of *E. globulus* more widely, with the ultimate aim of bringing the relative estate balance of the two species closer to 50:50. As we have been selectively breeding *E. nitens* for form for many years, but not *E. globulus*, there is now also an opportunity to improve the form of *E. globulus* through a selective breeding program.

Overall, planting programs have declined over the past four to five years. The hardwood planting program in 2011/12 was relatively small, with only 900 hectares replanted and 30 hectares of new planting.

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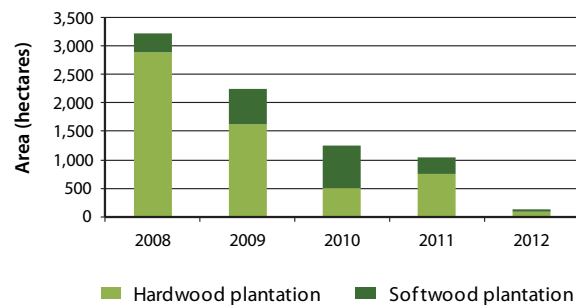
Area of softwood and hardwood plantations on State forest



Notes:

- Includes the softwood plantations that are owned by New Forests, for which data are supplied by Timberlands Limited as at 30 June 2012, and softwood plantations jointly owned with Norske Skog, for which data are supplied by Norske Skog as at 1 June 2012.
- Area includes plantations in Buckland Military Training Area on land managed by Forestry Tasmania.
- Excludes plantations that are now managed for recreation in forest reserves.

Area of softwood and hardwood plantation by age class 2008 to 2012



Notes:

- Age classes are based on calendar year planting seasons, not financial years. Totals reflect plantation as at 30 June 2012, and include commercial acquisitions.
- Planting of the 2012 age class was still in progress as at 30 June 2012.
- Excludes plantations that are now managed for recreation in forest reserves.
- Area includes plantations in Buckland Military Training Area on land managed by Forestry Tasmania.
- Excludes plantations on FT-managed land where FT has no equity.

We also operate the Trees on Farms project, which offers farmers the opportunity to reclaim weed-infested land, secure a new revenue stream, capture carbon and provide long-term habitat for the swift parrot. Under this program, landowners establish commercial woodlots on cleared land in a joint venture with Forestry Tasmania. This program delivers many economic and environmental benefits, including the supply of an additional source of plantation wood products into the economy, improving degraded land, and assisting rural landowners to diversify their enterprises. There are also aesthetic benefits from re-establishing trees in the environment. To date, approximately 106 hectares of farmland have been planted under partnerships in this program.

The role of research and quality standards

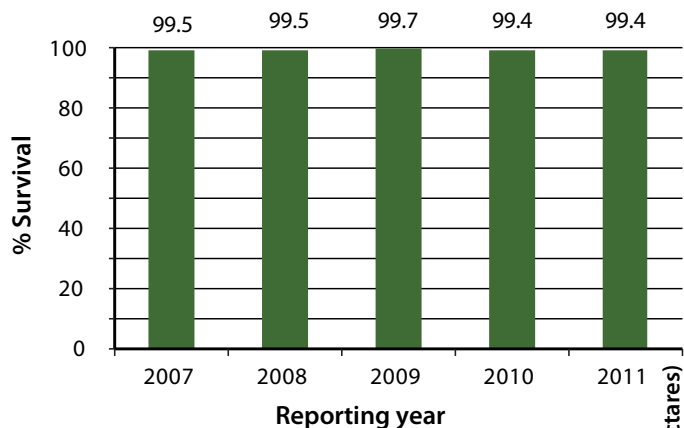
Forestry Tasmania has a strong research group that focuses on improving the quality and productivity of our existing plantations, while also ensuring that best practices are used for re-establishing second rotation crops. Our research programs focus on tree improvement through nutrition and silviculture. We also have a comprehensive quality standards system and a set of annual performance indicators to track the performance of our operational practices.

Improving plantation establishment techniques

The objective of managing our plantations is long-term sustainability. One of the key ways we achieve this is by improving establishment techniques to minimise negative effects on the environment. Practices such as minimising soil disturbance, reducing burning of slash and selective use of chemicals are some of the methods we used to achieve this. Monitoring the performance of seedlings during the first two years of growth is important, and our survival surveys indicate we are achieving excellent results.

Our monitoring program includes survival surveys that are carried out initially at nine to 12 months to determine the percentage of seedlings that have survived the first year and whether any refill planting is required to meet target stocking (1,100 seedlings per hectare). A further survey is conducted by age two years to determine the plantation area that has been successfully established by this time. These first two years are recognised as the critical establishment phase, after which the young trees start to form a new forest.

Percentage area of plantations successfully established by age two



Fertilising

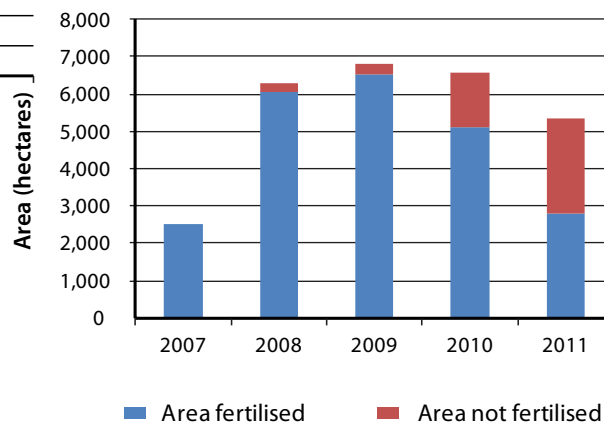
Fertilising is a key means of improving the health and productivity of our plantations, because many of Tasmania's forest soils have relatively low nutrient availability (especially nitrogen and phosphorus), which is insufficient for fast growing plantations. Consistent with our aim of long-term sustainability, fertiliser use is targeted and appropriate for each stand and site, according to soil, climate, economic and operational/environmental factors. Ongoing research is investigating new fertiliser products for primary fertilising (at planting) and also ways to improve secondary fertilisation (from age two years onwards).

An integral part of improving fertilising outcomes is the identification of areas that require, and will be responsive to, fertiliser. This is enhanced through increasing knowledge of the soils and site conditions along with ongoing results

from an extensive network of fertiliser trials across the estate.

During 2011/12, fertilising continued to be a routine component of plantation establishment. However, due to budgetary restrictions, a reduced secondary fertilising program was carried out.

The areas identified for secondary fertilisation 2006 - 2011 and areas actually fertilised

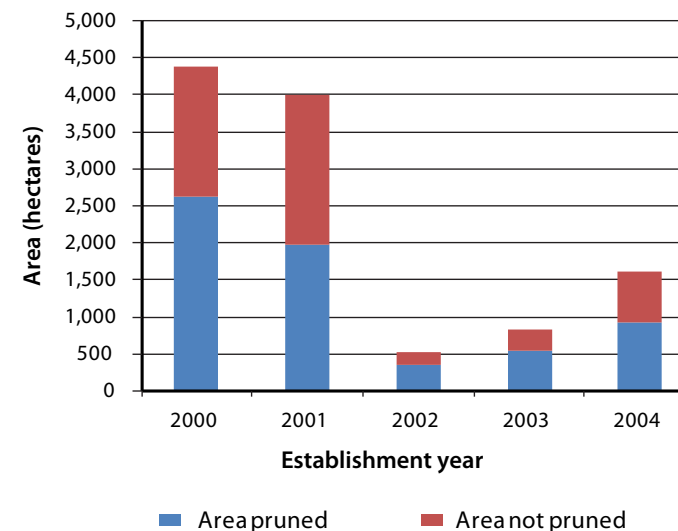


Maximising the quality of solid wood products from plantations

In line with commitments to increase the future supply of high quality sawlogs from plantations, large volumes of knot-free timber (clearwood) are required. Our foresight in implementing pruning regimes throughout the plantation estate since the late 1980s has been integral to this process. Pruning normally occurs in three stages, or lifts, to a height of 6.4 metres. These stages allow the trees time to rebuild leaf area (canopy), and to allow the healing over of the stem to form the knot-free timber.

Monitoring the timing of pruning, ensuring adequate numbers are pruned and assessing the quality of pruning, are fundamental to maximising pruned wood volume. We have a robust quality standards system in place for these pruning assessments, which also provides valuable information about the growth of the stand. As of this year, 58 per cent of our seven-year-old stands have had third lift pruning operations. The remaining 42 per cent of stands are either being managed with non-pruning regimes or have third lift operations scheduled.

Total and pruned area of eucalypt plantation by age class



Note: Reporting year is 7 years after establishment.

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Blue gum genomics – accelerating the development of thoroughbred plantations

Forestry Tasmania has joined forces with CSIRO Plant Industry, other temperate hardwood plantation growers and Forest and Wood Products Australia to develop techniques that identify small changes in the DNA of *E. nitens* and *E. globulus* that indicate, or indeed cause, positive improvements in tree growth and wood quality. This work is known as the Blue Gum Genomics Project.

These small changes in DNA, known as single nucleotide polymorphisms or SNPs (pronounced “snips”) are detected using technology similar to that used to sequence the human genome. SNP technology focuses on making improvements using the DNA already present in organisms, quite different to genetic engineering that inserts foreign DNA into a host to produce a genetically modified organism.

The techniques to identify SNPs require skilled detective work and lots of trees. Forestry Tasmania has been building up and collecting data on a large *E. nitens* and *E. globulus* tree breeding trial resource for over 30 years. When the vast amount of field and laboratory based data are compared with the new SNP based DNA profiles, consistent and stable patterns have emerged. Indeed, the current technology based on just six SNPs is estimated to improve the accuracy in selecting superior trees compared with traditional methods, with a flow-on effect of improving pulpwood plantation value by a further 12 per cent.

While the use of SNP technology can increase the accuracy of selecting superior trees, it also has the potential to identify superior trees earlier in the breeding cycle. Reading the SNP profile of a seedling can tell us what its wood will be like 15 years later at harvest. This means seedlings in a breeding program can be tested for valuable wood characteristics, taking many years off a traditional testing program.

The current challenge is to extend the development and application of SNP technology to improve stiffness (favoured by timber and veneer processors) and to reduce the incidence of timber cracking during the drying process (which is a significant defect in *E. nitens* in particular). Work continues on this project.

Plantation thinning

To maximise the growth of pruned trees, plantations need to be thinned to allow the remaining trees to grow extra volume. Thinning may be conducted at different ages and intensities, depending on the range and amount of products that can be grown on each site.

We are presently having difficulties in achieving our programmed thinning operations. Many of our plantations are at an age where thinning is required. However, the depressed market for pulpwood, which is the primary use of thinned plantation trees, makes the operations financially unviable. 2011/12 saw us thin 854 hectares of eucalypt plantation, but we still have an area of 4,450 hectares outstanding and a significant area is due to reach thinning age in the coming years. Failure to thin these stands may have future productivity repercussions. We are actively investigating ways to overcome this problem, including pursuing pulpwood markets and developing early age thinning silviculture for future rotations.



Improving the production of pruned logs and economic returns from eucalypt plantations

We have been working out the best way to manage our plantations into the future.

It is important for Forestry Tasmania to get the best possible volume production and economic return from its plantation estate. Changing markets for pulp and new markets for products such as rotary-peeled veneer can alter the value of different wood products and this may influence our decisions on how to manage our plantations both now and in the future.

Pruning and thinning can be used to increase the production of pruned logs from plantations and to maximise the value of plantation timber. Pruning increases the amount of knot-free (high-value) timber, while thinning increases individual trees growth rates by concentrating the site's growing resources on a smaller number of trees. The number and height of pruning lifts, and the timing and intensity of thinning, can be varied in order to achieve the best outcomes on a given site.

Mathematical models are a useful way of testing different management strategies or silvicultural regimes. We used an in-house developed plantation model (*FTGrow2*) to evaluate economic returns and pruned-log production for both *E. globulus* and *E. nitens* plantations managed under a number of different silvicultural regimes. We found that the best regimes were the same for both species across a range of sites. They involved high-pruning (to 7.7 m), and two-stage thinning to a low final stocking. Based on this research, it is recommended that a final stocking of 200 stems per hectare be adopted in most of our plantations.

The next step is to develop a detailed plan for implementing appropriate regimes within the existing estate, taking into account existing operational constraints and any potential conflicts with respect to woodflows.



Plantation thinning in progress. Thinning is an important means of increasing productivity in plantations, as it allows individual trees to grow faster by reducing competition for resources. We have developed mathematical models that allow us to test different silvicultural regimes for plantations.

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Non-wood products and services

Honey production

The apiary industry is regulated by the Department of Primary Industries, Parks, Water and Environment. The majority of beekeepers in Tasmania depend on land managed by Forestry Tasmania for access to leatherwood nectar, although significant sources also occur in conservation reserves managed by other agencies. Leatherwood (*Eucryphia lucida*) trees predominantly occur in mature wet eucalypt forest and rainforest. Approximately one million hectares of forest within Tasmania has been identified as likely to contain leatherwood. Of this area, 359,000 hectares (33 per cent) occurs in State forests, with about 106,000 hectares of this area being within areas zoned for wood production. The total number of sites available for beekeeping on State forests is approximately 384. Where practical, forest management prescriptions exclude leatherwood from harvesting. Analysis conducted in 2008 showed that since 1993, less than three per cent of leatherwood-rich State forests had been harvested¹. Beekeeping is flagged as a management objective for areas with a high leatherwood component under Forestry Tasmania's management decision classification zoning system, and harvesting within these special management zones takes particular account of maintaining and enhancing leatherwood sources.

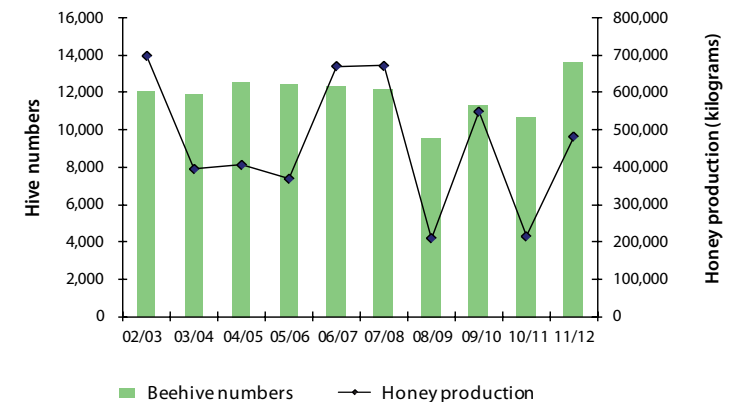
Forestry Tasmania collaborates with the Tasmanian Beekeepers Association on the leatherwood resource management through participation in the Murchison

Leatherwood Committee and the Wedge Community Forest Agreement, and through consultation on leatherwood resource mapping in the Southern Forests. Over the past two years Forestry Tasmania and the Tasmanian Beekeepers Association have reached agreement on access charges to State forest for beekeeping purposes, security of tenure for site licences and access arrangements. Agreement has also been reached on separation of sites to preserve the integrity of collection zones (approximately three km radius around each collection site).

State forests also provide other sources of nectar for honey production including various eucalypts, 'manuka' (*Leptospermum* spp.) and other understorey species. Forestry Tasmania also works with beekeepers to maintain the integrity of the Black Bee Reserve in the southern Central Highlands near Tarraleah.

In 2011/12, honey production was reported by beekeepers as 482,006 kilograms, with hive numbers deployed reported as 13,573. It should be noted that the production figures are reliant on individual beekeeper records provided to Forestry Tasmania and we cannot confirm their accuracy.

Hive numbers and honey production as reported by beekeepers to Forestry Tasmania



There are approximately 384 hive sites on State forest. In 2011/12, beekeepers reported honey production at 482,006 kilograms.

¹ Leaman, Gao, and Hickey 2008. Changes to old growth forest management in Tasmania State forests and the implications for the leatherwood nectar source: A report to the TCFA Implementation Committee

Land and property management

Under Section 8 of the Forestry Act, Forestry Tasmania has statutory responsibilities for exclusive management and control of all State forest and the granting of all permits, licences, forest leases and other occupation rights. Section 28 enables Forestry Tasmania, on behalf of the Crown, to grant easements over Crown land in State forest for such purposes and upon such terms and conditions as the corporation determines.

Forestry Tasmania administers all leases, licences, easements and access agreements on State forest through a property rights database. Each district has an officer with responsibility for negotiating land and property matters.

Forestry Tasmania agrees to leases, licences and easements with commercial companies, non-commercial organisations and government entities for many purposes including telecommunications towers, weather stations, pipelines, electricity transmission lines and dams. Forest Practices Plans or State forest activity assessments are required to be completed as part of the evaluation process. There are 470 current leases, licences and easements on State forest with up to 200 in various stages of negotiation.

Access licences are granted for many purposes including apiary, hunting, bush food collecting, tourism and access to neighbouring properties. Access licences may be exclusive or non-exclusive depending on the circumstances. Commercial operators using forestry roads, that is roads owned and operated by Forestry Tasmania, are granted access licences for use of such roads on commercial terms that cover some of the capital and operating costs of the road.

FT provides site for Koonya weather radar

During 2011/12, Forestry Tasmania's Derwent District assisted the Australian Government Bureau of Meteorology with construction and establishment of a state-of-the-art weather radar.

Located at Mount Koonya on the Forestier Peninsula State forest, the weather radar is one of only a few high resolution Doppler radars in Australia. The radar will allow meteorologists to analyse data from radio waves sent out into the atmosphere to monitor the progression and passage of cold fronts.

At almost 37 metres in height and established on a specifically designed tower, the weather radar will significantly improve the Bureau of Meteorology's ability to observe and forecast weather patterns for the State. The weather radar will be particularly important in improving the accuracy and timeliness of forecasting extreme weather events including weather information critical to wildfire incident management.

Our involvement in this project included not only the provision of the land under lease to establish this site but also the preparation of the required Forest Practices Plan to develop this site. The project required the upgrade of an existing road, the construction of new roading infrastructure and associated vegetation clearing. It was necessary to remove trees assessed as being hazardous to both the tower and the associated infrastructure, including powerlines to support the effective functioning of the tower.

Of particular interest during Forest Practices Plan preparation was the location of an extensive population of the threatened flora species *Cyathodes platystoma* (tall cheeseberry). Habitat values for a variety of fauna species including 12 threatened fauna species were also assessed. The resultant Forest Practices Plan incorporated consideration and appropriate management of these values.



During 2011/12, we assisted the Bureau of Meteorology in establishing a weather radar at Mount Koonya on the Forestier Peninsula. Our work included the preparation of a Forest Practices Plan, removal of potentially hazardous trees, and the implementation of conservation prescriptions for a threatened plant species.

sustaining CARBON STORES, CLEAN AIR, WATER AND HEALTHY FORESTS



Lan Xu – Finance Branch

The maintenance of ecosystem health and vitality is important for the long-term sustainability of the forest and relies on good management of potential threats such as fire, weeds, pests and diseases. We use an integrated approach and monitor forest health so that we can take action when required to prevent significant damage to the nature and condition of State forests. Given the important role forests play in offsetting carbon dioxide emissions, we manage State forests to ensure they continue to act as a long-term carbon store while providing a sustainable source of wood products. These wood products not only store carbon, as half the dry weight of wood is carbon, but they provide society with a low emission building and energy resource. For example, metals, concrete and plastic require much more energy to produce for the construction of buildings than wood. Replacing these materials with wood reduces greenhouse gas emissions.

Carbon and climate change

Our carbon dioxide emissions

The main energy inputs used by Forestry Tasmania are fuel (unleaded petrol and diesel), mainly for the purpose of transport of staff and equipment, and electricity used to power our offices and workshops. The estimated fossil fuel derived greenhouse gases emitted in carbon dioxide equivalent amount to three kilotonnes per year. This does not include energy use by our contractors. This is a 25 per cent reduction compared with last year's emissions. The reduction can be attributed to a reduced vehicle fleet, the adoption of a vehicle selection procedure that takes into account vehicle emissions efficiency, and an increased proportion of green energy supplied to the Tasmanian electricity grid.

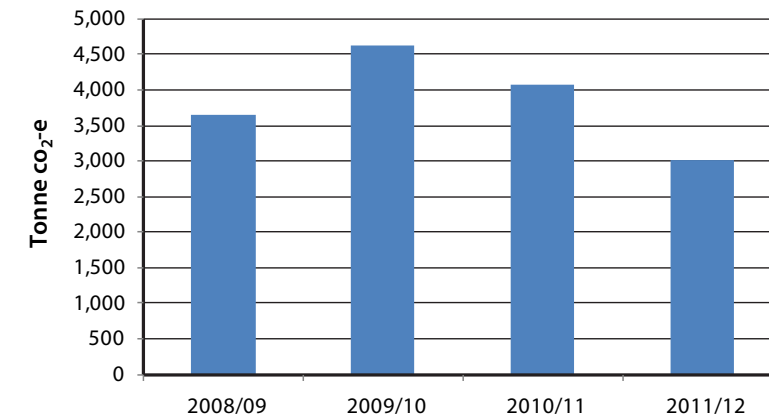
Summary of energy usage and resulting CO₂-equivalent emissions as a result of fuel used for transport and electricity usage within our offices

Input	Usage	kg CO ₂ e ¹
Unleaded	152,361 litres	362,667
Diesel	815,443 litres	2,200,181
Oil	7,495 litres	21,888
Electricity	1,697,172 kilowatt hours	436,585
Total		3,021,321

Note:

1. Calculated with Australian Government Department of Climate Change, 2011. National Greenhouse Accounts Factors. www.climatechange.gov.au

Annual amount of fossil fuel derived CO₂-equivalents produced from fuel and electricity usage



Although estimates are easy to generate, and we have done this previously, it is very difficult to accurately measure our contribution to carbon dioxide emissions from our burning program. This is because the amount generated by each burn depends on factors such as forest type, residual fuel loads, recent weather, local topographic conditions and burn intensity. However, at the estate level,

carbon sequestered through our growing forests outweighs carbon lost during the harvesting and regeneration process².

In order to find viable alternatives to burning the residue remaining after harvesting, we have been exploring the advantages and disadvantages of biomass energy for a number of years. Biomass energy has the potential to displace fossil fuels that would otherwise be burned to generate electricity. However, the recent Australian Government decision to not consider energy production from native forest biomass for renewable energy credits has reduced the viability of this opportunity.

Carbon research

Forestry Tasmania continues to develop data sets and compare carbon models to estimate State forest carbon stocks. We also continued to follow and contribute to the national carbon debate, in particular in relation to the role of managed forests and the Federal Government Carbon Farming Initiative.

Over the past 12 months, Forestry Tasmania's long-held position that the greatest sustained greenhouse gas mitigation from forest management comes from using wood products³ has been further strengthened in the international literature⁴ and in the domestic literature⁵.

² MBAC (2007). Forestry Tasmania's carbon sequestration position. Melbourne, MBAC Consulting Group: 35.

³ Moroni, M.T. 2011. The role of forest management in greenhouse-gas mitigation: a contextual framework for Australia. Forest and Wood Products Australia Limited, Melbourne. 71pp

⁴ Lippke B., Oneil, E., Harrison, R., Skog, K., Gustavsson, L., and Sathre, R. 2011. Life cycle impacts of forest management and wood utilization on carbon mitigation: knowns and unknowns. Carbon Management 2: 303-333

⁵ Ximenes, F. de A., George, B.H., Cowie, A., Williams, J., Kelly, G. Greenhouse gas balance of native forests in New South Wales, Australia. Forests 2012: 653-683.

Air quality

Planned burning is undertaken in State forests by Forestry Tasmania each autumn. Burning is dispersed, and only a limited number of forest industry operations occur on any one day. In wet eucalypt forests this burning is important to create a seedbed for regeneration. The seeds of the eucalypt species found in this forest type need an ash and mineral soil seedbed, abundant sunlight and reduced competition from other plants to establish and grow. In the more open, drier forest types of the highlands and eastern Tasmania, burning is important to reduce the fuel load arising from residues remaining after harvesting.

In addition, other landowners undertake autumn burning for agricultural and fuel management purposes.

Smoke is an inevitable product of this burning. The fine particles that make up smoke have an irritant effect and, like any such fine particle, are capable of lodging in the lungs if inhaled. For this reason, Forestry Tasmania attempts to minimise the effects of its burning on the Tasmanian community.

Forestry Tasmania, other forest industry companies and the Parks and Wildlife Service coordinate their autumn burning through their participation in the Coordinated Smoke Management Strategy, a Forest Practices Authority initiative. Every morning during the autumn the Forest Practices Authority sets maximum smoke load limits for Tasmania's airsheds, and Coordinated Smoke Management Strategy participants manage their smoke production by burning within the allocation. In addition, Forestry Tasmania attempts to burn only in areas for which forecast weather

conditions indicate the smoke will be dispersed away from settled areas. At present, the Coordinated Smoke Management Strategy only applies to burns carried out by the forest industry and Parks and Wildlife Service, so many other burns go unrecorded.

Forestry Tasmania hoped to commence the silvicultural burning program for 2011/12 earlier than the historical starting date of 15 March, with the intention of increasing the number of days on which burning would be possible and so improving resource utilisation and reducing smoke dispersion issues. Unfortunately the wet summer interfered with these plans. Although some isolated coupes were in a condition to burn, significant silvicultural burning was not possible until late March. Nevertheless, we still completed 187 planned burn operations covering approximately 12,000 hectares. This figure is made up of both high and low intensity silvicultural burns as well as strategically located fuel reduction burns. As discussed in the article below, only a small proportion of these burns caused significant air quality issues.

Other practices initiated in 2011 that were further improved during the 2012 burning season included the following:

- Days on which poor smoke dispersion was likely were again declared 'no burn days'.
- Daily advisories were issued at or before 11:00 am on the morning of planned burns.

sustaining CARBON STORES, CLEAN AIR, WATER AND HEALTHY FORESTS

- An appraisal of smoke management outcomes was issued each night. These included, when necessary, an explanation of factors that contributed to any unexpected outcomes.
- Notifications were issued to media so as to alert residents when we had reason to believe a regeneration burn may have contributed to poor air quality.

For more information about our planned burns communications strategy, see the 'Sustaining Safety, Community Access and Heritage' chapter of this report.

We also continued to provide information on the Tasmanian forest industry planned burns website (plannedburnstas.com.au) and on Forestry Tasmania's own website to ensure that the community had access to information about the location of planned burns.

Air quality particulate monitoring stations summary

	2007/08		2008/09		2009/10		2010/11		2011/12	
	Exceeded	FT contributed	Exceeded	FT contributed	Exceeded	FT contributed	Exceeded	FT contributed	Exceeded	FT contributed
Hobart	0	0	0	0	2	0	0	0	0	0
Launceston	7	1	3	0	12	0	10	0	0	0
George Town	n/a	n/a	0	0	4	0	4	0	1	0
Judbury	0	0	0	0	3	3	n/a	n/a	n/a	n/a
Total	7	1	3	0	21	3	14	0	1	0

Note:

- This table provides a summary of PM2.5 & PM10 exceedences recorded by the EPA each year. Figures for Judbury station have not been provided in 2010/11 and 2011/12 because the air quality monitoring equipment used to report against national standards is not operational.

Air quality monitoring

Monitoring of air quality occurs at 24 sites around Tasmania. The Environment Protection Authority Division (EPA) of the Department of Primary Industries, Parks, Water and Environment manages these stations, while Forestry Tasmania manages an additional station at Judbury. Four of these stations, at George Town, Rowella and Ti Tree Bend in the Tamar Valley, and at New Town in Hobart, are used to monitor Tasmania's compliance with the National Environment Protection Measure (Air Quality). In 2011/12, there was only one exceedance of the air quality standards measured at these sites and it was not attributed to a planned burn conducted by Forestry Tasmania.

The other 20 sites are a network of small air quality stations reporting near real-time indicative particle concentration data, known as Base Line Air Network Tasmania (BLANKET). The BLANKET network is used to monitor the spatial extent of smoke events produced by planned burns each autumn.

Forestry Tasmania uses the network to monitor air quality statewide during autumn and to estimate the extent of any degradation of air quality arising from all forms of prescribed burning. This information is then fed back into the scheduling process for the burning that still remains to be done.

Water, soils and geodiversity

Water quality

Streams in State forests provide quality habitat for native species, water that needs minimal treatment for domestic and agricultural use, and recreational opportunities such as fishing, canoeing and swimming. Water quality in Tasmania's State forests is generally excellent, partly because of the range of strategies that Forestry Tasmania uses to minimise the impacts on water quality of activities such as pesticide use, harvesting and road construction.

In order to minimise the risk of chemical contamination from any of our pesticide operations, we use the Pesticide Impact Rating Index computer software package, which has been tailored for forestry usage. The Pesticide Impact Rating Index determines the risk of various pesticide operations based on mobility, toxicity to indicator plants, invertebrate, fish and mammal species, and site-specific variables such as soil type and landscape. It can also assess the risk of pesticide operations to human health through comparison with the Australian Drinking Water Guidelines. It combines these data with specific site information to provide a risk assessment of the potential for pesticides to move off site, and their potential to affect aquatic organisms. The use of the Pesticide Impact Rating Index has reduced the risk of pesticide contamination of streams by enabling the identification of the safest but most effective pesticides to use for control of weeds, insect pests or fungal disease. In 2011/12, 94 per cent of the operations we classified using the Pesticide Impact Rating Index were low to very low risk.

We also conduct a water quality monitoring program at sites where there may be a risk to water quality associated with pesticide use. The Pesticide Impact Rating Index provides our staff with a scientific means of identifying those sites, allowing our water monitoring resources to be effectively targeted. In 2011/12, we submitted water samples from 56 operations for analysis, and there were no detections of pesticides in these water samples.

Lessons from smoke management

Sometimes things do go wrong. On 4 April smoke generated from Forestry Tasmania burns led to poor air quality in the St Helens and D'Entrecasteaux Channel communities. We investigated each in order to determine how we could have managed these burns more appropriately.

Figure 1 shows smoke plumes over north-east Tasmania, with the green circles marking the points of origin of smoke plumes arising from Forestry Tasmania's activities. The white circle marks a fire near Fingal that was not lit by Forestry Tasmania. The smoke plume near Blessington dispersed at high altitude and did not cause any air quality issues. However, the two smoke plumes north-east of St Helens subsequently passed through the township.

The effect on air quality is shown in Figure 2 generated by the Environmental Protection Authority's St Helens air quality monitoring station. The station recorded two smoke peaks, one in the late afternoon of the burn, and the second early in the following day.

The cause of the unforeseen smoke behaviour is believed to have been a very strong and un-forecast temperature inversion. This formed an invisible 'ceiling' that trapped the smoke and prevented it from rising and dispersing.

The inversion also influenced a smoke plume arising from a fire lit on the West Wellington Range (see Figure 3), which adversely affected air quality in the Snug and Margate areas. This situation was exacerbated by the steady north-westerly wind, and the position of the burn in a saddle between two summits. Together the inversion and the saddle confined the wind and led to the smoke being carried away in a very tight stream towards the townships.

In order to prevent a recurrence, Forestry Tasmania staff undertaking burning at higher elevations on clear days will now specifically ask the Bureau of Meteorology forecasters for any indications of strong temperature inversions in the vicinity of planned burns and will consider that advice before beginning the burn.



Figure 1 – St Helens

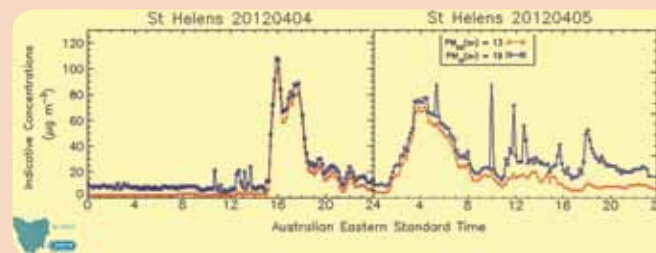


Figure 2 – St Helens air quality

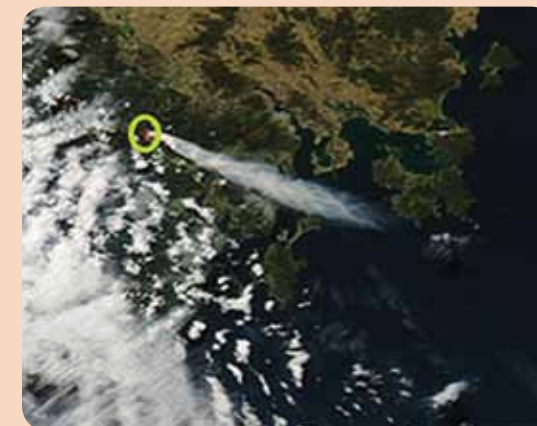


Figure 3 – D'Entrecasteaux Channel

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Research into water use of plantations

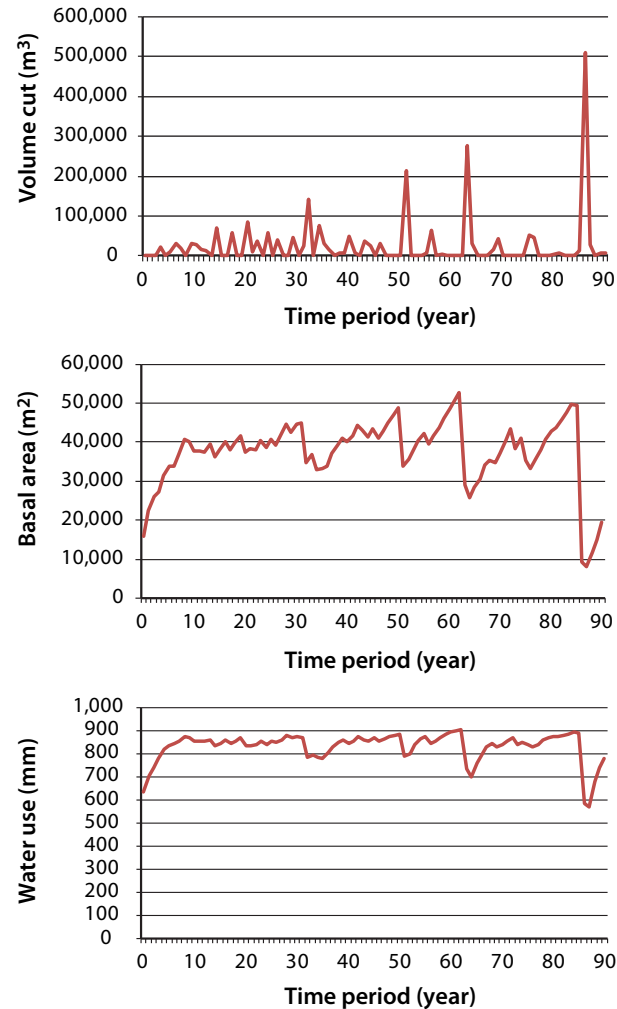
As part of the Tasmanian Community Forest Agreement program, we have recently completed a project that measured fluxes of water in different ages of *Eucalyptus nitens* plantations. The five-year project, titled *Predicting the water use of Eucalyptus nitens in Tasmania using a Forest Estate Model*, involved the measurement of transpiration, soil evaporation, canopy interception, rainfall and basal area in a chronosequence of plantations in the Florentine Valley and at a single site on the Tasman Peninsula.

We found that there was a strong relationship between plantation basal area, rainfall and plantation water use. We then used these relationships to build a water use function that was added to our Forest Estate Model. The Forest Estate Model contains information about Forestry Tasmania's forest estate including the location, age and growth of forests and plantations, and is currently used to compare different harvesting scenarios to help schedule future activities.

The water use function now allows the Forest Estate Model to simultaneously calculate plantation water use and wood production for an area of interest, be it a plot, coupe, compartment, catchment or property. These predictions can span long periods (for example, 100 years) and take growth rates and harvesting and thinning schedules into consideration. Production and water use constraints can also be added.

The Forest Estate Model will be able to demonstrate if plantation development is likely to significantly increase or decrease water use in a catchment and if increases can be offset by harvesting and thinning of other plantations. With some further investigation, there is potential for this tool to be used beyond the forestry context.

Predictions of wood volume cut, basal area and water use of 1,532 ha of *E. nitens* plantation in the Florentine Valley modelled over a 90-year period.



Research into long-term management of water quality

In 2011/12 Forestry Tasmania analysed long-term water quality data from a number of streams in southern Tasmania. The water quality data show that environmental variables such as forest type, geology, catchment size and slopes had a measurable effect on water quality. Of the human-influenced variables, the number of roads in a catchment was the most significant disturbance factor affecting water quality, with harvesting and fire usually only having short-term and infrequent effects on water quality.

The study highlighted the importance of maintaining roads properly and of closing and rehabilitating roads and tracks that are no longer needed, or where budget constraints mean that the ongoing costs of maintenance cannot be met.

Soil and geomorphology

In preparing a Forest Practices Plan, soil and geomorphology values are among the total set of site environmental values that we need to consider under the forest practices system. The Forest Practices Code guides the planning and conduct of forest operations under specific soil and geomorphological conditions, to ensure that we minimise soil damage such as compaction and erosion. In addition to applying these sound operational prescriptions and practices, some areas require special management, or even total protection, due to their sensitivity to disturbance. As at the end of 2011/12, our Management Decision Classification system recorded a total of 4,391 hectares as having been declared unavailable for harvesting due to the risk of erosion, with a total of 170,401 hectares managed for soil and geoconservation values.

Weeds, pests and diseases

Forest health surveillance

Forest health surveillance is conducted to detect health problems and to help manage pests and diseases in plantations on State forest. Two pest-specific management programs are also carried out: for browsing mammals and for chrysomelid leaf beetles, *Paropsisterna bimaculata*.

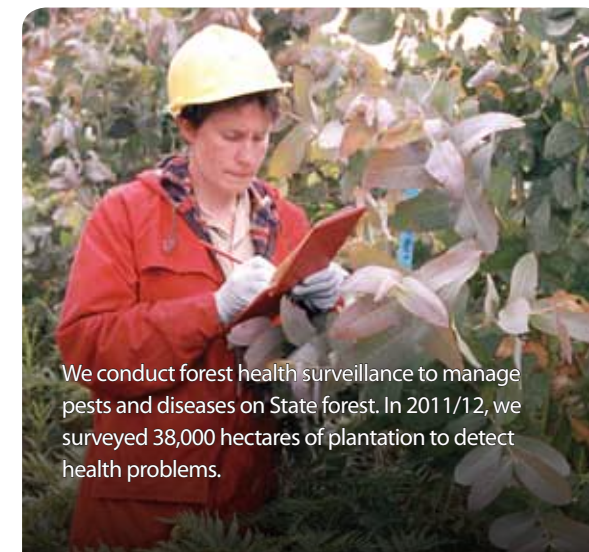
This year severe budgetary constraints restricted surveillance to roadside and ground surveys. Despite the lack of aerial surveillance, ground surveys were extended to cover close to 38,000 hectares. Field staff received 63 notifications for a range of health issues.

The above average spring/summer rainfall patterns across the north of the State in 2011/12 saw a dramatic drop in the incidence of defoliation from fungal leaf infection. There was also strong crown recovery from the 2010/11 fungal epidemic in the north-west and central north of the State. However, there was little recovery of affected plantations in the north-eastern highlands, where the area of plantations suffering moderate or severe defoliation expanded.

Secondary fertiliser operations were severely curtailed or suspended in many districts this year. Assessment and reporting criteria were adjusted to match the limited opportunities for remedial action. The reduction in the area of plantation reported to be suffering the effects of low soil fertility may therefore be due to reduced monitoring this year, rather than a real improvement.

The 2011/12 season saw the implementation of changes to the integrated pest management program for leaf beetles, to account for an increasing problem of chronic defoliation of mid-rotation trees in high altitude areas (see article overleaf – Integrated pest management for leaf beetles). In contrast to last year's high populations leaf beetle populations across the State in 2011/12 were generally low. Only 18 per cent of the monitored area experienced above-threshold populations that were high enough to potentially cause significant defoliation. Control operations were not conducted in 892 hectares (equivalent to 25 per cent) of the over-threshold areas because subsequent monitoring showed a natural drop in populations due to heavy rain, strong winds or the activity of predators.

Despite low beetle populations, and the lowering of the population threshold for triggering control operations in vulnerable plantations, the reported area of plantation exhibiting moderate levels of leaf beetle damage was similar to recent years. Much of this damage coincided with areas affected by last year's *Kirramyces* and *Mycosphaerella* outbreak, where crown density was already poor. Consequently, what would have been negligible damage in healthy, dense crowns became a significant amount of damage in crowns with greatly reduced leaf area. This particularly seems to be the case in high elevation areas where recovery has been slow, and cold, windy conditions can contribute to further defoliation and shoot death. Fungal activity may also still be contributing to defoliation in some of these areas following higher than normal rainfall in parts of northern Tasmania in November 2011. The interaction of these factors has resulted in much of this area being reported as having severe crown thinning due to multiple causes.



We conduct forest health surveillance to manage pests and diseases on State forest. In 2011/12, we surveyed 38,000 hectares of plantation to detect health problems.

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Integrated pest management for leaf beetles

The eucalypt leaf beetle (*Paropsisterna bimaculata*) integrated pest management program involves regular monitoring of plantations to assess the size of insect populations and detect populations that if left unmanaged would cause significant defoliation. The integrated pest management program has traditionally targeted plantations in the two- to six-year age range, coinciding with the ages over which pruning is done. However, health surveillance has found older plantations also suffer significant defoliation, which in some areas has resulted in the plantations developing chronically thin crowns.

We substantially modified the integrated pest management program in 2011/12 to better focus on protection. The most significant change was in the way we choose plantations for inclusion in the monitoring program. Eucalypt plantations were rated according to their risk of supporting high leaf beetle populations. This rating was based on work



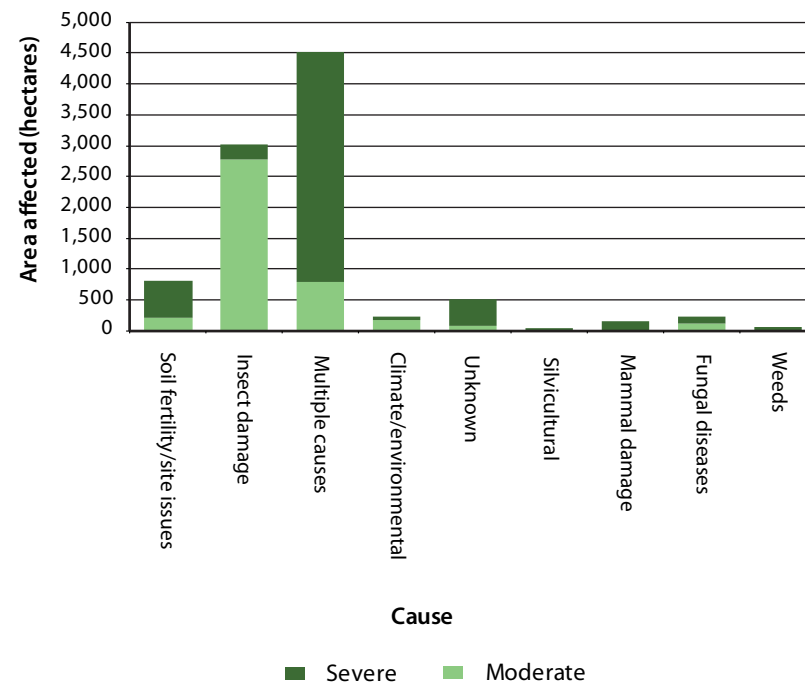
In 2011/12, we made improvements to our integrated pest management program for leaf beetles, which saw plantations monitored according to their risk of infestation. The improvements delivered major efficiencies in detecting over-threshold populations.

undertaken at the University of Tasmania. By only monitoring plantations judged to have a moderate or high risk of supporting high leaf beetle populations we were able to extend protection to older plantations without expanding the overall size of the integrated pest management program.

The change to risk-based targeting resulted in fewer young plantations and more mid-rotation plantations being monitored for leaf beetle populations. Fifty-four per cent of the monitored plantations were nine years or older in 2011/12, compared with 34 per cent in 2010/11.

The greater efficiency of risk-based targeting was most apparent in Huon District, where for the same monitoring effort nearly four times more over-threshold populations were detected.

The main health problems causing moderate or severe damage in established eucalypt plantations in state forests



Use of pesticides

For the purpose of weed control and pest management, we applied a total of 1,810 kilograms of active ingredient to 3,374 hectares in 2011/12. This represents a decrease of 896 kilograms compared with the amount applied in 2010/11. At the Forest Nursery at Perth, a total of 32.6 kilograms of active ingredient was applied for the purpose of controlling weeds, pests and fungi.

Fuel and chemical spills

We have set procedures in place for managing fuel and chemical spills. We record all accidental spills of fuels or chemicals in our corrective action request system and manage them to ensure that the potential adverse environmental effects are minimised. We notify the Environmental Protection Authority of spills greater than 20 litres.

We only recorded one fuel spill this year, of six litres. The fuel was spilt onto a road while a contractor was cleaning an oil sump. Contaminated shale was subsequently removed from the site and disposed of correctly.

We also recorded one minor chemical overspray event from a pesticide application. This resulted in six tree deaths in an adjoining privately owned plantation. Despite its relative insignificance, this event initiated a review of our procedures. The dead trees were replaced at our expense.

Fire management

As a land manager, Forestry Tasmania is obliged to control and extinguish unplanned bushfires that occur on State forest. There are many causes of bushfires, including lightning, arson and carelessness. Lightning causes only a small proportion of the fires recorded as occurring on State forest, with the majority being caused by people. Bushfires are highly variable in area burnt, fire intensity and event duration, all of which depend on the interaction of weather conditions, topography, fuel load, type and arrangement.

Controlled fire is a valuable tool, used by Forestry Tasmania at high intensity to create an ash seedbed to facilitate the germination of eucalypt seed in wet forest types, and at lower intensity to manage fuel loads and arrangement in drier forest types, buttongrass moorland and heathlands. Such burning is intensively planned, and conducted in accordance with long-established prescriptions developed from operationally based research.

For Forestry Tasmania the 'bushfire season' may run from October to April. As the bushfire season winds down, the silvicultural burning program ramps up to its peak in March/April.

Forestry Tasmania organises its fire management activities following PPRR principles, that is, Preparedness, Prevention, Response and Recovery.

Preparedness includes the preparation of fire management and fire action plans, the training of staff, the development and purchase of equipment, the construction and maintenance of fire trails, fuel breaks and reliable water

storages, weekend standby arrangements for staff during the fire season and the development of close working relationships with other fire and land managers, particularly the Tasmania Fire Service and the Parks and Wildlife Service.

Prevention includes the Forestry Tasmania fire lookout and detection flight system, by far the largest and best integrated in the State, ground patrols in areas of frequent fire occurrence, and prescribed burning to reduce fuel loads at both local and landscape scales.

Response is the reaction to fire reports, investigation, assessment and suppression activity. In this Forestry Tasmania is assisted and supported by our partners in the Inter-agency Fire Management Protocol: the Tasmania Fire Service and the Parks and Wildlife Service.

Recovery encompasses the multitude of post-fire rehabilitation tasks, and the after-action review. The lessons learnt and conclusions drawn from these reviews feed back into Preparedness activities.

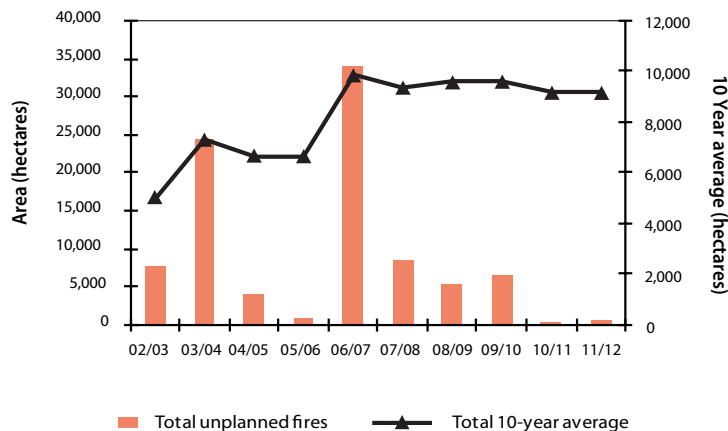
The 2011/12 season was remarkably quiet, following the quiet and wet summer of 2010/11. The largest fire was the Meadowbank fire, which started on 25 February, a day of total fire ban, and which burnt 5,253 hectares before being extinguished on 5 March. This fire threatened State forest in the Karanja area and Forestry Tasmania fire crews supported the Tasmania Fire Service.

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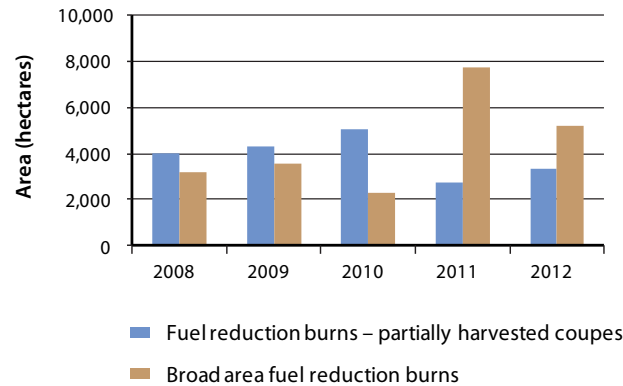
The most notable fires on State forest were four fires that occurred in debris in harvested coupes. In Huon District two coupes were deliberately lit by arsonists, with the fire in a third coupe being attributed to lightning. In Derwent District, a fire in a Styx Valley coupe that started at the same time as crews were busy fighting the Meadowbank fire, several kilometres away, was also caused by arson. In all, 51 unplanned fires burnt approximately 447 hectares of State forest during the 2011/12 season.

The area burnt in 2011/12 was only 4.8 per cent of the 10-year rolling average annual area burnt of 9,169 hectares. The relatively small area burnt is attributed to the unusual weather pattern again experienced across the State during the 2011/12 summer. Several short periods of widespread heavy rain that occurred until mid-February 2012 slowed the widespread drying of fuels, and so reduced the opportunity for fires to occur. Nevertheless, fire suppression activities during the 2011/12 season cost Forestry Tasmania \$304,075.

Area burnt by unplanned fires in 2011/12 compared with the 10-year average



Fuel reduction burns on State forest



Broad-area fuel reduction burns are burns that are strategically planned to protect nearby assets, or for ecological purposes such as coastal heath or buttongrass management. In 2011/12, 4,571 hectares of these burns were completed. The most significant burning was undertaken in the Eastern Tiers, north of the Lake Leake Road. This major burn covered areas of State forest, reserved and private lands and was conducted in partnership with the Parks and Wildlife Service and Tasmania Fire Service, as part of the integrated statewide Strategic Fuel Reduction program.



Bass District staff Bob Knox, Phillip Midson and Jamie Haas inspect the latest measures to protect St Helens and Georges Bay from bushfire.

sustaining SAFETY, COMMUNITY ACCESS AND HERITAGE



The principles of sustainable forest management, the *Forestry Act 1920*, our Sustainability Charter, and public expectations, all require Forestry Tasmania to provide for the non-wood values of State forest alongside wood production. Accordingly, our business meets a range of Community Service Obligations, which are set forth in section 10(1) of the *Forestry Act*. These Community Service Obligations are currently funded from the sales of wood products.

The Community Service Obligations specified in our accounts – management of reserves and the Special Timbers Zone – are integrated with our forestry operations. They form a considerable part of our expenditure each year; however, because of this integration, they are implemented more cost effectively than would be the case on comparable land tenures. Other Community Service Obligations, as defined under the *Forestry Act*, include the provision of recreational opportunities (including roads and walking tracks), community outreach activities and educational services.

As in the previous financial year, the economic and strategic uncertainties that prevailed during 2011/12 highlighted the inseparable relationship between the economic viability of the forestry sector and the extent of the benefits it can provide at no cost to the community. As reported last year, the Auditor General's Special Report No. 100 found Forestry Tasmania had foregone revenues of \$30-40 million in Community Service Obligations since 1998. This finding provided the basis for an application to the State Government for funding of these costs into the future. However, the matter remains under government

consideration, pending the outcomes of other issues such as the present review into Forestry Tasmania's structure.

As noted in last year's report, a number of forestry roads that provide access to popular recreation sites, including the Blue Tier, Meander Falls and Oldina Reserve Roads, were closed in 2011 due to severe flood damage. The Australian Government, in response to a request from the Tasmanian Government, determined that Forestry Tasmania was eligible to claim for Natural Disaster and Recovery Relief Arrangements as it was considered that we maintain these roads on behalf of the State as part of our Community Service Obligations.

The challenging financial environment during 2011/12 meant that it was necessary to strictly prioritise maintenance works on other forestry roads. It is not widely appreciated in the community that Forestry Tasmania is responsible for managing approximately 14,000 kilometres of roads on State forest. The main purpose of these roads is to provide operational access, but in most instances the public is permitted to use them free of charge for recreational purposes. However, in 2011/12 it became increasingly unviable for us to maintain roads that were not being used to generate income from timber sales. Road closures, or title transfers to local councils, were implemented in cases where roads were uneconomic for Forestry Tasmania to maintain and where there was a safety risk to the public.

The Tasmanian Government indicated that it was aware of the issues with relation to funding road maintenance, and that it would deal with them once the Tasmanian Forests Intergovernmental Agreement process had concluded.

Nick Fountain-Jones, PhD student at the University of Tasmania, explaining the ecology of forest insects at a Forestry Tasmania open day.

sustaining SAFETY, COMMUNITY ACCESS AND HERITAGE

Blue Tier access reopened

The Blue Tier Forest Reserve had become increasingly popular after the installation of mountain bike and walking trails and cultural interpretation several years ago.

However, access to the reserve was blocked following flood damage in early 2001.

Repairs to the access road were made possible by funding under the Australian Government's National Disaster Relief and Recovery Arrangements in response to an application co-ordinated by the Department of Premier and Cabinet. Break O'Day Council also provided some in-kind support for the project.

The repair work included replacement of culverts with bigger diameter pipes to carry a greater volume of water.



Senior Forest Officer Wayne Radford and Bass District Forest Manager Peter Bird survey one of the obstacles on the Blue Tier access road before the repairs were completed.

Draft agreement between the Tasmanian Aboriginal Centre and the forest industry

During the year, the Tasmanian Aboriginal Centre, the Forest Industries Association of Tasmania and Forestry Tasmania explored ways that the Aboriginal community and the forest industry could work more closely together. The three organisations examined the potential for the new reserves that were likely to be declared under the Tasmanian Community Forest Agreement to be placed in the care of the Aboriginal community, using the Commonwealth funds (\$7 million annually) that would be allocated for reserve management.

The three parties reached a number of areas of understanding, articulated in a draft agreement for the Tasmanian Government's consideration. However, the draft was not progressed to a final agreement.

Adventure Forests

The 2011/12 financial year saw the implementation of revised Adventure Forests business and marketing plans, developed during the previous year, which were designed to maintain market share and deliver on customer expectations in a challenging tourism climate.

Product marketed under the Adventure Forests brand includes the Tahune AirWalk and Eagles Eyrie, which are wholly owned by Forestry Tasmania; Tarkine Forest Adventures, which is leased to a family business, GMG Pty Ltd; and Hollybank Treetops Adventure, which is a joint venture between Forestry Tasmania and Australian Zipline Canopy Tours. Additionally, Forestry Tasmania has operated

the Forest and Heritage Centre in Geeveston since the State Government requested that we assume management of the facility in 2010. The centre provides an administrative centre for Adventure Forests bookings and basic interpretive displays for visitors *en route* to the Tahune AirWalk.

Forestry Tasmania develops and implements the Adventure Forests brand strategy, which is led by the Adventure Forests website and key promotional and advertising activities (including television advertising). Individual managers or operators also undertake tactical product marketing under the Adventure Forests brand.

As has been well documented in the media, the high Australian dollar has created a downturn in domestic tourism over the past few years, as tourists capitalise on their spending power in international destinations.

In Tasmania, such problems were compounded in 2011/12 by falling intrastate visitation caused by the worsening economic conditions, and by declining destination awareness in key interstate markets along with a reduction in airline capacity. The Tasmanian Visitor Survey for the period to March 2012 showed an eight per cent decline in visitation to Tasmania, and an 11 per cent reduction in visitor expenditure, compared with the same period in 2011⁶. Despite these challenges, Adventure Forests again returned a trading profit in 2011/12.

Against this background, Adventure Forests focused on improving the visitor experience, implementing rigorous cost control, and aggressively marketing its product with consistent branding, imagery and key messages. With

⁶ Tourism Tasmania (2012) Tasmanian tourism snapshot year ending March 2012. tourismtasmania.com.au

the surfeit of new product entering the market, we have focused on creating product that is even more specifically tailored to the needs of each of our customer groups.

The Tahune AirWalk has been in the mature stage of the product lifecycle for many years now, but nevertheless remains one of Tasmania's most visited, and most well known, family attractions. In 2011/12, we focused on improving the visitor experience by creating a 'soft adventure' attraction. Having opened the AirWalk Lodge in the previous reporting period, 2011/12 saw us promote Tahune as an overnight destination with exclusive night-time activities for guests. We also implemented new interpretive activities for day visitors, improved our menu offerings in the café, and became operators of the Eagle Hang Glider product, which previously had been leased to a private operator. All of these improvements will allow us to more effectively integrate our marketing and provide a complete visitor experience.

Behind the scenes, we upgraded our online booking system and implemented new systems to improve staff skills in administration, safety and environment, stockcontrol and financial management, all of which will further streamline our operations.

Segway Tours were also launched at the Tahune AirWalk and Hollybank Treetops Adventure during the year.

At the Eagles Eyrie, we sought to further consolidate our product through the development of the 'Top of the World' tour, a niche product aimed at independent travellers and small groups. During the shoulder season, we introduced

an expanded itinerary that featured the Big Tree Reserve in the Styx Valley and a guided coach tour to Abbots Peak.

In May 2012, we hosted a 'day for the locals' at the Eagles Eyrie. The open day featured a discounted bus transfer to Abbots Peak and was attended by 300 Derwent Valley residents. It provided an opportunity for locals who may otherwise not have the means or inclination to experience a full 'Top of the World Tour', to see the Eagles Eyrie first-hand.



With the opening of the AirWalk Lodge in the previous reporting period, 2011/12 saw us promote Tahune as an overnight destination with exclusive night-time activities for guests.

sustaining SAFETY, COMMUNITY ACCESS AND HERITAGE

Head Office open days bring in the holiday crowds

Forestry Tasmania continues to open its doors to the public each school holidays, giving families an opportunity to meet our staff and learn about forestry through fun and educational activities.

Our open days have proved to be incredibly popular – this year around 1,800 children participated in hands-on activities including finding their carbon footprint and discovering forest insects under the microscope. They also learned about forest sustainability and regeneration, wedge tailed eagles, measuring trees and firefighting.

Also favourites with the kids are abseiling in our indoor forest, photos with Krusty the burrowing crayfish, face painting, badge making, billy tea, and damper making demonstrations from the Port Cygnet Venturers.

Our February 2012 open day saw special guests Nick Duigan and Andrew Hart, the hosts of our television series *Going Bush*, giving everyone a sneak preview of the new series. Our June 2012 open day proved to be the most popular yet, with around 800 people streaming through our 'forest in the city' in support of the *Give Me 5 for Kids* program. At final count, the day raised just under \$900 for the Royal Hobart Hospital children's ward.

figures represented the lowest on our records. One of the most pleasing statistics was the lost time injury frequency rate of 5.68, which was well below our target of eight and the lowest it has ever been. This is an excellent outcome in light of the difficult working environment being faced by employees.

We sustained four lost time incidents in the financial year, a reduction of 50 per cent on the previous lowest figure. In all four situations, the employees returned to full normal duties within one month of the injury.

Forestry Tasmania continues to promote a culture of 'zero workplace injury and illness', primarily through a focus on behavioural-based safety. We have maintained programs such as Safety Circle® and 'Incident Free' driver training, which encourage a pro-active approach to safety and a high level of individual responsibility.

The participation of all employees has been a key factor underpinning our safety practices. The continued use of positive performance indicators has focused on attendance at Toolbox meetings for all staff, as well as vehicle and site safety inspections. In addition, senior management have visited numerous Forestry Tasmania worksites across the State to promote safety.

As a result of an external audit in 2012, Forestry Tasmania was re-certified for a further three years in accordance with Australian & New Zealand Standard 4801: Occupational Health & Safety Management Systems.

Forest education

Along with other industry groups, Forestry Tasmania continued its sponsorship of the Forest Education Foundation, which operates the National Forest Learning Centre in our Head Office complex in Hobart. The centre continued to be a focus for school groups and casual visitors to our headquarters.

We also continued working in partnership with the Forest Education Foundation on our Head Office Open Days (see article left) to deliver a range of informative school holiday activities.

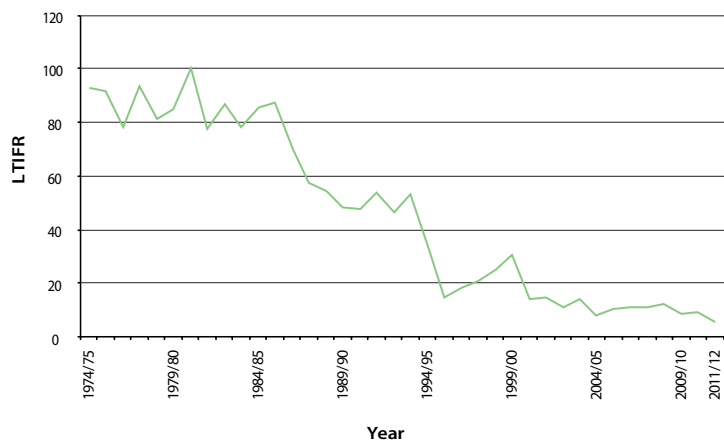
Health and safety

Forestry Tasmania achieved exceptional results in safety and workers' compensation during 2011/12. In many cases,



In 2011/12, we purchased the Eagle Glide experience at the Tahune AirWalk, which previously had been leased to a private operator. Improvements such as this will allow us to more effectively integrate our marketing and provide a complete visitor experience.

Our long-term safety performance as measured using the lost time injury frequency rate (LTIFR)



In safety terms, our harvesting contractors also had an exceptional year, with only two lost time injuries. Forestry Tasmania has continued to provide a program of education and mentoring, as well as regular safety management system and site audits, for all harvesting contractors.

Workers' compensation

Our number of workers' compensation claims was lower than previous years, with 16 new claims received in 2011/12. Many of the claims were for minor injuries and, as a result, the cost of new claims was almost 50 per cent below our performance measure.

Only 25 per cent of new claims were lost time injuries. This is a significant improvement, with the previous lowest result in the last five years being 33 per cent.

Forestry Tasmania has continued to promote early return to work duties following any injury, with a committed team of coordinators across the State providing support and guidance to injured employees.

Links to Aboriginal community supported through provision of bush products

Wood products from State forest were used in a number of traditional projects during 2011/12.

A project managed by the Colony 47 organisation relied on our staff's expertise in order to locate and obtain the thick stringybark required for constructing traditional Tasmanian canoes. The project was undertaken in order to introduce Aboriginal youth at the Ashley Detention Centre to cultural practices.

The canoes are made using bundles of cork reed that are bound together with long strips of bark from brown-top stringybark trees. The Tasmanian Museum and Art Gallery only recently re-discovered the exact technique for making the canoes. A number of vessels have now been built, with one being suitable for paddling the eight-kilometre return trip from Kettering to Bruny Island.

Forestry Tasmania also provided materials to support local Aboriginal community celebrations during the year. Bass District forest supervisor Charles Willis took a group of collectors to Mount Barrow, where they obtained eucalyptus, tea tree, dogwood and musk saplings, which they then crafted into clapsticks.



Charles Willis (right) lends a hand to the group of clap stick collectors, Reverend Tim Matton-Johnson, Rex Johnson, Dave Roberts, Eli Jessup and Steve Blyth.

sustaining SAFETY, COMMUNITY ACCESS AND HERITAGE

Aboriginal and historic cultural heritage

We undertake archaeological surveys as part of our pre-harvest assessment of special values. These surveys may detect new sites, or re-detect old sites that were found by us in the past and mentioned in historical records, but which had no contemporary map reference. Once we find archaeological sites, we assess and protect them as necessary. These sites may include former mines, tramways, huts, artefact scatters, boilers and old mill sites.

This year, we surveyed 568 hectares for non-Aboriginal heritage, and found 16 new sites. These included timber tramways, huts, water races and locations of early prospecting implements.

We also found one new Aboriginal cultural heritage site as a result of surveys conducted over an area of 612 hectares.

Community engagement

Communications during regeneration burning season

Through our Fire Management Branch, we again implemented a comprehensive communications program for the regeneration burning season. The communications effort built on the improvements developed in 2010/11, made after we found the Planned Burns website was, on its own, an insufficient source of information for the community. This year's communication program followed a similar format to that in 2010/11, and included:

- a total of 72 daily media advisories on the morning and the evening of planned burns, which were also

broadcast on ABC Radio;

- information flyers in the daily and regional newspapers; and
- a media conference at the commencement of the regeneration burn season.

Forestry Tasmania is just one of many land managers that carry out planned burns during the autumn. We continue to hope that the other forestry companies and the private landowners who carry out planned burns will make a similar effort to inform the community about their activities.

The Environmental Protection Authority, which is responsible for recording all smoke-related complaints for the State, received 83 individual smoke complaints between 21 February and 10 May 2012. From these complaints, we have attempted to identify those that were specifically attributable to our burns. We found that 42 (48 per cent) of the complaints were related to our activities. Furthermore, we determined that 28 of those complaints were undoubtedly related to our burns, while 14 other complaints may have been related to our activities.

Media relations

Forestry Tasmania continued to release information pro-actively to the media and to aim to meet the target of responding to all media enquiries within one hour.

In addition to planned burns advisories, we issued 88 formal media statements and 13 media advisories during 2011/12, which was a significant decrease on the previous year. However, as in previous years, our Corporate Relations

and Tourism Branch dealt with many media issues on an informal basis.

Right to Information

The *Right to Information Act 2009* places a significant emphasis on the pro-active disclosure of information without the need for stakeholders to make formal applications. In response to formal requests, it also provides for active disclosure, which is the voluntary release of information, and for an enforceable right to information under assessed disclosure if some of the information sought is exempt under the Act.

In 2011/12, Forestry Tasmania continued to pro-actively release information via our website and to the media. Forest Practices Plans remained available for purchase via our online shop.

During the year, we also received 16 applications for assessed disclosure, which was a decrease on the previous year's total of 24. In accordance with our internal policy, all finalised applications for assessed disclosure, with the exception of those relating to personal information, were uploaded to our website and released to the media.

Branchline

Branchline continued to be issued via email from the Managing Director, to our stakeholders in Tasmania, mainland Australia and overseas. It continued to be published on a flexible schedule in response to emerging issues, to keep our stakeholders informed about upcoming events such as open days and forestry talks. We produced

24 issues of *Branchline* in 2011/12, compared with 19 the previous year.

Going Bush

The popular *Going Bush* television series became a national program in 2011/12, with the Australian Forest Products Association, the Australian Furniture Association, the Victorian Association of Forest Industries, VicForests, Forestry South Australia, Forests NSW, South-East Fibre Exports, Blue Ridge Hardwoods, Australian Paper, Hurford Hardwood and Weathertex, joining Forestry Tasmania in its production. The program was seen on the free-to-air Southern Cross television network in regional New South Wales, Victoria, South Australia, Queensland, the Northern Territory, the Australian Capital Territory and Tasmania. It also aired nationally on the pay television Aurora Channel.

Again hosted by Southern Cross television personalities Nick Duigan and Andrew Hart, the program featured an even wider range of stories than in previous years, including the special species timbers in Parliament House, scientific research on Victoria's long-footed potoroo and the new National Arboretum in Canberra.

Community Assist Program

The Community Assist Program is a partnership between Forestry Tasmania and Southern Cross Television that provides funding for organisations involved in not-for-profit projects that benefit the community. The program is aligned with Forestry Tasmania's core values.

Following our decision to reduce the Community Assist Program in 2010/11, we launched a funding round in August 2011 with two categories of sponsorship: Care for People (maximum \$5,000) and Pride of Tasmania (maximum \$40,000). We offered a total of \$100,000 in sponsorship.

A total of 19 organisations and projects were funded under Community Assist in 2011/12, including Football Federation Tasmania, the Rosny College production of *Les Misérables*, and the Schools Triathlon Challenge. Our districts also sponsored specific regional community events. Full details of sponsorships are provided in Appendix 2 – Data Tables.

'Care for People' Schools Award

Forestry Tasmania again offered the 'Care for People' Schools Award in 2011/12. The award recognised students who have made a significant contribution to their communities during the academic year.

All Tasmanian schools were eligible to participate in the award, and were approached by Forestry Tasmania during the year to nominate a student who had demonstrated compassion or thoughtfulness towards others. Each school was provided with a perpetual shield on which the student's name was inscribed, and the recipients were given a backpack, drink bottle, sunhat and a family pass to an Adventure Forests tourism attraction.

2011/12 was the fifth year in which the award was offered, and 130 schools participated in the program, an increase from 119 in the previous year.

Understanding the areas on which we need to work

Questions, concerns or complaints about our operations and activities are received as a result of people writing or speaking to us or to the Minister for Forests. Some of these questions, concerns and complaints are outside our control, for example, those that relate to legislation. However, those that are relevant to us are recorded in our corrective action request system. Through this process, a staff member is nominated as being responsible for addressing the specific issue. Responses usually involve a letter, a telephone call or a meeting. In some cases, the response to a complaint includes an operational response (that is, attending to a reasonable request).

The Office of the Minister for Forests received 54 letters or other forms of correspondence regarding Forestry Tasmania in 2011/12, which was a decrease on the 66 received in the previous year. Of these, 28 per cent related to infrastructure maintenance, seven per cent to special species timbers, seven per cent to proposed reserves under the Tasmanian Forests Intergovernmental Agreement, five per cent to forest carbon, and five per cent to export opportunities.

A woman with dark hair, wearing a light green button-down shirt with a 'forestry Tasmania' logo, is smiling and looking down at a small object she is holding in her hands. The background is slightly blurred, suggesting an outdoor setting.

sustaining SCIENCE-BASED STEWARDSHIP

Our objective is to comply with all relevant legislation and supplementary standards, and we aim to continually improve the productivity of State forest and our management practices. We achieve this through maintaining a practical research program and independent third-party certification, and by ensuring our organisational capacity is supported by the collection and use of accurate information, effective systems and procedures and skilled personnel.

Legal compliance

Forest Practices Act

All forest practices must be carried out in accordance with a certified Forest Practices Plan that contains specifications for harvesting, road works and reforestation activities in accordance with the Forest Practices Code. The code requires special provisions to protect natural and cultural values, including flora, fauna, geomorphology, soils and water, cultural heritage and visual amenity.

The forest practices system emphasises high environmental standards through planning, training and education. Where problems arise, corrective action, including the remediation of damage, takes place. This is followed by review, analysis and improvement of systems to ensure that similar errors do not occur in the future. Where the problem is considered serious, legal enforcement is applied in a number of ways. This includes verbal or written notification by a Forest Practices Officer issued under Section 41 of the Forest Practices Act. The Forest Practices Authority can also prosecute or issue fines for failure to comply with a certified Forest Practices Plan.

No fines were issued to us by the Forest Practices Authority this year. However, we were issued two Section 41 notices. One of these notices was for a coupe where we failed to conduct an archaeological survey after harvesting and did not lodge an appropriate compliance report. We promptly conducted the survey and reviewed our procedures for identifying when they are required. We also lodged the compliance report, and as of August 2012, no compliance certificates were outstanding for any of the Forest Practices Plans we have in operation. The other notice related to some wind-thrown pines building up in a streamside reserve in the Strahan plantations. This site was being managed by a sawmiller who withdrew from the site for commercial reasons. Forestry Tasmania later removed the trees at our expense.

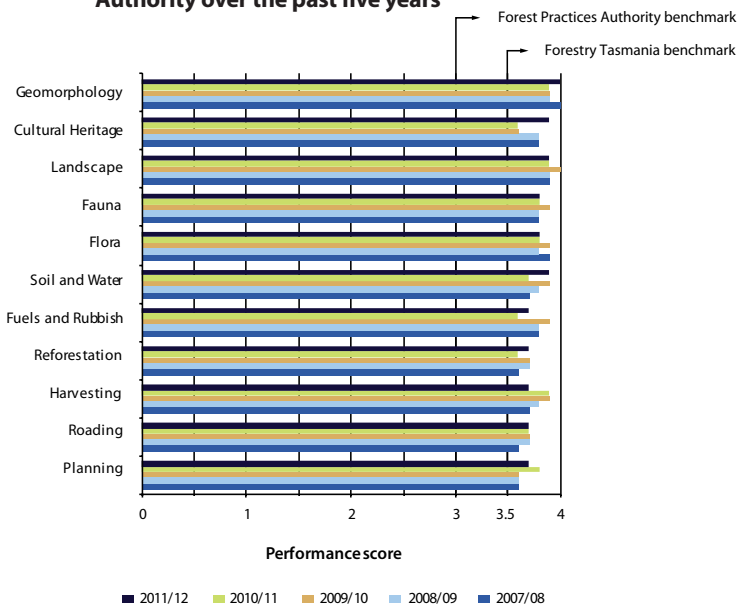
We also issued two Section 41 notices to our contractors. Both of these notices involved breaches of the wet weather limitations in the Code of Practice. The contractors were instructed to cease work and to ameliorate the track damage that had occurred before work recommenced.

The Forest Practices Authority undertakes an independent annual audit of a representative sample of Forest Practices Plans. The audit covers forest harvesting, road works and site preparation at various stages of completion. In addition to the assessment of operational performance, the audit checks the standard of the plan, including all assessments and procedures required by the forest practices system.

The Forest Practices Authority audit examined 17 Forest Practices Plans developed by Forestry Tasmania. We scored an average rating of 'above sound' on all 11

criteria examined, which is above our internal benchmark performance rating of 3.5. There were no follow-up investigations required as a result of these inspections, which is an exceptional outcome. There was only one case where minor additional remedial work, relating to fire break and access track drainage, was identified in order to achieve the code standard.

Our performance measured by the Forest Practices Authority over the past five years



Workplace Health and Safety Act

During 2011/12, we did not receive any fines or Section 38 notices under the Workplace Health and Safety Act. We did receive one Section 36 notice, whereby Workplace Standards requested further information regarding a compensable injury, as it was considered a dangerous incident under the legislation. We provided the information

to Workplace Standards, who accepted that the failure to report was an oversight and that no further action was warranted.

Certification

Forestry Tasmania’s sustainable forest management performance is independently audited against the requirements of three voluntary certification standards: the Australian Forestry Standard (AS4708); Environmental Management Systems (AS/NZS 14001); and Occupational Health and Safety Systems (AS4801). These certifications are very important to us as they provide both our customers and stakeholders reassurance that the management systems that underpin our compliance with world’s best practice in sustainable forest management and occupational health and safety are all operating effectively.

One of the major achievements of the year was to be re-certified to these standards for the coming three years. During May, the independent JAS-ANZ accredited external auditing body, NCSI, conducted an extensive two-week audit involving both field visits and reviews of our documentation and management systems. They concluded that we continued to maintain the systems required by the standards. After completing the scheduled three-year audit, NCSI praised Forestry Tasmania’s professionalism:

“The auditors noted the high level of professionalism and commitment from staff involved in the audit process. It is clear that staff take pride in their work and endeavour to deliver the highest possible standards in all aspects of forest management. Where opportunities for improvement were identified, staff responded positively and constructively.”

A simultaneous investigation also cleared Forestry Tasmania of recent allegations of over-harvesting. The Chairman of the Independent Verification Group of the Tasmanian Forests Intergovernmental Agreement had included assertions in his report about the sustainability of harvest yields projected by Forestry Tasmania for its estate. This led to a request by the Program for Endorsement of Certification Schemes (the international umbrella organisation for the Australian Forestry Standard) for an investigation into these assertions. That investigation, conducted by NCSI and Emeritus Professor Ian Ferguson from the University of Melbourne, unambiguously exonerated Forestry Tasmania.

Surveillance audits will continue to be carried out on our systems every nine months, with the objective of maintaining and improving them for re-certification in 2015.

Read our audit public summary reports: forestrytas.com.au

Read Professor Ferguson’s investigation into overcutting allegations: forestrytas.com.au

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Research

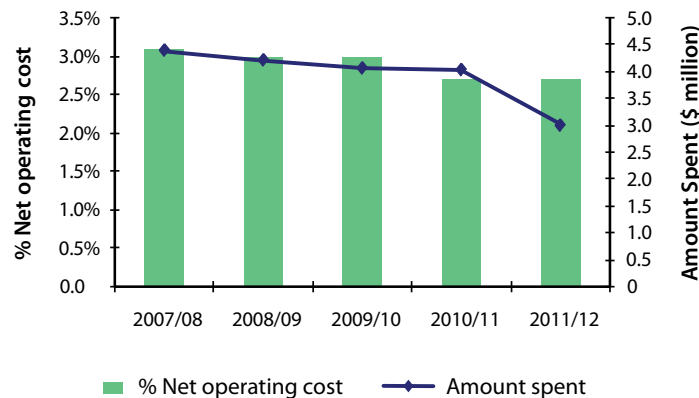
The last year has been a period of very rapid change in the Research and Development Branch. There has been a reduction in the number of people, as the Tasmanian Community Forest Agreement program has concluded, contracts have been completed and research projects have been finalised. A number of staff have also resigned to move onto other things. Following a review of Forestry Tasmania's research capacity by the Board in February this year it was agreed, among other things, to restructure the Division of Forest Research and Development into a smaller Research and Development Branch. The restructure is now complete, and the new branch will focus on improving forest productivity and providing ecosystem services. The branch comprises two groups so named: Productivity and Ecosystem Services. The Board also recommended that the internally managed biodiversity and hydrology research programs be wound down, and that a high-level carbon policy capacity be maintained.

Despite the diversions of restructures and difficult markets, the research group still performed strongly over the year. Our research staff authored 22 technical reports and 18 peer-reviewed papers, made 21 conference presentations, maintained the Warra Long-Term Ecological Research site, hosted nine lunchtime talks and led numerous field days.

The Warra Long-Term Ecological Research site continued to support a very active research program and is now formally a Supersite under the Terrestrial Ecosystem Research Network. Progress was also made in establishing the carbon flux tower at Warra (see 2010/11 *Stewardship Report*),

although delays in fabrication resulted in the tower erection being put back to spring 2012. Encouragingly, other Warra partners have become more active at the site. This is crucial if Warra is to continue to maintain its status as one of the pre-eminent long-term research sites in Australia, thus enabling us to attract investment from diverse sources.

Amount spent annually on research as a percentage of Forestry Tasmania's operating cost



Organisational capacity

Forestry Tasmania's key strategic human resources issues are the maintenance of appropriate levels of skills and experience in the face of budgetary constraints. In the past year, we have reduced our staff head count by almost 10 per cent, from 424 in June 2011 to 383 on 30 June 2012. This equates to 349 full-time equivalent staff. This reduction has occurred through natural attrition, the non-renewal of some short-term contracts, and targeted redundancies. During the downsizing process we have been seeking to maintain our key corporate knowledge and skill set where we are able to do so.

The majority of Forestry Tasmania employees' conditions of employment are covered by an enterprise agreement. The current agreement, Forestry Tasmania Enterprise Agreement Number 2 of 2011, had a completion date of 31 March 2012 but has continued to operate beyond that date.

A new two-year enterprise agreement was voted up by eligible employees on 21 June 2012. However, concerns by external parties caused us to renegotiate this agreement. The vote on this updated agreement was scheduled for 17 September 2012.

Training and development

The Training and Development unit continued to organise training on a statewide basis, enhance data integrity and reporting within the Learning and Development module of the human resources management system, and operate the Registered Training Organisation.

As a Registered Training Organisation we have been busy working with 35 staff enrolled in Certificate III in Forest Growing and Management (specialising in Forest Firefighting). Having completed this program, these people will be issued with this national qualification. This program was made possible through the federally funded Enterprise Based Productivity Places Program, managed through the ForestWorks Industry Skills Council.

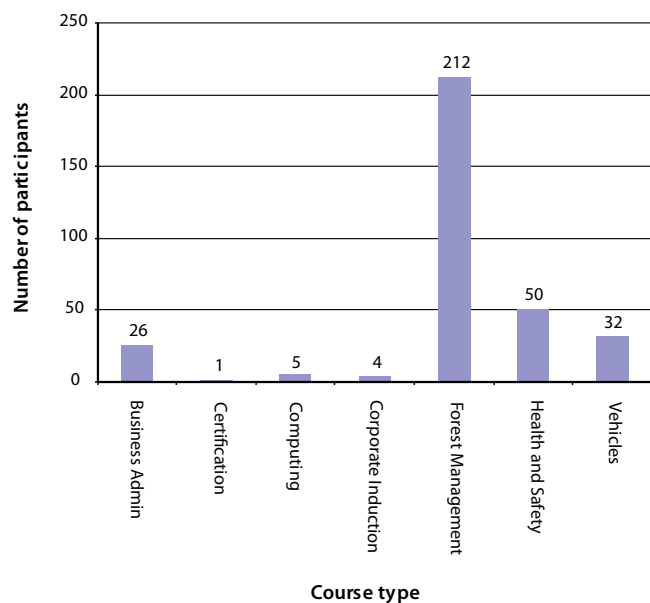
The Training and Development unit also represents Forestry Tasmania on the Interagency Training Committee for fire management, which also includes the Parks and Wildlife Service, Tasmania Fire Service and the Tasmanian Industry Skills Advisory Committee for the forest industry. We have

also provided courses in Forest Firefighting and Prescribed Burning to both our personnel and external clients.

In recent months ForestWorks has also assisted with access to the National Workforce Development Fund to allow Forestry Tasmania the opportunity to offer staff further qualifications to upgrade their skills in the Forest Growing and Management sector.

Assisting the Registered Training Organisation to meet its training and assessment objectives, eight people successfully completed a Certificate IV in Training and Assessment, and four others upgraded their qualifications. This provides the Registered Training Organisation with far greater flexibility to deliver services across the State.

Number of people who underwent training this year by subject area



Recognising long-serving employees

In December 2011, we recognised a number of long-serving employees who have reached 40-year, 35-year and 25-year milestones with Forestry Tasmania. Special events were held at the district offices and Head Office. These employees have served Forestry Tasmania for a combined total of 410 years.

Recognition awards

At the long service awards in December 2011, presentations were also made to employees for recognition of their special contribution to the organisation. The five recognition awards are given to those employees who have best exemplified each of our core values in the past year. The awards are named after retired employees who gave many years of specialist and dedicated service. Fire Manager

Tony Blanks received the Emil Johnson *“We are proud of who we are and what we do”* award for his leadership and consistent contribution to fire-related issues. Island Specialty Timbers Manager Chris Emmett received the Dick Chuter *“We do what we say we will do”* award in recognition of his passion for, and achievement in, developing the specialty timbers business. Works supervisor Adrian Coulson received the John Cunningham *“We care for people and the environment”* award in recognition of his long-term ongoing support and mentoring of staff. Human Resources Officer Frank Wiltshire received the Peter Duckworth *“We think before we act”* award in recognition of his careful and considered attention to detail. Finally, Bric Milligan received the Darrel Doyle *“We get things done”* award in recognition of his dedication to, and performance in, his role in the international export section.



Recipients of the Certificate III in Forest Growing and Management (L-R): Scott Parker, Wayne Haigh, Dave Kyte, Bernard Holdsworth, Chris Sing and James Newman.

sustaining SCIENCE-BASED STEWARDSHIP

Sensefly

Forestry Tasmania has been experimenting with unmanned aerial vehicles since February 2012, and has purchased a Sensefly Swinglet. This is a tiny unmanned aerial vehicle, weighing only 500 grams. It has a wingspan of a little over a metre and carries a 12-megapixel camera. It may be launched from any comparatively clear spot, and in calm conditions can fly for about 30 minutes – enough to fully photograph an average sized coupe. The Sensefly has the potential to fill a need for good resolution, spatially correct photography where time is critical. It will still be generally cheaper to engage a conventional pilot/camera operator to collect spot photography when large numbers of



Sensefly, a small unmanned aerial vehicle we purchased in 2012 to take high quality photographs of operational areas such as harvesting coupes.

photos are needed. However, the Sensefly provides a means of capturing images cheaply, and provides ‘just in time’ imagery where it might be needed, for example, before a controlled burn.

The resolution of the resulting photos is higher quality than we typically need – each pixel represents about four centimetres on the ground – more than sufficient for most operational uses. Typically over 250 photos are taken over an average coupe. The photos are then processed to obtain a single, spatially referenced image that can be used for operational planning.



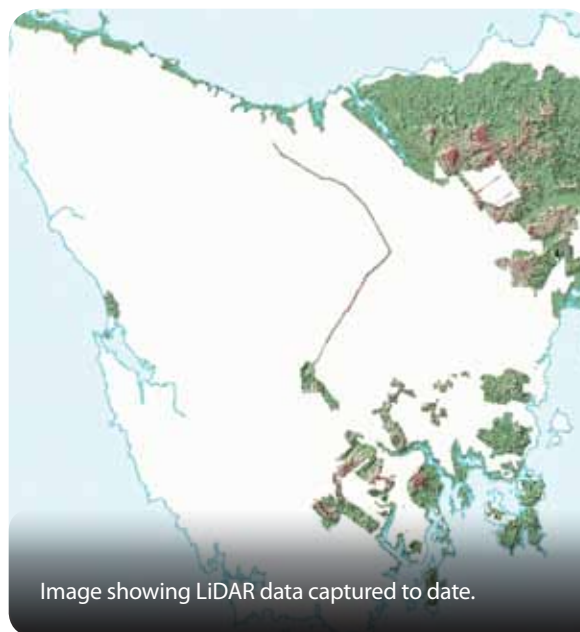
A mosaic of several photos taken by Sensefly, showing the outstanding detail provided by the high resolution images.

Resource information

The Resource Management Branch is responsible for collecting and providing information on our forest resources. In the past year, the branch has continued to maintain our geographic information systems infrastructure and data, manage our forest inventory systems and develop growth models for our forest.

We have continued to manage the LiDAR program that we initiated several years ago. LiDAR capture has continued over our resource, albeit at a much slower rate than we would have liked. We have now surveyed over one million hectares, primarily in the north-east and east of the State. The Strahan plantation resource and some of the southern forests were also surveyed in the past year.

The research program into new applications for LiDAR continues, with major breakthroughs projections for forest growth and more importantly, disseminating this information to our field staff in an easy to understand way. A new technique developed in the past year assigns every square metre of the forest with an actually measured inventory plot, matched on the basis of that area's LiDAR signature. This method has enormous potential in allowing us to accurately model a whole forest's standing volume and timber quality, which can then be used as a starting point for predicting the forest's future volumes. Our initial tests have shown that data derived from LiDAR assisted inventory and traditional high intensity inventory data are not distinguishable.



Business systems developments

We completed the development of a thinning assessment tool, which enables staff to enter measurements of recently thinned plantations while they are in the field. These data are used to monitor operational quality standards and to collate inventory data for timber yield planning.

We also launched a new production harvesting scheduling tool, which assists planners and wood schedulers in working out the most efficient options in supplying wood to customers. Other benefits are the ability to reschedule harvesting in a timely manner.

Improvements were made to the forest operations database system, to add more geographic information systems

interfaces, to facilitate the routine prescription and scheduling of operations, and to improve the monitoring of Forest Practices Plans and other works programs.

We also commenced the development of a permanent inventory plot tool, which will be used by field staff to gather data from our permanent forest measurement plots. These plots have been established for many years and the data collected from them are used in modelling forest growth. We have traditionally collected this information on paper, but moving to field computer-based collection will reduce data errors and data entry time.

External commercial services

Our provision of external commercial services continued profitably during 2011/12. Our Forest Technical Services business sells operational and specialised forestry services and advice to customers in Tasmania, interstate and internationally.

Revenue in the past 12 months totalled over \$0.6 million, with 25 projects being undertaken. Work included field surveys of natural values, fabrication of helicopter-mounted fire-ignition equipment, health surveillance of plantations and quarries, strategic forest estate yield modelling, forest mapping, and tree-breeding and silvicultural research for Chinese eucalypt plantations. High-precision forest and terrain mapping using airborne LiDAR technology, and associated forest modelling services, were also provided to forestry companies, councils, utility corporations and land management agencies.



where to FROM HERE?

Listed below are some of the challenges and priorities we will be striving to achieve in 2012/13 to ensure we continue to deliver the aims outlined in our Sustainability Charter.

Sustaining biodiversity and habitat

- Continue to develop our coupe context metrics for habitat retention in consultation with the Forest Practices Authority.
- Promote our research that shows the efficacy of retaining mature forest elements in a production landscape.
- Contribute to the development of the Department of Primary Industries, Parks, Water and Environment's swift parrot strategic species plan.
- Implement outcomes of government land use decisions.

Sustaining jobs for current and future generations

- Implement government decisions on the structure of Forestry Tasmania.
- Continue working towards securing new markets for lower grade forest products.
- Continue the implementation of our *Forestry Innovation Plan*, including developing markets for Hardlam.
- Deliver the sustainable wood review in accordance with the Regional Forest Agreement.
- Work towards reducing the number of outstanding regeneration burns.
- Work towards implementing a thinning program in our plantations.

Sustaining carbon stores, clean air, water and healthy forests

- Establish the carbon flux tower at Warra.
- Develop and implement a State forest weed strategy.
- Continue to support full implementation of the Coordinated Smoke Management Strategy.
- Re-deploy our floating rising stage water samplers.

Sustaining safety, community access and heritage

- Continue to implement our five-year strategic safety program. Specifically, promoting healthy living programs for our staff.
- Implement our new Community Assist package, which involves staff members contributing their time to community projects.
- Continue to seek resolution of government funding for Community Service Obligations.

Sustaining science-based stewardship

- Prepare for and ensure compliance with the new Workplace Health and Safety Act that comes into force on 1 January 2013.
- Prepare for, and ensure compliance with, the revised Australian Forestry Standard.
- Further operationalise LiDAR technology to improve tactical planning and strategic inventory outcomes.
- Continue to seek external consulting opportunities.

GLOBAL REPORTING INITIATIVE CONTENT INDEX

This report has been self-assessed as complying with level C disclosure of the Global Reporting Initiative.

GRI Ref.	Profile Disclosures	Reported	Location within this report
Strategy and analysis			
1.1	CEO statement.	Fully	Message from the Chairman and Managing Director
Organisational profile			
2.1	Name of the organisation.	Fully	Our organisation
2.2	Primary brands, products, and services.	Fully	Our organisation
2.3	Operational structure.	Fully	Our organisation
2.4	Headquarters location.	Fully	Our organisation
2.5	Countries of operation.	Fully	Our organisation
2.6	Nature of ownership and legal form.	Fully	Our organisation
2.7	Markets served.	Partially	Our organisation
2.8	Scale of organisation.	Fully	Year at a glance table
2.9	Significant changes during the reporting period regarding size, structure, or ownership.	Fully	Organisational Capacity Sale of softwood joint venture
2.10	Awards received during the reporting period.	Fully	None received
Report parameters			
3.1	Reporting period.	Fully	Reporting structure and scope
3.2	Date of most recent previous report.	Fully	Reporting structure and scope
3.3	Reporting cycle.	Fully	Reporting structure and scope
3.4	Contacts.	Fully	Contact us
3.5	Process for defining report content.	Partially	Reporting structure and scope
3.6	Boundary of the report.	Fully	Reporting structure and scope
3.7	Limitations of the scope or boundary of the report.	Fully	Our organisation Reporting structure and scope
3.8	Basis for reporting on joint ventures, subsidiaries, leased facilities, outsourced operations, and other entities that could affect comparability.	Partially	Reporting structure and scope
3.10	Explanation of the effect of any restatements of information provided in earlier reports.	Fully	Reporting structure and scope
3.11	Significant changes from previous reporting periods in the scope, boundary, or measurement methods applied in the report.	Fully	Reporting structure and scope
3.12	GRI content index.	Fully	GRI content index

GLOBAL REPORTING INITIATIVE CONTENT INDEX

GRI Ref.	Profile Disclosures	Reported	Location within this report
Governance, commitments and engagements			
4.1	Governance structure.	Fully	Corporate governance
4.2	Indicate whether the chair of the highest governance body is also an executive officer.	Fully	Corporate governance
4.3	State the number of members of the highest governance body that are independent and/or non-executive members.	Fully	Corporate governance
4.4	Mechanism for shareholders and employees to provide recommendations or direction to the board.	Partially	Corporate governance
4.14	List of stakeholder groups engaged by the organisation.	Partially	Community engagement
4.15	Basis for identification and selection of stakeholders with whom to engage.	Partially	Community engagement

GRI Ref.	Performance Indicators	Reported	Location within this report
Economic			
EC1	Economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and governments.	Fully	The year at a glance Financial performance report
EC8	Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind, or pro-bono engagement.	Partially	Community service activities
Environmental			
EN3	Direct energy consumption by primary energy source.	Fully	Carbon and climate change
EN4	Indirect energy consumption by primary energy source.	Fully	Carbon and climate change
EN5	Energy saved due to conservation and efficiency improvements.	Partially	Carbon and climate change
EN11	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.	Fully	Reserve system
EN14	Strategies, current actions, and future plans for managing impacts on biodiversity.	Fully	Biodiversity
EN16	Total direct and indirect greenhouse gas emissions by weight.	Partially	Carbon and climate change
EN23	Total number and volume of significant spills.	Fully	Fuel and chemical spills
EN28	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations.	Fully	Legal compliance
EN29	Significant environmental impacts of transporting products and other goods and materials used for the organisation's operations, and transporting members of the workforce.	Partially	Carbon and climate change
Social			
LA1	Total workforce by employment type, employment contract, and region.	Partially	Organisational capacity
LA6	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs.	Fully	Health and safety
LA7	Rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities by region.	Partially	Health and safety
Training and education			
LA10	Average hours of training per year per employees.	Partially	Organisational capacity
SO1	Nature, scope, and effectiveness of any programs and practices that assess and manage the impacts of operations on communities, including entering, operating, and exiting.	Partially	Community engagement

sustainable FOREST MANAGEMENT POLICY

Forestry Tasmania is a forest land manager responsible for the management of Tasmania's State forest resource.

Forestry Tasmania is committed to continual improvement and ensuring that this forest resource is managed for optimum community benefit, using environmental best practice to create long-term wealth and employment for Tasmanians.

Under this policy, Forestry Tasmania will:

- Conduct operations to meet or exceed all relevant Australian and Tasmanian environmental and forest management legislation, standards and codes.
- Actively engage with stakeholders and neighbours and encourage them to provide feedback on Forestry Tasmania's progress in sustainable forest management.
- Maintain a Sustainability Charter (Forest Management Plan) that outlines Forestry Tasmania's strategic aims and goals.
- Undertake and promote collaborative research that will ensure that operational practices are underpinned by sound science.
- Maximise product recovery, minimise waste and implement measures that strive to prevent pollution as a result of forest operations.
- Maintain a comprehensive forest management system that is externally certified against ISO14001 and the Australian Forestry Standard (AS4708).
- Regularly monitor, audit, review and publicly report on our forest performance.
- Clearly define and communicate environmental and forest management responsibilities to our employees and support them with training and appropriate resources to ensure those responsibilities are fulfilled.
- Encourage and facilitate compliance with environmental and sustainable forest management standards by suppliers, contractors, and the users of State forests.

Bob Gordon
Managing Director

The tables in this section support the statements made in the main report and provide a more detailed view of long-term trends.

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