

# Implementation of the Tasmanian Regional Forest Agreement 2007 – 2012

Prepared by the Tasmanian and Australian Governments  
for the third Five-Yearly Review of the  
Tasmanian Regional Forest Agreement



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## Introduction

The Tasmanian Regional Forest Agreement (RFA) was signed in November 1997 by the then Prime Minister and Premier of Tasmania. The RFA established an agreed framework for the management and use of Tasmanian forests to implement effective forest conservation, forest management, forest industry practices and forest and associated industry development.

The RFA provides for annual reporting against milestones and commitments in the RFA for the first four years and a review of progress on the implementation of the milestones and commitments in the RFA in the fifth year (and subsequently every five years).

This report has been prepared for the third five-yearly review, covering the period from November 2007 to November 2012. The review reports on data for the period 1 July 2006 to 30 June 2011. This is the same dataset as used for the [State of the Forests Tasmania 2012](#),

This report provides details of the progress with implementation of:

- RFA commitments that are ongoing;
- RFA commitments that were not completed prior to the 2007 Review;
- recommendations arising from the 2002 and 2007 Reviews; and
- commitments made in the Tasmanian Community Forest Agreement 2005 (TCFA).

This report has been jointly prepared by the Tasmanian and Australian Governments using the resources of the following agencies.

Tasmanian Government:

- Department of State Growth
- Department of Primary Industries, Parks, Water and Environment
- Forest Practices Authority
- Forestry Tasmania
- Private Forests Tasmania

Australian Government

- Department of Agriculture
- Department of the Environment

This report should be read in conjunction with the report [State of the Forests Tasmania 2012](#), prepared and published by the Forest Practices Authority in cooperation and consultation with the Department of Primary Industries, Parks, Water and Environment, Forestry Tasmania, the Department of Infrastructure, Energy and Resources, Private Forests Tasmania and the Australian Government Department of Agriculture. The *State of the Forests Tasmania 2012* report was prepared to satisfy the requirement under clause 45 of the RFA for the five yearly review to take account of trends in the agreed Sustainability Indicators for Tasmanian forests.

## Structure of the Report

This report is in four parts:

- Part 1 - commitments of the original RFA
- Part 2 - recommendations made by the Resource Planning and Development Commission (RPDC) in the first 2002 five yearly Review
- Part 3 - commitments made in the 2005 TCFA
- Part 4 - recommendations made in the second five yearly Review in 2007.

Each milestone or commitment identified in the RFA or TCFA is followed by a report by the relevant Party on progress achieved since 2007. No detail is provided for those milestones and commitments that were reported in the 2002 or 2007 reviews as being met and completed.

## Summary of progress towards meeting commitments

The performance against each of the RFA/TCFA milestones and commitments and 2002 and 2007 Review recommendations is summarised in Tables 1, 2, 3 and 4.

Under the RFA, the governments made a total of 98\* commitments:

- 42 were fully completed prior to, and reported on, in either the 2002 Review or 2007 Review
- 4 have been progressed but are not yet fully completed
- 41 have ongoing commitments that have been met during the review period
- 7 no longer require implementation, due to subsequent agreements or changes to legislation
- 4 have not yet been required to be implemented.

Of the 30 recommendations from the 2002 Review:

- 13 were completed prior to, and reported on, in the 2007 Review
- 2 have been completed since the 2007 Review
- 7 are ongoing actions that have been implemented since 2002
- 6 have been progressed but are not yet fully completed
- 2 have been superseded by commitments made in the TCFA and will not be implemented.

\*Note: This was reported as 100 in the previous Implementation Report, however a review of the attribution has indicated some double counting between *completed* and *ongoing* commitments. In this review, a commitment with any ongoing component is reported as ongoing, even where some components have been fully implemented or completed.

Of the 66 commitments made in the 2005 TCFA:

- 14 were completed prior to, and reported on, in the 2007 Review
- 32 have been completed since the 2007 Review
- 12 are ongoing commitments that have been met since 2005
- 5 have been progressed since the 2007 Review but are not yet fully completed
- 3 have either not commenced or will not be completed.

Of the 43 recommendations from the 2007 Review:

- 16 have been completed
- 9 are ongoing actions that have been implemented since 2008
- 14 are being implemented but are not yet fully completed
- 4 have not commenced.

The Report demonstrates continuing substantial progress by both Governments in achieving these commitments and milestones. Substantial progress has been achieved in the five year reporting period in implementing the TCFA and the recommendations of the 2007 Review. Of the total 237 specific actions, commitments and recommendations reviewed in this report, 197 (83%) have been completed, implemented and ongoing or superseded. The implementation of a further 29 (12%) have been progressing but they are not yet completed.

The commitments and milestones in the RFA and TCFA have now been largely met, although changes in circumstances or subsequent intergovernmental agreements made some previous actions or recommendations obsolete, or delayed their delivery. These instances have been noted in the text.

**Table 1 - RFA Commitments and Milestones**

Clause	Commitment and Milestone	Status at June 2011
8	The State and the Commonwealth to jointly determine the process for extending the RFA	Not yet due
22(a) (b)	Commonwealth to seek passage of legislation that includes the provision of an RFA	Completed prior to 2007 Five Yearly Review
23(a)	The Commonwealth to prepare a policy outline for RFA legislation, which will include provisions as specified in clause 22	Completed prior to 2002 Five Yearly Review
23(c)	The Commonwealth to introduce legislation to provide certainty to the provisions specified in clause 22	Completed prior to 2007 Five Yearly Review
24(a) & 51	<p>The State undertakes to manage areas in the CAR Reserve System identified in Attachment 6, with the exception of Commonwealth-owned or -leased land, on the basis outlined in that Attachment and in accordance with the relevant objectives set out in Attachment 7</p> <p>The Parties will take action to establish the CAR reserve system and to manage the CAR values in a regional context consistent with the management objectives specified in Attachment 7</p>	<p>Ongoing commitment has been met</p> <p>Ongoing commitment has been met</p>
24(b)	The State to proclaim such new reserves having categories provided by existing legislation	Completed prior to 2002 Five Yearly Review
24(c)	The State to introduce legislation to establish required new categories of the revised public land classification system	Completed prior to 2002 Five Yearly Review
24(d)	Where any new reserves are to be included in a category specified in Attachment 7 that is not already provided for by existing legislation, Tasmania undertakes to proclaim such new reserves	Completed prior to 2002 Five Yearly Review
26	The Parties agree to the management of National Estate values as set out in Attachment 1	Ongoing commitment has been met
32	Any new or revised recovery plans will be jointly prepared and funded and implemented cooperatively	Ongoing commitment has been met
33	Multiple-species recovery plans will be developed where appropriate	Ongoing commitment has been met
34	The Commonwealth will continue to consult with the State on the preparation of threat-abatement plans for key threatening processes	Ongoing commitment has been met
35	Commonwealth to adopt State recovery plans where they meet the requirements of Commonwealth legislation	Ongoing commitment has been met
36	National recovery plans and threat-abatement plans will be prepared jointly with other governments where possible	Ongoing commitment has been met

Clause	Commitment and Milestone	Status at June 2011
37	The Parties will consult on the priorities for listing threatening species, forest communities and threatening processes, and in the preparation of all recovery plans and threat-abatement plans	Ongoing commitment has been met
39	The State and the Commonwealth to jointly participate in further World Heritage assessment of the relevant themes	Completed prior to 2002 Five Yearly Review
40	The Commonwealth agrees that it will give full consideration to potential social and economic consequences of any World Heritage nomination of places in Tasmania and that any such nomination will only occur after the fullest consultation and agreement with the State	Not yet required
41	World Heritage nomination to be drawn from the Dedicated Reserve System	Not yet required
42	<p>The Parties agree:</p> <ul style="list-style-type: none"> <li>• that before any World Heritage nomination of any part of the Forest Estate is made, all necessary management arrangements, including joint policy coordination arrangements and a statutory management plan under the relevant Tasmanian legislation, will be in place; and</li> <li>• that prior to any World Heritage nomination, all related funding issues will be resolved to the satisfaction of both Parties</li> </ul>	Not yet required
44	The State and the Commonwealth to provide each other with written reports detailing the achievements of milestones	Completed prior to 2002 Five Yearly Review
45	The State and the Commonwealth to review the performance of the RFA	First and second review completed, Third review to be undertaken
48	CAR Reserve System is to be established for the purpose of ensuring long-term conservation and protection as per Attachment 6 and Attachment 8	Substantially completed
51	The Parties agree that they will establish the CAR Reserve System on the Public Land described in Attachment 6 and manage that system to maintain the CAR Values of that land in a regional context consistent with the management objectives for each element of the reserve system as specified in Attachment 7	Ongoing commitment has been met
52	The State will consult with the Commonwealth prior to rejecting any recommendations of the Resource Planning and Development Commission in regard to tenure to be applied to those reserves listed in Attachment 6 sections 1.7 and 1.8	Completed prior to 2002 Five Yearly Review
53	All Deferred Forest Lands not included in the CAR reserve system other than those specified in Attachment 6 will be removed from the Register of Deferred Forest Land and added to the Register of Multiple-use Forest Land	Completed prior to 2002 Five Yearly Review

Clause	Commitment and Milestone	Status at June 2011
54	The Commonwealth has requested, and the State has agreed, postponement of any harvesting in the Savage River pipeline corridor. Accordingly the Parties agree: to postpone any harvesting and associated forest roading in the area as shown in map 1, and that this area will continue to be included in the calculation of sustainable yield of special-species timber; and that uses other than timber production will continue to be managed in accordance with clause 78 of the Agreement.	Completed prior to 2002 Five Yearly Review
55 (a-e)	<p>The Parties agree that:</p> <ul style="list-style-type: none"> <li>(a) during the first four years of this Agreement, the State will review its resource estimates for deep red myrtle available for supply to the furniture and craft industries, in terms of volume, quality and economic accessibility, and will publish a report of the findings;</li> <li>(b) the State will arrange for the review described at (a) above to be independently audited by an auditor agreed by the Parties, and for a report by the auditor to be published;</li> <li>(c) the further management of the Savage River Pipeline corridor will be considered by the State prior to the first five yearly review of this Agreement in the light of the report and the audit described at subclauses (a) and (b) above;</li> <li>(d) if the resource review and audit confirm the availability, outside the Savage River Pipeline corridor, of adequate resource of acceptable quality and economic accessibility, to maintain a supply of at least 4,500 cubic metres per year of deep red myrtle, for the remainder of the term of the Agreement, then harvesting and associated forest roading within the area will be further postponed for that period; and</li> <li>(e) in the alternative, the area will be further considered by the State to ensure the availability of deep red myrtle for the period.</li> </ul>	(a) and (b) completed prior to 2002 Five Yearly Review (c) – (e) Completed prior to 2007 Five Yearly Review
56	The Commonwealth agrees that those areas of the Buckland Military Training Area leased by the Commonwealth from the State and not required for the CAR Reserve System will remain available to the State for timber production purposes, including plantation development	Ongoing commitment has been met
57	The Parties agree that any changes to those elements of the CAR reserve system in Informal reserves, will occur only in accordance with this agreement, will maintain the level of protection of identified values at the regional scale and that information on all such changes will be publicly available and provided to the person or body conducting the five-yearly review described in clause 45 for incorporation into the review process	Ongoing commitment has been met

Clause	Commitment and Milestone	Status at June 2011
58	<p>The State will continue, with respect to private land, to:</p> <ul style="list-style-type: none"> <li>(a) ensure that private forest owners comply with the Forest Practices Code for harvesting and regeneration operations;</li> <li>(b) develop adequate mechanisms to protect nature conservation and catchment values; and</li> <li>(c) undertake the initiatives specified in Attachments 9, 10 and 11</li> </ul>	Ongoing commitment has been met
59	The State agrees to implement a process to facilitate the voluntary participation by private landowners to protect CAR values on private land	Completed prior to 2002 Five Yearly Review
60	The State agrees to adopt the Permanent Native Forest Estate policy framework in Attachment 9	Completed prior to 2002 Five Yearly Review
64	The State agrees to amend its forest management systems to reflect the undertakings in this Agreement, particularly those in Attachment 10	Some completed prior to 2002 and 2007 Five Yearly Reviews. Others progressed and ongoing commitments met
69	Prior to the first five-yearly review, the State will, where practical, assess the species listed in Attachment 2 (Part B) and determine management requirements in accordance with clause 96	Completed prior to 2002 Five Yearly Review
70	Actions in agreed recovery plans or threat-abatement plans will be implemented in accordance with timelines in Plan or as soon as possible thereafter	Ongoing commitment has been met
71	Any changes to the Priority Species in Attachment 2 or altered management prescriptions for Priority Species will be in accordance with processes in clause 96	Ongoing commitment has been met
72	Public reporting and consultation opportunities provided through the processes outlined in Attachment 11 will continue	Ongoing commitment has been met
73	The State will implement the range of reporting and consultative mechanisms in Attachment 11	Ongoing commitment has been met
74	The Parties agree to cooperate in implementing the specified actions in the Employment and Industries Development Strategy (Attachment 12)	Ongoing commitment has been met
79	The Parties recognise that, subject to clauses 80, 81 and 82, mineral exploration and mining can occur in the parts of the CAR reserve system identified in Attachment 6	Ongoing commitment has been met
80	Mineral exploration proposals in CAR reserves to be referred to the Mineral Exploration Working Group	Ongoing commitment has been met
81	All mining activities in CAR reserves will be subject to environmental impact assessment and environmental management conditions	Ongoing commitment has been met

Clause	Commitment and Milestone	Status at June 2011
82	In parts of the CAR reserve system with high-quality wilderness value, measures will be taken to minimise the effects of mining exploration and mining activities on wilderness values. Any rehabilitation will aim to restore the site to wilderness condition.	Ongoing commitment has been met
83	Tasmania will introduce legislation to replace the <i>Aboriginal Relics Act</i> after consultation with the Tasmanian Aboriginal Community	Progressed but not yet completed
87	The State confirms its commitments under the Competition Principles Agreement, which provides that legislation relevant to the allocation and pricing of hardwood logs from State forests will be reviewed before the 31 <sup>st</sup> December 1999. Competitive neutrality principles will be taken into account in any changes following the review.	Completed prior to 2002 Five Yearly Review
89	Relevant research reports will be made publicly available wherever practicable	Ongoing commitment has been met
90	Commonwealth and Tasmania to provide each other with access to data as per Attachment 14 (The Parties recognise that the implementation and monitoring of this Agreement depends on appropriate mutual access to and accreditation of relevant information owned and held by each of them and have agreed to provide such access and accreditation for the term of this Agreement in accordance with the practices and procedures specified in Attachment 14)	Mostly completed prior to 2002 Five Yearly Review. Some ongoing commitments met
91	The Parties agree to develop and establish by the first of December 1999 an appropriate, practical and cost effective set of Sustainability Indicators	Completed prior to the 2002 Five Yearly Review
93	The State agrees, within five years of the date of this Agreement, to further develop its Forest Management Systems and processes through the development of EMSs in accordance with the principles laid out in Attachment 5 and acknowledges that its objective for State Forest is system certification comparable with the ISO 14000 series.	Completed for State forest prior to the 2002 Five Yearly Review.
94	The State agrees to publish and make publicly available, its: Annual compliance audits of the implementation of the <i>Forest Practices Act 1985 (Tas.)</i> , Forest Practices Code and its code of reserve management specified in Attachment 10.9.	Ongoing commitment has been met
96	The State agrees that any changes to Priority Species, including new or altered management prescriptions, will provide for the maintenance of the species, be scientifically sound, be endorsed by the Threatened Species Scientific Advisory Committee and will also take note of public comment.	Ongoing commitment has been met
97	The State agrees to maintain and update databases of management prescriptions and responses to disturbance for threatened species and use these as the basis for management of the species. Updated contents of the databases to be periodically available for public comment.	Ongoing commitment has been met
98	The State agrees to undertake a review of sustainable high-quality sawlog levels from public land to reflect changes in forest inventory and new intensive management initiatives.	Completed for the 2002 and 2007 Five Yearly Reviews.

<b>Clause</b>	<b>Commitment and Milestone</b>	<b>Status at June 2011</b>
99	The State agrees to undertake by 30 April 1998 a review of pricing and allocation policies for commercial government-owned forestry operations	Completed prior to the 2002 Five Yearly Review
100	The Commonwealth will provide \$20 million for the Private CAR Reserve system	Partly provided. Superseded by TCFA
101 (i)	Commonwealth to provide \$57 million for intensive forest management initiatives	Completed prior to 2002 Five Yearly Review
101 (ii)	Commonwealth to provide \$13 million for employment and industry development initiatives, as per Attachment 12	Completed prior to 2002 Five Yearly Review
101 (iii)	Commonwealth to provide \$10 million for infrastructure development initiatives, as per Attachment 12	Completed prior to 2002 Five Yearly Review
101 (iv)	Commonwealth to provide \$10 million for protecting conservation values on private land, as per Attachment 8	Completed prior to 2002 Five Yearly Review
Att 1.6	The Parties agree, by the 31 December 1998, to jointly fund and accredit for land management purposes digital maps at resolution of 1:100 000 of the boundaries of all lands in Tasmania listed on the Register of the National Estate.	Partially met – No longer required
Att 6.2	The CAR reserve system on Public Land, not including values managed by prescription, will total 2,700,000 ha, comprising 2,304,000ha of existing reserves and 396,000 ha of additional reserves	Completed prior to 2002 Five Yearly Review
Att 6.5	The State will finalise boundaries on 1:25 000 maps to enable gazettal, referred to clause 24 of the agreement. Finalisation will include identifying the best management boundaries.	Completed prior to 2002 Five Yearly Review
Att 6.17	Forestry Tasmania will identify those Informal Reserve areas on State forest on Management Decision Classification maps as protection zones and manage the areas for the protection of the CAR values identified, subject to field verification of the existence and extent of those values. These informal reserves will be included in new and revised Forest Management Plans by the year 2000.	Completed prior to 2002 Five Yearly Review
Att 6.18	Any changes to Informal Reserve boundaries to be in accordance with clause 57	Ongoing commitment has been met
Att 6.20	Management plans with public participation for Commonwealth informal reserves to be completed by 2000	Completed prior to 2002 Five Yearly Review
Att. 6.21	Certain communities will be protected on public land outside of reserves	Ongoing commitment has been met
Att. 6.22, 24	Deferred Forest Land not required for the CAR Reserve system to be removed from the Register of Deferred Forest and entered on the Register of Multiple-Use Forests	Completed prior to 2002 Five Yearly Review
Att 6.23	Referral of certain Deferred Forest Land to the Public Land Use Commissioner for recommendations on tenure and management	Completed prior to 2002 Five Yearly Review

Clause	Commitment and Milestone	Status at June 2011
Att 8.1	The program will commence after prioritisation of the CAR values and implementation arrangements are established and will continue for an agreed period. Any extension to this would require the agreement of the Parties.	Program ceased in 2006
Att 8.2	Participation in the program by private landowners will be voluntary and no non-voluntary instruments will be used to achieve protection of CAR values on Private Land without proper compensation being paid.	Program ceased in 2006
Att 8.3	The program will seek to maximise agreed CAR values on private lands in a cost-effective manner	Program ceased in 2006
Att 8.18	A variety of commitments were made with respect to a Strategic Plan, identification of priorities, Advisory Committees, and implementation of the CAR Private Reserves Program	Program ceased in 2006
Att 9.5	Appropriate action will be taken by the State if the area of any Forest Community within an IBRA (Interim Biogeographic Regionalisation of Australia) region decreases to a level approaching the nominated minimum level for that region. The State will conduct a formal review of the area of Forest Communities within each IBRA region on a five-yearly basis and report on the findings in the 5 yearly review of the Agreement.	Ongoing commitment has been met
Att 9.8	The State will, in addition, in respect of Private Land introduce by the year 1999 mechanisms to encourage native vegetation retention and management including the protection of riparian vegetation, consistent with the agreed outcomes of the national Vegetation Initiative as set out in the Tasmanian Partnership Agreement.	Completed prior to 2002 Five Yearly Review
Att 9.11	The State agrees that the Permanent Native Forest Estate Policy will be reviewed	Completed prior to 2007 Five Yearly Review
Att 10.1	Implementation of the State Policy <i>Setting New Standards for Water Quality</i>	Ongoing commitment has been met
Att 10.2	Developing a State policy on integrated catchment management	Not to be progressed
Att 10.3	Developing and implementing a Threatened Species Protection Strategy	Ongoing commitment has been met
Att 10.4	Implementing the <i>Historic Cultural Heritage Act 1995</i>	Ongoing commitment has been met
Att 10.5	Developing new legislation in relation to Aboriginal cultural heritage	Progressed but not yet completed
Att 10.6	Further develop and apply flexible silvicultural systems on public land to promote the sustainable production of special timbers.	Ongoing commitment has been met
Att 10.7	Development of a range of State-wide policies covering fire management, nature-based tourism, recreation, cultural heritage and forest pest and disease management	Completed since 2002 Five Yearly Review

Clause	Commitment and Milestone	Status at June 2011
Att 10.8.	The State to ensure that management plans are implemented: - for all State forest and National parks; and - for all other formal reserves	Completed for State forest prior to 2002 Five Yearly Review, further progressed for other reserves
Att 10.9	Implementing, as a high priority, the mechanisms for improving transparency and independence of the Forest Practices Board	Completed prior to 2002 Five Yearly Review with further measures implemented since 2002
Att 10.10	Continue to resource the Forest Practices System and maintain appropriate contributions from industry	Ongoing commitment has been met
Att 10.11	Develop and implement a code of practice for reserve management	Completed prior to 2007 Five Yearly Review. Ongoing commitment has been met
Att 10.12	Ensure that Forest Practices Plans specify best-practice reforestation standards and provide for monitoring Where endangered species have been identified on private land, the plan includes appropriate management prescriptions for those species	Ongoing commitment has been met Ongoing commitment has been met
Att 10.13	Management plans for Formal and Informal reserves identify the CAR values identified in the CRA and actions to manage those values	Ongoing commitment has been met
Att 11.1	The State to complete and publish silvicultural guidelines for the management of commercial forest types	Completed prior to 2002 Five Yearly Review
Att 11.2	The State to publish a description of the methods of calculating sustainable yield on public land, including for special-species timber sawlogs	Completed prior to 2002 Five Yearly Review
Att 11.3	Relevant State agencies to include in their annual reports a report on outcomes of the compliance audits for codes of practice, and the monitoring of forest regeneration success and trends. See also #41	Ongoing commitment has been met
Att 11.4	The State to release a document describing the Management Decision Classification System	Completed prior to 2002 Five Yearly Review
Att 11.5	The State to prepare and release a revised manual for the Management Decision Classification System, including prescription guidelines for special management zones	Completed prior to 2002 Five Yearly Review
Att 14.2.5	Latest versions of all jointly owned data—listed in Schedule 1 of Attachment #14—to be exchanged	Completed prior to 2002 Five Yearly Review

<b>Clause</b>	<b>Commitment and Milestone</b>	<b>Status at June 2011</b>
Att 14.3	The State and the Commonwealth to delete all copies of data that they do not own but were provided for RFA purposes, unless otherwise agreed to in writing by the respective data owners	Completed prior to 2002 Five Yearly Review
Att 14.4.1	The State and the Commonwealth to list and archive data used for RFA purposes	Completed prior to 2002 Five Yearly Review

**Table 2 – 2002 RFA Review Recommendations**

	<b>Recommendation (abbreviated)</b>	<b>Status at June 2011</b>
3.1	The State continues to improve forest community mapping	Ongoing commitment has been met
3.2	The State reserves areas currently vested in the Hydro-Electric Corporation and identified in the RFA as indicative reserves	Progressed but not yet completed
3.3	The Parties commit to designing a program that provides for the long term future of the Private Forest Reserve Program and provides for the future financial resources for management, monitoring and reporting of properties conserved	Completed prior to 2007 Five Yearly Review but superseded by TCFA
3.4	That the State provides the RFA Private Forest Reserve Program with basic forest type and coverage information for areas being assessed under the Private Timber Reserve approval process.	Completed prior to 2007 Five Yearly Review but superseded by TCFA
3.5	The Parties clarify the commitment in Clause 39 of the RFA	Completed prior to 2007 Five Yearly Review
3.6	The State makes known its decision on future access to the deep red myrtle resource in the Savage River Pipeline corridor	Completed prior to 2007 Five Yearly Review
4.1	The State improves the accountability of the Forest Practices System	Ongoing commitment has been met
4.2	The State completes the Nature Conservation Strategy and commences implementation	Completed prior to 2007 Five Yearly Review

	<b>Recommendation (abbreviated)</b>	<b>Status at June 2011</b>
4.3	The State completes the Reserve Management Code of Practice, commences implementation and undertakes annual reporting on compliance	Code completed Ongoing commitment has been met
4.4	The Parties complete the preparation of Recovery Plans for all endangered forest-related threatened species. Where species listed under the Tasmanian Act meet the criteria for listing under the Commonwealth Act, both Parties should contribute funding.	Implementation substantially progressed but not yet completed
4.5	The Parties accredit Threatened Species Listing Statements as an alternative to Recovery Plans for listed threatened species, and as providing for adequate management of listed threatened species under the RFA	Agreed under TCFA not to be implemented
4.6	The State provides for the protection of threatened Forest Communities through an appropriate statutory framework	Completed prior to 2007 Five Yearly Review
4.7	The State provides sufficient resources for implementation of the Threatened Species Strategy	Ongoing commitment has been met
4.8	The State subjects future substantive changes to management prescriptions for Priority Species to public consultation	Ongoing commitment has been met
4.9	The Parties deliver on the outstanding National Estate commitments contained in Clause 6 and Table 1, Category 3 of Attachment 1 to the RFA, prior to commencement of the next five yearly review	Completed prior to 2007 Five Yearly Review
4.10	The Parties prepare a list of relevant research reports at future five yearly reviews	Completed prior to 2007 Five Yearly Review and for the third review
4.11	The list of priority research areas in Attachment 13 should be reviewed by the Parties, in consultation with relevant stakeholders	Completed prior to 2007 Five Yearly Review
4.12	The State develops an environmental management system for reserves and other public lands consistent with Attachment 5 of the RFA prior to the next five yearly review	Progressed but not yet completed
4.13	The Parties encourage the development of environmental management systems in the private forest sector	Ongoing commitment has been met
4.14	The State completes the review of the policy on maintaining a Permanent Forest Estate and amends the policy to increase the levels of retention of native forest, and to ensure that no further forest communities become threatened and that there is no deterioration in the status of any existing threatened forest community	Completed prior to 2007 Five Yearly Review
4.15	The State implements the Policy on maintaining a Permanent Forest Estate through a legislative framework	Completed prior to 2007 Five Yearly Review

	<b>Recommendation (abbreviated)</b>	<b>Status at June 2011</b>
4.16	The Forest Practices Board considers giving effect to the smoke management guidelines during the next review of the Forest Practices Code	Progressed. Code review in progress.
4.17	The State proclaims the Natural Resources Management Act 2002 (Tas) and facilitates regional natural resource management strategies	Completed prior to 2007 Five Yearly Review
5.1	The Parties develop a process to obtain reliable data to inform social and economic indicators for the community and the performance of the forest based industries relevant to Attachment 12 of the RFA. The sustainability indicators relevant to the social and economic aspects of the industry need to be reviewed when such reliable data becomes available.	Progressed further since 2007 but incomplete
5.2	The Parties clarify the intent of Attachment 12 and that the State prepares an industry development strategy based on that intent providing an industry vision and an action plan to achieve it	Superseded by TCFA and 2007 Review recommendation
6.1	The State continues to improve transparency in reporting, and continuously improves the methodology for, the sustainable yield reviews of high quality sawlogs from public lands	Ongoing commitment has been met
6.2	The State develops a strategy for ongoing supply of special species timbers from public lands	Completed since 2007 Five Yearly Review
7.1	That the State finalises its nature based tourism and recreational management policy by 31 March 2003	Completed prior to 2007 Five Yearly Review
7.2	The State continues to work with the apiary industry to resolve the issues on public land for bee keeping and the leatherwood resource and prepares a plan for management of the leatherwood resource in the southern forests	Ongoing commitment has been met. Plan not developed
9.1	The Parties support ongoing research and development for sustainability indicators	Ongoing commitment has been met

**Table 3 – Tasmanian Community Forest Agreement commitments**

<b>TCFA Clause</b>	<b>Commitment</b>	<b>Status at June 2011</b>
3	The Parties to continue to implement the recommendations of the 2002 Five Yearly Review subject to the exception outlined in clause 5	Substantially completed. See Table 2
5	The Parties agree that Recovery Plans for rare and vulnerable species in Tasmania will continue to be the mechanism for compliance with the Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>	Ongoing commitment has been met
<b>TCFA Clause</b>	<b>Commitment</b>	<b>Status at June 2011</b>

6	The Parties to protect one million hectares of old growth forest – 977,000 hectares on public land, 30,000 hectares minimum on private land	Substantially completed
7	The Parties to add approximately 141,000 hectares of public land to the CAR Reserve System	Substantially completed
8	The Parties agree that all additional protected areas on public land will remain available for mineral exploration and mining under the <i>Mineral Resources Development Act 1995</i>	Completed prior to 2007 Five Yearly Review
9	The State to finalise boundaries of the new reserves at a scale of 1:25,000	Completed prior to 2007 Five Yearly Review
10	The State to submit plans of new Formal Reserves to Parliament for approval	Completed prior to 2007 Five Yearly Review
11	The State to finalise informal reserve boundaries and identify on Management Decision Classification maps and manage these areas for protection of CAR values	Completed prior to 2007 Five Yearly Review
12	The State to progressively amend Forest Management Plans to include new reserves	Completed since 2007 Five Yearly Review
13	The Commonwealth to protect approximately 500 hectares of Commonwealth owned land as informal reserves. These reserves will be included in new or revised management plans prepared with public participation.	Completed since 2007 Five Yearly Review
14	The State to protect 3900 hectares of old growth forest on unallocated Crown land pending completion of the Crown Land Assessment and Classification Project	Ongoing commitment has been met
15	The State to protect 3500 hectares of old growth forest on Hydro Tasmania vested land pending a review of Hydro Tasmania's infrastructure management needs	Ongoing commitment has been met
15	Hydro Tasmania to covenant 1300 hectares of sub-alpine forest on its freehold land	Progressed but not yet completed
16	The Parties agree that any changes to those elements of the CAR Reserve System in Informal Reserves: <ul style="list-style-type: none"> <li>- will only occur in accordance with the RFA; and</li> <li>- will maintain the level of protection of identified values at the regional scale; and</li> <li>- that information on all such changes will be publicly available.</li> </ul>	Ongoing commitment has been met
17	The State to maintain records of all changes to informal reserves and net impact on CAR reserve values changes will be recorded	Ongoing commitment has been met
18	The State to provide digital data of new formal and informal reserves to the Commonwealth	Completed prior to 2007 Five Yearly Review
19	The Parties to ensure access to data continues to be provided in accordance with clause 90 and Attachment 14 of the RFA	Ongoing commitment has been met

<b>TCFA Clause</b>	<b>Commitment</b>	<b>Status at June 2011</b>
20	The Parties to co-operate to improve the protection of Old Growth forest on private land, particularly for forest communities that complement the new reserves on public land	Completed since 2007 Five Yearly Review
21	The Commonwealth to establish, administer and fund a new market-based program to protect and manage up to 45,600 hectares of forested private land, additional to that secured under the Private Forest Reserve Program, targeting old growth forest and under reserved communities	Completed since 2007 Five Yearly Review
21	The Commonwealth to provide up to \$3.6 million to protect up to 2400 hectares of forested land in the Mole Creek area	Completed since 2007 Five Yearly Review
23	The Parties to jointly develop and manage the Forest Conservation Fund program and consult with stakeholders on design and implementation	Completed since 2007 Five Yearly Review
24	The Parties to develop a strategic plan under which the Forest Conservation Fund will be administered	Completed prior to 2007 Five Yearly Review
25	The State to establish conservation covenants on protected land under Forest Conservation Fund. The Commonwealth to reimburse the State all associated costs.	Ongoing commitment has been met
26	The State to provide monitoring and management support services to owners of covenanted land	Ongoing commitment has been met
26	The Commonwealth to provide \$5.5 million to the State for ongoing monitoring and management support services to owners of covenanted land	Completed prior to 2007 Five Yearly Review
27	The Parties agree that the Private Forest Reserves Program will continue until 30 June 2006, at which time the Program will cease	Completed prior to 2007 Five Yearly Review
28	The Parties to negotiate a new financial agreement for the use of the remaining Private Forest Reserves Program NHT funds	Completed prior to 2007 Five Yearly Review
28	The State to transfer any remaining Private Forest Reserves Program NHT funds to the Forest Conservation Fund program	Completed since 2007 Five Yearly Review
29	The State to transfer any remaining Private Forest Reserves Program State Trust Fund funds to a State Private Property Vegetation Conservation program	Completed since 2007 Five Yearly Review
30	The Parties to jointly fund a package of forest management and operations, industry development and research and development activities for reducing clearfelling of old growth forest on State forest	Funded. Program completed since 2007 Five Yearly Review
31	The State to publicly report the area of public old growth harvested by silviculture technique each year	Ongoing commitment has been met
32	The State to review progress in achieving safety, regeneration and log supply objectives through the new old growth forest silviculture	Completed since 2007 Five Yearly Review

TCFA Clause	Commitment	Status at June 2011
33	The Parties agree that, further to clauses 75 to 77 of the RFA, further Intensive Forest Management will be used to mitigate the impact of the new reserves and the reduction in use of clearfelling in old growth forest	Completed since 2007 Five Yearly Review
34	The State to deliver an integrated program of existing plantation productivity improvement, new plantation establishment and enhanced native forest thinning designed to maintain RFA targets for sustainable sawlog supplies from State Forests	Substantially completed
36	The State to deliver management and planning of new reserves on public land	Ongoing commitment has been met
37	The Parties agree that the management of new reserves in north west Tasmania will involve community consultation to maintain access for traditional land uses and to maintain cultural links and uses consistent with conservation values	Ongoing commitment has been met
38	The State to phase out the use of 1080 on State Forest	Completed prior to 2007 Five Yearly Review
39	The Parties to collaborate on a joint program to accelerate research into and implementation of alternatives to 1080 for browsing animal control on private forest and agricultural lands. The Commonwealth to provide \$4 million	Completed since 2007 Five Yearly Review
41	The State to develop a pilot wallaby management plan for a forested area on Tasmania's mainland	Not to be completed
42	The Commonwealth to progress the regulatory process for the wallaby management plans for Flinders and King Islands and the proposed mainland area referred to in clause 41 under the <i>Environment Protection and Biodiversity Conservation Act 1999</i>	Completed for the islands prior to 2007 Five Yearly Review. Mainland plan not to be progressed
44	The State to deliver low-impact access roading to special timber management units on State forest for selective harvesting and access to leatherwood apiary sites	Completed since 2007 Five Yearly Review
45	<p>The State to revise the Permanent Forest Estate Policy so that:</p> <ul style="list-style-type: none"> <li>- 95 per cent of the 1996 area of native forest will be retained</li> <li>- broad scale clearing and conversion of native forest on public land will be phased out by 2010</li> <li>- broad scale clearing and conversion of native forest on private land will be phased out by 2015</li> <li>- regional biodiversity and water quality values will be protected</li> </ul>	Completed prior to 2007 Five Yearly Review
46	The State to design the approach in clause 45 in consultation with the Commonwealth and publicly release the revised the Permanent Forest Estate Policy	Completed prior to 2007 Five Yearly Review
48	The State to introduce new statutory mechanisms to Parliament to prevent clearing and conversion of threatened non-forest vegetation communities	Completed prior to 2007 Five Yearly Review

<b>TCFA Clause</b>	<b>Commitment</b>	<b>Status at June 2011</b>
48	The Parties to amend the 2003 Natural Heritage Trust 2 Bilateral Agreement consistent with this Clause	Completed prior to 2007 Five Yearly Review
53	The Parties to jointly manage a program to facilitate industry retooling and investment with the aim to maximise recovery of forest products from use regrowth, plantation and other resource changes	Completed since 2007 Five Yearly Review
54	The Parties to consult with industry to determine priority areas for funding [of the program in clause 53]	Completed prior to 2007 Five Yearly Review
55	The Parties to provide assistance to country sawmillers and to special species timber mills significantly affected by the new agreed reserves in north-west Tasmania	Completed since 2007 Five Yearly Review
56	The Parties to provide assistance for improved marketing, recovery and value adding for special species timbers	Completed since 2007 Five Yearly Review
58	The State to implement publicly accountable systems for monitoring the impact of residue harvesting for biomass energy plants on biodiversity	Not yet commenced – no proposal
59	The Parties to fund and the State to deliver additional roading and other infrastructure to support implementation of new silviculture in public old growth forests	Completed since 2007 Five Yearly Review
60	The Parties to progress all required assessment processes of the Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i> for a pulp mill in Tasmania	Completed since 2007 Five Yearly Review
62	The Commonwealth to consider giving the Gunns pulp mill project major project status and facilitation of the project at the national level	Completed since 2007 Five Yearly Review
63	The Commonwealth to fund and administer, in cooperation with the State, a \$10 million softwood industry assistance program	Completed since 2007 Five Yearly Review
64	The Commonwealth to consult with the State and the Tasmanian softwood industry to determine priorities for value-added investment	Completed since 2007 Five Yearly Review
66	The Commonwealth to fund and administer a program to support improved training and skills development throughout the forestry sector	Completed since 2007 Five Yearly Review
67	The Parties to fund the development of forest tourism and visitor facilities focusing on new public land reserves	Completed since 2007 Five Yearly Review
68	The Commonwealth to fund and administer, in cooperation with the State, and subject to any State approval processes, a \$1 million program towards the provision of bushwalking infrastructure in north west Tasmania	Completed since 2007 Five Yearly Review
69	The Commonwealth to provide \$1 million to a catchment water quality program to be developed and delivered in consultation with the State	Completed since 2007 Five Yearly Review

<b>TCFA Clause</b>	<b>Commitment</b>	<b>Status at June 2011</b>
70	The Parties to support State research into the Tasmanian Devil Facial Tumour Disease through a collaborative partnership	Completed since 2007 Five Yearly Review
71	The Commonwealth to provide \$2 million to specific priority projects [on research into the Tasmanian Devil Facial Tumour Disease] developed in consultation with the State	Completed since 2007 Five Yearly Review
72	The Commonwealth to provide \$2.2 million for a communication program to be delivered in consultation with the State	Completed since 2007 Five Yearly Review
75	The Commonwealth to contribute to the State \$66 million towards intensive forest management activities and \$13 million as a general grant	Completed since 2007 Five Yearly Review
76	The Commonwealth will contribute: <ul style="list-style-type: none"> <li>- \$2 million towards research into alternatives to clearfelling</li> <li>- \$42 million towards support for the hardwood sawmill industry</li> <li>- \$4 million towards support for country sawmillers</li> <li>- \$2.2 million towards a communication program</li> <li>- \$2 million towards tourism and recreation projects</li> </ul>	Completed since 2007 Five Yearly Review
77	The State to contribute \$90 million towards the package	Completed since 2007 Five Yearly Review
79	The State to provide the Commonwealth with annual acquittal reports and proposed activity statement on IFM program funds	Ongoing commitment has been met

**Table 4 - 2007 Five Yearly Review Recommendations**

	<b>Recommendations</b>	<b>Status at June 2011</b>
1	The State requests FPA to review its monitoring and compliance functions	Completed
2	The State requests FPA to improve availability of Forest Practices Plan information	Completed
3	Parties to encourage industry to complete review of Good Neighbour Charter	Completed
4	The State to consult with signatories to Good Neighbour Charter to encourage reporting on its effectiveness	Completed
5	The State to establish a program for completing management plans or management regime for Nature Conservation Act reserves	Completed
6	The State to provide resources to implement management plan program	Substantially completed
7	Negotiations in relation to management plans with the Tasmanian Aboriginal community to be resolved prior to 30 June 2009	Progressed

	<b>Recommendations</b>	<b>Status at June 2011</b>
8	The State to progress other management planning matters concurrent with Aboriginal negotiations	Progressed
9	The Parties at minimum maintain but also consider increasing reserve funding	Not progressed
10	The State ensures compliance audits of the Tasmanian Reserve Code of Practice and public reporting of results	Progressed
11	The Parties to request FPA to review mechanisms for ensuring harvesting operations do not impact on formal reserve boundaries	Completed
12	The Parties prepare and publish Listing Statements or Advice for all forest related threatened species and new species at time of listing.	Progressed
13	The Parties make the Listing Statements or Advice publicly available on an appropriate internet site as each is completed.	Ongoing commitment has been met
14	The Parties continue to complete Recovery Plans for forest-related endangered species with priority to those already in preparation	Progressed
15	The Parties to review RFA commitments with a view to removing duplication and ensuring consistency between Commonwealth and State listing processes with up to date lists being made publicly available	Progressed
16	The State in consultation with the Commonwealth review the forest practices system processes for threatened species	Completed
17	The Parties continue to improve knowledge on threatened species and efficacy of management prescriptions, including explicit monitoring programs	Ongoing commitment has been met
18	The Parties consider the need to amend the RFA to reflect the 2006 amendments to the Environment Protection and Biodiversity Conservation Act 1999	Will be considered as part of the RFA renewal
19	The State completes Water Management Plans under the Water Management Act 1999 in accordance with its commitments under the National Water Initiative Implementation Plan	Progressed
20	The State continues to invest in research into the impacts of forestry practices on hydrological cycles in Tasmanian catchments	Ongoing commitment has been met
21	The State completes the development of its computer model for impacts of forestry practices on hydrological cycles	Completed
22	The State ensures public access to information supporting the water model	Ongoing commitment has been met
23	The State ensures Water Management Plans provide a risk based approach to water management	Ongoing commitment has been met
24	The State to request the FPA to consider the inclusion of measures in the Forest Practices Code to manage impacts on water yield to meet Water Management Plan objectives	Completed

	<b>Recommendations</b>	<b>Status at June 2011</b>
25	The State completes and implements an EMS for all reserves under the <i>Nature Conservation Act 2002</i>	Progressed
26	The State ensures the state-wide fire policy management framework takes account of plantations, drought and climate change impacts	Completed
27	The State ensures that policies in the fire management policy framework on all tenures are made publicly available	Ongoing commitment has been met
28	The Parties improve the collection and reporting of relevant climate change data to assist understanding of carbon and climate change issues	Ongoing commitment has been met
29	The State requests the FPA to report on success of forest regeneration on public and private land	Completed
30	The Parties to confirm commitment to management of national estate values	Completed
31	The Parties consider amending the RFA to reflect the changes in the Commonwealth legislation related to the national estate and national heritage lists	Will be considered as part of the RFA renewal
32	The State examines places on the National Estate Register to determine the ongoing status of any properties or values	Completed
33	The State request the FPA to review and revise the Forest Practices Archaeological Manual in relation to matters other than Aboriginal heritage and make revisions as required to take account of new Tasmanian Aboriginal heritage legislation	Progressed
34	The State ensures that Forestry Tasmania makes available reports and documentation on review of sustainable high quality sawlog supply for public comment at the next review	Progressed
35	The State reviews and identifies indicators to track sawlog quality	Completed
36	The State completes the special species supply strategy	Completed
37	The Parties commence process to identify the issues relevant to the extension of the RFA in advance of the third Review	Not progressed
38	The Parties facilitate preparation by industry of an updated development strategy	Completed
39	The Parties review and revise Attachment 12 of the RFA	Not progressed
40	The Parties continue a broad community education program on forests, forestry and importance of the industry	Ongoing commitment has been met
41	The State to complete the plan for the future of the apiary industry	Progressed
42	The Parties to identify major RFA and TCFA program financial commitments and undertake financial and performance audits and publish results	Substantially complete
43	The Parties review the availability and reliability of social and economic data and indicators for inclusion in the next five yearly review	Progressed

## Acronyms

ABARES	Australian Bureau of Agricultural and Resource Economics and Sciences
AFS	Australian Forestry Standard
CAR	Comprehensive, Adequate and Representative
CGT	Capital Gains Tax
CRA	Comprehensive Regional Assessment
CRC	Cooperative Research Centre
CSIRO	Commonwealth Scientific and Industrial Research Organisation
Cwth	Commonwealth
CLAC	Crown Land Assessment and Classification Project
dbh	Diameter Breast Height
DPIWE	Department of Primary Industries, Water and Environment (Tas) (now DPIPWE)
DPIPWE	Department of Primary Industries, Parks, Water and Environment (Tas)
EIMP	Environmental Impact Management Plan
EMS	Environmental Management System
EPBC	Environment Protection and Biodiversity Conservation
ESFM	Ecologically Sustainable Forest Management
FCF	Forest Conservation Fund
FFIC	Forests and Forest Industry Council of Tasmania
FPA	Forest Practices Authority
FSC	Forest Stewardship Council
FWPA	Forest and Wood Products Australia
IBRA	Interim Biogeographic Regionalisation for Australia
IFM	Intensive Forest Management
ISO	International Standards Organisation
JANIS	Joint Australia and New Zealand Environment and Conservation Council / Ministerial Council on Fisheries, Forestry and Aquaculture
	National Forest Policy Statement Implementation Sub-committee
MDC	Management Decision Classification
MVEP	Monitoring Vegetation Extent Project
NHL	National Heritage List
NHT	Natural Heritage Trust
NRM	Natural Resource Management
PEFC	Program for the Endorsement of Forest Certification schemes
PFRP	Private Forest Reserves Program
PEV	Protected Environmental Values
PFT	Private Forests Tasmania
PLCP	Private Land Conservation Program
RAA	Reserve Activity Assessment
RFA	Regional Forest Agreement
RPDC	Resource Planning and Development Commission
TAFE	Technical and Further Education
Tas	Tasmania(n)TASVEG Tasmanian Vegetation Management Strategy
TCFA	Tasmanian Community Forest Agreement
TCSAP	Tasmanian Country Sawmillers Assistance Program
TFIDP	Tasmanian Forest Industry Development Program
TSIDP	Tasmanian Softwood Industry Development Program

## **PART 1**

# **Report on Implementation of RFA Commitments and Milestones**

### **Extension of RFA**

8. *The process for extending the duration of this agreement will be agreed by the Parties as part of the third 5 yearly review specified in clause 45.*

Work on implementing this commitment has yet to commence and will be addressed bi-laterally by the Parties as part of this third five-yearly review process. The Parties intend to agree the process for extending the Tasmanian RFA after undertaking the third five-yearly review of the RFA, taking into consideration the reviewer's report and public submissions.

### **Introduction of Legislation**

22. *The Commonwealth undertakes to use its best endeavours to secure the enactment of legislation which includes provisions to the effect that where a Regional Forest Agreement is in force:*
- (a) *no controls may be imposed under the Export Control Act 1982 (Cwth), or under any legislation enacted by the Commonwealth Parliament for a similar purpose, upon the export from the region of which the Agreement was made of woodchips or unprocessed wood; and*
  - (b) *the following Commonwealth legislative provisions do not apply to Forestry Operations on land under which the Agreement may be used for such operations:*
    - (i) *the Australian Heritage Commission Act 1975, s.30;*
    - (ii) *the Environment Protection (Impact of Proposals) Act 1974, s.11;*
    - (iii) *the Administrative Procedures approved under the Environment Protection (Impact of Proposals) Act 1974 s.6; and*
    - (iv) *the World Heritage Properties Conservation Act 1983, s.6.*

This commitment was fully met prior to, and reported on in, the 2002 and 2007 Reviews.

23. *The Commonwealth undertakes to:*
- (a) *prepare a policy outline of such legislation, and circulate that outline to all States which have regions covered by the Export Control (Hardwood Wood Chips) (1996) Regulations (Cwth), by 31 December 1997; and*
  - (b) *thereupon consult with the State and such other States in relation to the legislation; and*
  - (c) *introduce such legislation into the Parliament of the Commonwealth by 30 June 1998.*

Commitments in Clause 23 (a) and (b) were fully met prior to, and reported on in, the 2002 Review. The commitment in 23(c) was also met and reported on in the 2007 Review.

## Action to Establish and Manage Reserves

24. *The State undertakes to*

- (a) *manage the areas in the Comprehensive, Adequate and Representative (CAR) Reserve System identified in Attachment 6, with the exception of Commonwealth owned or leased land, on the basis outlined in that Attachment and in accordance with the relevant objectives set out in Attachment 7;*

This ongoing commitment has been met during the Review period.

Tasmania continues to manage the CAR reserve system in accordance with the relevant objectives.

- (b) *where any new reserves are to be of a category specified in Attachment 7 which category is provided for in existing legislation, proclaim such new reserves by 31 December 1998;*

This commitment was met prior to, and reported on in, the 2002 Review. Some minor areas of land vested in Hydro Tasmania were not reserved prior to the Review. See the response to 2002 Review recommendation 3.2 in Part 2 of this report.

- (c) *by 31 December 1998 introduce legislation into the Tasmanian provided for by existing legislation and use its best endeavours to secure the enactment of the legislation introduced; and*

This commitment was fully met prior to, and reported on in, the 2002 Review.

- (d) *within 3 months after the commencement of the legislation referred to in sub-clause (c) above, where any new reserves are to be included in a category specified in Attachment 7 which is not already provided for by existing legislation, proclaim such new reserves.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

## National Estate

26. *The Parties agree to the management of National Estate Values as set out in Attachment 1.*

This ongoing commitment has been met during the Review period.

See response to Attachment 1 for details.

In 2003, the Commonwealth Parliament repealed the *Australian Heritage Commission Act 1975*, passed the *Australian Heritage Council Act 2003* and amended the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) to provide for a National Heritage List. From 19 February 2007 the Register of the National Estate was frozen, meaning that no places could be added or removed. The Register continued as a statutory register and the Commonwealth Minister had to have regard to information in the Register in making any decision under the EPBC Act to which the information was relevant. The Register of the National Estate was maintained by the Australian Heritage Council.

## Threatened Species and Communities

32. *Where threatened species are listed under the Threatened Species Protection Act 1995 (Tas) and the Endangered Species Protection Act 1992 (Cwth) any new or revised Recovery Plans will be jointly prepared and funded and implemented cooperatively by the Parties to meet the requirements of both Acts.*

This ongoing commitment has been met during the review period.

Between December 2006 and June 2011, ten single species recovery plans relevant to forests / forestry areas were prepared cooperatively with the Commonwealth for threatened species listed under both the *Threatened Species Protection Act 1995* and the *Environment Protection and Biodiversity Conservation Act 1999* (see Table 4). Completed Recovery Plans are available at:

<http://dpiwwe.tas.gov.au/conservation/threatened-species/lists-of-threatened-species/list-of-recovery-plans>. In cases where the species occurs in more than one state, funds have been made available both to, and by, other states and the Australian Government to implement recovery plans.

**Table 4 – Single Species Recovery Plans**

Scientific Name	Common Name	Status at June 2011
<i>Barbarea australis</i>	native wintercress	Draft
<i>Centrolepis pedderensis</i>	Pedder centrolepis	Draft
<i>Phebalium daviesii</i>	Davies' waxflower	Draft
<i>Spyridium obcordatum</i>	creeping dusty miller	Draft
<i>Sarcophilus harrisii</i>	Tasmanian devil	Draft
<i>Tasmanipatus anophthalmus</i>	Blind velvet worm	Draft
<i>Aquila audax fleayi</i>	Wedge-tailed eagle	Adopted 16 Apr 2007
<i>Dasyurus maculatus maculatus</i>	Spotted-tail quoll	Draft

33. *The Parties will seek to improve outcomes of Recovery Plans for species listed under the Threatened Species Protection Act 1995 (Tas) or the Endangered Species Protection Act 1992 (Cwth) by developing multiple species Recovery Plans where appropriate.*

This ongoing commitment has been met during the review period.

Both governments have maintained a commitment to developing cost-efficient ways of recovering threatened species. Species were considered for multiple-species recovery plans where they have some commonality, including:

- species of the same genus, family or other group;
- species occupying similar habitat types; and
- species which occupy the same habitat location.

During the review period, five multiple-species recovery plans relevant to forests were prepared (see Table 5). Completed Recovery Plans are available at: [www.dpiwwe.tas.gov.au/conservation/threatened-species/lists-of-threatened-species/list-of-recovery-plans](http://www.dpiwwe.tas.gov.au/conservation/threatened-species/lists-of-threatened-species/list-of-recovery-plans).

**Table 5 – Multiple Species Recovery Plans**

<b>Multiple Species Recovery Plans</b>	<b>Number of species / taxa covered by the Recovery Plan</b>	<b>Status at June 2011</b>
Tasmanian threatened stag beetles	<b>5</b>	Draft
Tasmanian threatened ferns	<b>2</b>	Draft
Tasmanian threatened forest epacrids	<b>8</b>	Draft
Tasmanian threatened lowland Euphrasia species	<b>6</b>	Draft
King Island Biodiversity Management Plan	<b>2</b>	Draft

34. *Where threatened Forest Communities restricted to Tasmania are listed under the Endangered Species Protection Act 1992 (Cwth), any new National Recovery Plans will be prepared jointly by both Parties. The Commonwealth will also continue to consult with the State on the preparation of Threat Abatement Plans for relevant key threatening processes.*

This ongoing commitment has been met during the review period.

*Eucalyptus ovata - Callitris oblonga* forest community is currently the only Tasmanian forest community listed under the *Environment Protection and Biodiversity Conservation Act 1999*. A National Recovery Plan prepared by the Tasmanian Department of Primary Industries, Parks, Water and Environment was adopted by the Commonwealth.

35. *Where a State Recovery Plan for a nationally listed species restricted to Tasmania meets the requirements of the Endangered Species Protection Act 1992 (Cwth) the Commonwealth intends to adopt the State Recovery Plan under section 46 of that Act.*

This ongoing commitment has been met during the review period.

The Commonwealth adopted nine Recovery Plans for species endemic to Tasmania during the review period (see Table 6). Completed Recovery Plans are available at: [www.dpipwe.tas.gov.au/conservation/threatened-species/lists-of-threatened-species/list-of-recovery-plans](http://www.dpipwe.tas.gov.au/conservation/threatened-species/lists-of-threatened-species/list-of-recovery-plans).

36. *Where threatened species, threatened Forest Communities or threatening processes extend beyond Tasmania, the Parties agree where possible to jointly prepare with other relevant governments:*
- *National Recovery Plans for species or forest communities; and*
  - *Threat Abatement Plans for threatening processes listed under the Endangered Species Protection Act 1992 (Cwth)*
  - *and where available, the Commonwealth intends to incorporate any relevant State Recovery Plan or threat abatement plan prepared pursuant to the Threatened Species Protection Act 1995 (Tas) as the Tasmanian component of the National Recovery Plan.*

This ongoing commitment has been met during the review period.

**Table 6 – Multijurisdictional Species Recovery Plans (jointly prepared)**

Scientific Name	Common Name	Distribution	Status at June 2011
<i>Lathamus discolor</i>	Swift parrot	Tas, Vic, SA, NSW, ACT, Qld	Draft
<i>Leucochrysum albicans</i> var. <i>tricolor</i>	hoary sunray	Tas, Vic, NSW, ACT	Draft
<i>Litoria raniformis</i>	green and gold frog (southern bell frog)	Tas, Vic, SA, NSW,	Draft
<i>Xerochrysum palustre</i>	swamp everlasting	Tas, Vic, NSW	Draft
<i>Glycine latrobeana</i>	Clover glycine	Tas, Vic, SA	Adopted 26 Nov 2010
<i>Prototroctes maraena</i>	Australian grayling	Tas, Vic, NSW	Adopted 27 Mar 2008

Tasmania has made a significant contribution to the review and revision of the recovery plan for the swift parrot (*Lathamus discolor*), prepared by the New South Wales, Office of Environment and Heritage. Tasmania has contributed to the preparation of plans prepared by other states including hoary sunray (*Leucochrysum albicans* var. *tricolor*), green and gold frog (*Litoria raniformis*) and swamp everlasting (*Xerochrysum palustre*).

37. *The Parties, recognising that priorities can change in the light of new information, will continue to consult on the priorities for:*

- *listing threatened species, forest communities, and threatening processes; and*
- *the preparation of all Recovery Plans and Threat Abatement Plans relevant to this Agreement;*

This ongoing commitment has been met during the review period.

The State and the Commonwealth signed a Memorandum of Understanding in relation to the alignment of threatened species lists in April 2010. The objectives of the Memorandum of Understanding are to:

- contribute towards the alignment of the State and Commonwealth threatened species lists;
- establish protocols for sharing information and assessing species, including:
  - an efficient and timely process for Commonwealth assessment of species endemic to, and listed in, Tasmania;
  - an efficient and timely process for Tasmanian Department of Primary Industries, Parks, Water and Environment to assess species that occur in Tasmania and are already listed by the Commonwealth;
  - establish protocols for consultation on threatened species assessments and the development of conservation advice, and for discussion of policy approaches;
  - prioritise effort in aligning threatened species lists, with a focus on preventing further misalignment;
  - reduce duplication of effort in undertaking threatened species listing assessments;
  - strengthen intergovernmental co-operation and engagement between scientific committees and promote a partnership approach to protecting the environment and biodiversity conservation.

## **World Heritage**

39. *The Parties agree to jointly participate in the further World Heritage assessment of the relevant Australia-wide themes, specified in Table 1.7 of the World Heritage Report, commencing by the 30<sup>th</sup> June 1998.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

Also refer to the report on the 2002 Review Recommendation 3.5 in Part 2 of this report.

40. *The Commonwealth agrees that it will give full consideration to the potential social and economic consequences of any World Heritage Nomination of places in Tasmania and that such nomination will only occur after the fullest consultation and with the agreement of the State.*

In 2010 the Australian Convict Sites was inscribed on the World Heritage List. The Australian Convict Sites is a serial listing of convict heritage sites across Australia and includes five sites in Tasmania: Port Arthur Historic Site, Coal Mines Historic Site on the Tasman Peninsula, Brickendon – Woolmers Estates, Cascades Female Factory and Darlington Probation Station on Maria Island.

During the review period a minor boundary modification to the Tasmanian Wilderness World Heritage Area was approved by the World Heritage Committee. The addition of 21 adjacent national parks and state reserves to the Tasmanian Wilderness World Heritage Area in 2010 increased the representation of tall eucalypt forests and cultural sites of significance to the Aboriginal community within the property. The boundary modification added 20 096 hectares to the Tasmanian Wilderness.

41. *The Parties agree that any World Heritage Nominations of any part of the Forest Estate will be from areas within the Dedicated Reserve elements of the CAR Reserve System.*

Please refer to the reporting for Clause 40.

The National Heritage Protocol (adopted by Australia's Environment Protection and Heritage Ministerial Council in April 2004) states that as a general principle, future nominations for World Heritage listing will be drawn from the National Heritage List.

42. *The Parties agree:*

- *that before any World Heritage Nomination of any part of the Forest Estate is made all necessary management arrangements, including joint policy coordination arrangements and a statutory management plan under the relevant Tasmanian legislation will be in place; and*
- *that prior to any World Heritage all related funding issues will be resolved to the satisfaction of both Parties.*

Please refer to the reporting for Clause 40.

### **Monitoring the Agreement**

44. *This Agreement establishes milestones for the completion of agreed undertakings. These milestones are specified in Attachment 3 and the Parties agree to provide each other annually for the first five years and then as they fall due and as part of the 5 yearly reviews described in clause 45 with written reports detailing the achievement of these milestones using an appropriate reporting mechanism.*

The Australian and Tasmanian Governments have jointly prepared this report on the achievement of commitments and milestones in preparation for the third five yearly RFA review.

### **Five-Yearly Review**

45. *A review of the performance of this Agreement is to be undertaken during the last year of each five-year period to assess the progress of the Agreement against its specified milestones and commitments:*

*The review is to be conducted:*

- (i) *by a person or body appointed by the Parties; and*
- (ii) *in accordance with agreed priorities, procedures and funding arrangements which are to be agreed no later than six months before the end of each five year period of this Agreement.*

*The review will also*

- (iii) *invite and take account of public comments;*
- (iv) *invite and take account of the Sustainability Indicators including trends;*
- (v) *be sufficient to satisfy the requirements for a State of the Forests Report as required by Section 59D of the Forestry Act 1920 (Tas);<sup>1</sup>*

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<sup>1</sup> This clause is now redundant. The State of the Forests report is now prepared in accordance with Section 4Z of the *Forest Practices Act 1985* (Tas). The State of the Forests Report is prepared independently by the Forest Implementation of the Tasmanian RFA 2007 - 2012

- (vi) *be completed within three months of its commencement; and*
- (vii) *develop a report detailing the review process and its findings.*

The Australian and Tasmanian Governments completed the second five yearly review in 2008 with the forwarding of the [report](#) of the review to the Governments by the independent reviewer.

The Australian and Tasmanian Governments have commenced discussions on the timing and process for the third five yearly review of the RFA.

## **The Comprehensive, Adequate and Representative (CAR) Reserve System**

48. *The Parties agree that the CAR Reserve System is to be established for the purpose of ensuring the long-term conservation and protection of the values defined by the JANIS Reserve Criteria and the land required to achieve this specified in Attachments 6 and 8.*

This commitment was substantially met prior to, and reported on in, the 2002 Review. Some minor areas of land vested in Hydro Tasmania were not reserved prior to the 2002 Review. See the report on the 2002 Review Recommendation 3.2 in Part 2 of this report for progress on reservation of these remaining areas.

## **Public Land**

51. *The Parties agree that they will each take appropriate action:*
- *To establish the CAR Reserve System on the Public Land described in Attachment 6 and, where appropriate, shown in Map 1; and*
  - *To manage that system to maintain the CAR Values of that land in a regional context consistent with the management objectives for each element of the reserve system as specified in Attachment 7.*

This clause has been substantially met. See responses to Clause 24 (a) and 48 and clause 58.

As part of the Tasmanian Community Forest Agreement the governments agreed to add further areas to the CAR reserve system.

52. *The State agrees that it will consult with the Commonwealth prior to rejecting any recommendations made by the Tasmanian Public Land Use Commission in regard to the tenure to be applied to those areas listed in sections 1.7 and 1.8 of Attachment 6.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

53. *The Parties intend that all Deferred Forest Lands not included in the formal CAR Reserve System, other than those specified in Attachment 6, will be removed from the Register of Deferred Forest Land and added to the Register of Multiple-Use Forest Land.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

54. *The Commonwealth has requested and the State has agreed to postpone any harvesting in the Savage River Pipeline corridor. Accordingly the Parties agree:*

- *to postpone any harvesting and associated forest roading in the area shown on Map 1; and*
- *that this area will continue to be included in the calculation of sustainable yield of special species timber; and,*
- *that uses other than timber production will continue to be managed in accordance with clause 78 of the Agreement.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

55. *The Parties agree that:*

- (a) *during the first four years of this Agreement, the State will review its resource estimates for deep red myrtle available for supply to the furniture and craft industries, in terms of volume, quality and economic accessibility, and will publish a report of the findings;*
- (b) *the State will arrange for the review described at (a) above to be independently audited by an auditor agreed by the Parties, and for a report by the auditor to be published.*
- (c) *the further management of the Savage River Pipeline corridor will be considered by the State prior to the first five yearly review of this Agreement in the light of the report and the audit described at subclauses (a) and (b) above;*
- (d) *if the resource review and audit confirm the availability, outside the Savage River Pipeline corridor, of adequate resource of acceptable quality and economic accessibility, to maintain a supply of at least 4,500 cubic metres per year of deep red myrtle, for the remainder of the term of the Agreement, then harvesting and associated forest roading within the area will be further postponed for that period; and*
- (e) *in the alternative, the area will be further considered by the State to ensure the availability of deep red myrtle for the period.*

Commitments (a) and (b) were completed prior to, and reported on in, the 2002 Review. Commitments (c) to (e) were completed prior to, and reported on in, the 2007 Review.

As a result of the Tasmanian Community Forest Agreement (TCFA) all of the Savage River Pipeline corridor area is now within the CAR reserve system and is no longer available for timber production. The State and the Commonwealth agreed that all additional protected areas under the TCFA will remain available for mineral exploration and mining under the *Mineral Resources Development Act 1995* in accordance with clause 79 of the RFA and subject to any requirements under the *Environment Protection and Biodiversity Conservation Act 1999*.

56. *The Commonwealth agrees that the Commonwealth owned or leased land specified in Attachment 6 will form part of the CAR Reserve System as Informal Reserves. The Commonwealth further agrees that those areas of the Buckland Military Training Area leased by the Commonwealth from the State and not required for the CAR Reserve System will remain available to the State for timber production purposes, including plantation development.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

Those areas of the Buckland Military Training Area leased by the Australian Government from the State and not required for the CAR reserve system remain available to the State for timber production purposes.

57. *The Parties agree that any changes to those elements of the CAR Reserve System in Informal Reserves:*

- *will only occur in Accordance with this Agreement; and*
- *will maintain the level of protection identified at the regional scale; and*
- *that information on all such changes will be publicly available and provided to the person or body conducting the five-yearly review described in clause 45 for incorporation into the review process.*

This ongoing commitment has been met during the review period.

Minor changes to the boundaries of Informal Reserves on State forest have been made for operational or conservation reasons. Each proposed change was evaluated by Forestry Tasmania for the level of protection it afforded identified values at the regional scale. Approved changes were made in accordance with the requirements detailed in Forestry Tasmania's Management Decision Classification (MDC) system manual. MDC maps are available for public viewing through Forestry Tasmania District offices and are published in Forestry Tasmania's 2008 Forest Management Plan Sustainability Charter. See also Attachment 6 of the RFA, clause 17.

Table 7 shows the area of each forest community in informal reserves on public land in 2006 and compares this with the area of informal reserves at 30 June 2011. Note that in the previous report, this data was expressed in two separate tables. However due to some incomplete coding it was not possible to extract the tables in the same fashion and therefore the data has been consolidated into a single table.

The table shows that levels of informal reservation have fallen since the last review, a figure of 13% overall. However this is not a material reduction in terms of an improved outcome as the actual levels of all types of reservation have increased. Ongoing assessment has resulted in informal reserves being transferred to the formal reserve system. It is noted that these assessments mean a small area has been removed from the reserve system overall (column C) but this is significantly less than the further additions to informal reserves made during the review period (column D).

**Table 7: Extent of changes to informal reserves on public land, by forest community, since 2006 (hectares) 2,3**

	A. Informal Reserves on public land at June 2006	Changes since 2006				F. Total Area of Informal Reserves as at June 2011	G. Percentage increase in area of Informal Reserves between 2006 and 2011 (%) 1,4,5
		B. Added to Formal Reserve system	C. Converted to non-reserved status	D. New Informal Reserves	E. No change		
<b>RFA Forest Community</b>							
<i>Acacia melanoxylon</i> forest on flats	400	0	10	420	400	820	102%
<i>Acacia melanoxylon</i> forest on rises	1,380	220	10	30	1,160	1,180	-14%
<i>Allocasuarina verticillata</i> forest	20	0	0	0	20	30	20%
<i>Banksia serrata</i> woodland	0	0	0	0	0	0	n/a
Callidendrous and thamnic rainforest on fertile sites	48,190	21,960	210	260	26,020	26,280	-45%
<i>Callitris rhomboidea</i> forest	100	10	0	0	90	100	-9%
Coastal <i>E. amygdalina</i> dry sclerophyll forest	9,950	70	140	430	9,730	10,160	2%
Dry <i>E. delegatensis</i> forest	26,230	1,000	270	1,940	24,960	26,900	3%
Dry <i>E. nitida</i> forest	7,590	1,290	20	90	6,280	6,370	-16%
Dry <i>E. obliqua</i> forest	17,070	330	150	670	16,580	17,250	1%
<i>E. amygdalina</i> forest on dolerite	11,030	2,130	30	220	8,870	9,070	-18%
<i>E. amygdalina</i> forest on sandstone	3,440	0	30	70	3,400	3,470	1%
<i>E. brookeriana</i> wet forest	120	0	0	420	120	530	355%
<i>E. coccifera</i> dry forest	3,830	50	40	160	3,740	3,900	2%
<i>E. morrisbyi</i> forest	0	0	0	0	0	0	n/a
<i>E. pauciflora</i> on Jurassic dolerite	1,810	0	40	150	1,770	1,920	6%
<i>E. pauciflora</i> on sediments	1,360	0	10	150	1,350	1,500	11%
<i>E. pulchella</i> / <i>E. globulus</i> / <i>E. viminalis</i> grassy shrubby dry sclerophyll forest	13,990	920	100	440	12,970	13,400	-4%
<i>E. regnans</i> forest	8,350	810	110	950	7,430	8,380	0%
<i>E. risdonii</i> forest	0	0	0	0	0	0	n/a
<i>E. rodwayi</i> forest	240	0	20	20	220	240	-3%
<i>E. sieberi</i> forest on granite	1,780	0	0	150	1,780	1,930	8%
<i>E. sieberi</i> on other substrates	3,170	0	10	130	3,160	3,290	4%
<i>E. subcrenulata</i> forest	1,010	0	0	10	1,000	1,010	1%
<i>E. tenuiramis</i> on dolerite	1,080	80	0	10	1,000	1,020	-6%
<i>E. tenuiramis</i> on granite	60	0	0	0	60	60	-3%
<i>E. viminalis</i> and/or <i>E. globulus</i> coastal shrubby forest	30	0	0	0	30	30	2%
<i>E. viminalis</i> / <i>E. ovata</i> / <i>E. amygdalina</i> / <i>E. obliqua</i> damp sclerophyll forest	2,560	0	60	440	2,500	2,940	15%
Furneaux <i>E. nitida</i> forest	150	0	0	40	150	190	20%
Furneaux <i>E. viminalis</i> forest	0	0	0	0	0	0	n/a
Grassy <i>E. globulus</i> forest	180	0	0	0	180	180	2%
Grassy <i>E. viminalis</i> forest	430	0	0	10	430	440	1%
Huon Pine forest	130	0	10	0	120	120	-8%
Inland <i>E. amygdalina</i> forest	390	0	10	220	390	610	56%
Inland <i>E. tenuiramis</i> forest	740	20	0	20	720	740	0%
King Billy Pine forest	1,370	180	0	0	1,190	1,190	-13%
King Billy Pine with deciduous beech	20	0	0	0	20	20	0%

King Island <i>E. globulus</i> / <i>E. brookeriana</i> / <i>E. viminalis</i> forest	340	0	0	0	340	340	0%
<i>Leptospermum</i> spp./ <i>Melaleuca squarrosa</i> swamp forest	1,180	710	10	180	450	640	-46%
<i>Melaleuca ericifolia</i> forest	0	0	0	0	0	0	n/a
<i>Notelaea ligustrina</i> and/or <i>Pomaderris apetala</i> forest	20	20	0	0	0	0	-100%
Pencil Pine forest	0	0	0	0	0	0	n/a
Pencil Pine with deciduous beech	0	0	0	0	0	0	n/a
Shrubby <i>E. ovata</i> forest	120	0	0	20	120	140	12%
Silver wattle ( <i>Acacia dealbata</i> ) forest	6,020	110	40	720	5,870	6,590	9%
Tall <i>E. delegatensis</i> forest	26,590	1,250	520	3,320	24,820	28,140	6%
Tall <i>E. nitida</i> forest	2,210	770	10	50	1,430	1,480	-33%
Tall <i>E. obliqua</i> forest	44,450	4,130	300	3,100	40,020	43,120	-3%
Thamnic rainforest on less fertile sites	53,910	15,640	110	590	38,150	38,740	-28%
Wet <i>E. viminalis</i> forest on basalt	120	0	0	10	120	130	8%
<b>Grand Total</b>	<b>303,190</b>	<b>51,720</b>	<b>2,300</b>	<b>15,430</b>	<b>249,160</b>	<b>264,580</b>	<b>-13%</b>

Notes:

1. Column G is the proportion of the 2006 Informal Reserves that are still in Informal Reserves in 2011.
2. Actual areas have been used for calculations and total columns, which are then rounded to nearest 10 hectares.
3. Although some communities show a drop in reservation in Informal Reserves, as well as some moving to Formal Reserves, more communities are being identified in ground-truthing, which were not mapped in the 1996 RFA Vegetation Community spatial data, and are being reserved (both as Informal and Formal Reserves). This is not identifiable using the 1996 Vegetation Community layer.
4. Where a community is not Informally Reserved on public land, the per cent column (Column G) is shown as n/a.
5. Where a community was Informally Reserved in 2006, but now is not (generally having been Formally Reserved), the increase in reservation (Column G) is shown as -100%.
6. The forest extent is as at the first quarter of 2010.

## Private Land

58. *The Parties reaffirm their commitments made in the National Forest Policy Statement (NFPS) to the conservation and management of the Private Forest Estate and in particular the State reaffirms its commitments:*

- *to continue to ensure that owners of Private Forest comply with the Forest Practices Code (Tas.) for timber harvesting and regeneration operations;*
- *to continue to develop adequate mechanisms to protect State and regional nature conservation and catchment values on Private Land; and*
- *to undertake the initiatives specified in Attachments 9, 10 and 11, which are relevant to Private Land.*

This ongoing commitment has been met during the review period.

The *Forest Practices Act 1985* and Forest Practices Code apply equally to public and private land in Tasmania. Compliance with the *Forest Practices Act* and Code is monitored and enforced by the Forest Practices Authority. The Authority's annual reports describe the level of compliance on private land.

Mechanisms to encourage the retention of native vegetation on private land are detailed in the report on Attachment 9.8.

See the report on Attachments 9, 10 and 11 for detail on these initiatives on private land.

59. *The Parties recognise the importance of the CAR Reserve System of Environment and Heritage Values on Private Land and the State agrees to implement a process which will facilitate the voluntary participation by private landowners to protect those values specified in Attachment 8.*

See report on Attachment 8.

From 1 July 2006 the Tasmanian Government-managed RFA Private Forest Reserve Program was replaced by the Australian Government-managed Forest Conservation Fund – see Part 3 (clauses 21-29) of this report.

## Maintaining a Permanent Forest Estate

60. *The State agrees to adopt the broad policy framework specified in Attachment 9 which is designed to maintain an extensive and permanent Native Forest Estate and to maintain the sustainability of the total Forest Estate.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

See also reports on 2002 Review recommendations 4.14 and 4.15.

## Ecologically Sustainable Forest Management (ESFM)

64. *The State agrees that in providing for ESFM, its Forest Management Systems will be amended to reflect the undertakings of this Agreement and in particular those undertakings specified in Attachment 10.*

Some of the undertakings specified in Attachment 10 were fully met prior to, and reported on in, the 2002 and 2007 Reviews. Others were in progress at that time and have since been further developed.

Full details are reported against Attachment 10.

## Protection of priority species

68. *The Parties agree that the CAR Reserve System, established in accordance with this Agreement, and the application of management strategies and management prescriptions developed under Tasmania's Forest Management Systems, protect rare and threatened fauna and flora species and Forest Communities.*

**(NOTE: On 23 February 2007 the Parties amended clause 68 of the RFA to the above wording)**

Information on the CAR reserve system and the application of management strategies and prescriptions for the protection of rare and threatened fauna and flora species and forest communities are provided in many places in this Report.

Key clauses on the CAR reserve system include: Part A clauses 24, 48, 51 and 59, and Attachments 6 and 8; and Part C clauses 7, 13-15, and 21.

Key clauses on the application of management strategies and prescriptions for the protection of rare and threatened fauna and flora species and forest communities include: Part A, clauses 32, 60, 64, 69, 70, 96 and 97; and Part C – 45 and 48.

69. *Prior to the first five- yearly review, the State will, where practical, assess those species in Attachment 2 (Part B) and determine management requirements in accordance with clause 96 below.*

This commitment was met prior to, and reported on in, the 2002 Review.

However, work continues to further review and refine management prescriptions for Priority Species.

State-listed species are again being reviewed by the Threatened Species Scientific Advisory Committee as part of the *Threatened Species Protection Act 1995* (Tas) five-yearly review in 2008. Agreed management prescriptions for threatened fauna are based on the Threatened Fauna Adviser. A major review and revision of the Threatened Fauna Adviser has taken place during this RFA review period. At June 2011 a round of stakeholder consultation has been completed, a webpage program drafted and two review background documents completed. Management requirements for threatened flora continue to be based on the Forest Practices Authority's Forest Botany Manuals and individual prescriptions are determined on a case by case basis. The report [State of the Forests Tasmania 2012](#) documents the status of individual species on the Priority Species list in a draft revised list in Appendix 1.2.b (Flora and Fauna) and are discussed in Indicator 1.2.b.

70. *The Parties agree that where a Recovery Plan for a forest-related species in Tasmania or a Threat Abatement Plan concerning a Priority Species (Attachment 2 Part A) is in force, any recommended actions in the Recovery Plan or the Threat Abatement Plan that are within the jurisdiction of the Parties will be carried out in accordance with the timelines specified in the relevant Plan. If an action has not been carried out in accordance with the timelines in the relevant Plan, it will be carried out as soon as possible afterwards.*

**(NOTE: On 23 February 2007 the Parties amended clause 70 of the RFA to the above wording)**

This ongoing commitment has been met during the review period.

Actions in Recovery Plans given the highest priority are those that will give the best conservation outcomes. Recovery Plans implemented through joint funding from the State and Commonwealth are dependent on the availability of funds. If the Commonwealth funding sought is not provided, or reduced from that indicated in the relevant Recovery Plans, the program is scaled down to match available funds and resources.

71. *The Parties recognise that Priority Species may change and that new or altered management prescriptions may be needed during the term of this agreement to take account of changes in the status of species, additional information and evolving forest management practices. Alterations in prescriptions will be in accordance with processes described in Clause 96.*

This ongoing commitment has been met during the review period.

As part of its statutory requirements, the Scientific Advisory Committee constituted under the *Threatened Species Protection Act 1995* is currently undertaking a five-yearly review of all species, including forest species, listed under the Act. In addition, the Committee has examined and endorsed prescriptions in the Forest Practices Authority's Threatened Fauna Adviser, which contains specific prescriptions for all RFA priority fauna species. Additional prescriptions are presented in Recovery Plans and State Listing Statements as well as the Commonwealth Species Profile and Threats Database. The process for identifying new priority forest-dwelling species or delisting existing priority species will normally be based on the Scientific Advisory Committee assessment and recommendations for listing (under the *Threatened Species Protection Act 1995*) and species accepted for listing under the *Environment Protection and Biodiversity Conservation Act 1999*) and may also be based on review of the status of listed species. The exception is for special species groups or habitat surrogates (e.g. karst species, hollow-dependent fauna) identified under the Forest Practices Code.

The revised list of Priority Species is given in Appendix 1.2.b (Flora and Fauna) and discussed in Indicator 1.2.b in the report [State of the Forests 2012](#).

## **Consultative Mechanisms**

72. *The Parties recognise that they already have in place a range of processes and instruments which provide for public participation and consultation. The public reporting activities and consultation opportunities provided through these processes are outlined in Attachment 11 and it is agreed that these will continue through the term of this Agreement.*

This ongoing commitment has been met during the review period.

The Parties continue to implement the existing public reporting and consultative mechanisms relevant to Tasmania's forests as detailed in the report on Attachment 11.

73. *The State further agrees that it will also implement the range of reporting and consultative mechanisms specified in Attachment 11.*

The ongoing commitments have been met during the review period; a number of the commitments were not ongoing and these were fully met and reported on in the 2002 review.

## Employment and Industry Development

74. *In recognition of the unique contribution of forest-based industries to the Tasmanian economy, the Parties intend that this Agreement will have the effect of enhancing the future growth and development of Tasmania's industries associated with forests and timber products by the implementation of the RFA Forests – Employment and Industries Development Strategy. The Parties agree to cooperate in implementing the specified actions in that Strategy described in Attachment 12. In particular, future growth and development will be achieved through:*

- *certainty of resource access to the forest industry;*
- *removal by the Commonwealth of the need for export licences for unprocessed wood and woodchips sourced in Tasmania;*
- *active encouragement of the development of downstream processing in Tasmania such that the preferred market for growers is within the State;*
- *a range of new or enhanced initiatives designed to encourage investment, plantation development, downstream processing, value-adding and jobs growth in Tasmania's forest-based industries;*
- *the implementation of new intensive forest management initiatives, including eucalypt and blackwood plantations, and Native Forest thinning, to balance changes in Forest inventory resulting from this Agreement and expand that inventory;*
- *security of access to the mining industry by providing defined land tenures as outlined in Attachment 6 which allow for exploration and mining together with the protection of Environment and Heritage Values; and*
- *the provision for the development of tourism and recreation opportunities based on Tasmania's environmental advantages.*

The Parties have implemented a range of actions to facilitate the Employment and Industry Development Strategy. Further progress has been made and this progress is detailed in the response to Attachment 12. See also reports against Recommendation 5.2 of the 2002 Review and Recommendations 38 and 39 of the 2007 Review in Parts 2 and 4 of this report.

## Other Forest Uses

79. *The Parties recognise subject to clauses 80, 81 and 82 that mineral exploration and mining can occur in those specified parts of the CAR Reserve System which are identified in Attachment 6.*

This ongoing commitment has been met during the review period.

Mineral exploration in Tasmania is permitted in the following areas under the *Mineral Resources Development Act 1995*:

- Crown land (uncommitted);
- Crown land allocated for public purposes but not reserved and reserved Crown land below 15 metres below the surface;

- State forest;
- Forest Reserves (if brought back under the *Mineral Resources Development Act 1995*);
- Land vested in electricity authorities;
- Public Reserves, unless specifically excluded;
- private property;
- Conservation Areas;
- Regional Reserves; and
- Nature Recreation Areas.

Mineral exploration in areas within the CAR reserve system is subject to the Mineral Exploration Code of Practice.

80. *The State confirms that mineral exploration in areas covered by the CAR Reserve System will be subject to the Tasmanian Mineral Exploration Code of Practice and that all exploration proposals will be referred to the Mineral Exploration Working Group, who will investigate the potential impact on CAR values and recommend appropriate conditions to protect those values.*

This ongoing commitment has been met during the review period.

During the period under review, mineral exploration in areas covered by the CAR reserve system, including those areas with high-quality wilderness values, has been subject to the Mineral Exploration Code of Practice. It has been agreed that this Code, as far as it relates to CAR reserves, be maintained in conjunction with the Code of Practice for Reserve Management (see Attachment 10) and that both codes be reviewed on the same five-year cycle. The Mineral Exploration Code of Practice has been reviewed to reflect sections of the Code of Practice for Reserve Management and ensure that clauses relating to the protection of CAR values are common to both codes.

The State has a Mineral Exploration Working Group that is responsible for investigating matters related to mining or mineral exploration and providing comment on their potential impacts on CAR values (e.g. conservation, historical, cultural and other natural values). The members of the group, who are scientists with a good understanding of CAR values, are from Mineral Resources Tasmania, the Department of Primary Industries, Parks, Water and Environment, and Forestry Tasmania.

All applications for mineral exploration work approval in CAR reserves during the review period have been referred to the Mineral Exploration Working Group for comment and recommendations where applicable.

Compliance auditing of the Mineral Exploration Code of Practice began in 2000-01. The auditing system has been incorporated into Mineral Resources Tasmania's Tasmanian Information on Geoscience and Exploration Resources (TIGER) database. The system tracks exploration work approvals to allow detailed audits and automatic reporting of statistics.

During the five year reporting period there were 110 exploration work proposals in CAR reserves and all were referred to the Mineral Exploration Working Group for comment. The total area disturbed was 15.09 hectares. Approximately half that area

was rehabilitated immediately on completion of the work with the remainder to be rehabilitated over the life of the tenement.

81. *The State will ensure that all proposed mining activities in areas covered by the CAR Reserve System will be subject to environmental impact assessment and environmental management conditions as required by the Environmental Management and Pollution Control Act 1993 (Tas), the State Policies and Projects Act 1993 (Tas), and/or the Mineral Resources Development Act 1995 (Tas).*

This ongoing commitment has been met during the review period.

All proposals for mining activities in areas covered by the CAR reserve system are accompanied by environmental-impact information. This information is assessed by Mineral Resources Tasmania, the Department of Primary Industries, Parks, Water and Environment, Forestry Tasmania and any local government authority whose jurisdiction the Mining Lease falls into. Mineral Resources Tasmania incorporates recommendations from these organisations where conditions need to be placed on activities to ensure values are not permanently affected adversely and impacts on wilderness values are minimised.

It should be noted that a Mining Lease does not permit an operation to proceed. Approval for the operation is through the *Land Use Planning and Approvals Act 1993*, which automatically triggers assessment through the *Environmental Management and Pollution Control Act 1994* (except for Level 1 – minor operations). The environmental assessment, including natural values, is carried out. The Department of Primary Industries, Parks, Water and Environment and / or the relevant local council set permit conditions. The permit and conditions are subject to third party appeal.

82. *The Parties agree that in relation to those parts of the CAR Reserve System with high quality wilderness values, as identified through the CRA, measures will be taken under State processes to minimise the effects of mineral exploration and mining activities on wilderness values. Rehabilitation of any exploration activity impacts and rehabilitation of any mine site will be in accordance with the provisions of the Mineral Resources Development Act 1995 (Tas), and the Environmental Management and Pollution Control Act 1994 (Tas) in so far as any permit conditions are relevant, and will aim both to achieve world's best practice and to return the site to its wilderness condition.*

This ongoing commitment has been met during the review period.

Mineral exploration in areas within the CAR Reserve System is subject to the Mineral Exploration Code of Practice. The Code provides for minimising the effects of mineral exploration activities on environment and heritage values, including wilderness values in identified high-quality wilderness areas.

During the review period the total area disturbed by mineral exploration work in CAR reserves or State forest with high-quality wilderness was 9.21 hectares. All exploration work proposals were referred to the Mineral Exploration Working Group for comment. A running total of rehabilitation of works in high-quality wilderness areas over the reporting period shows that as of the 30 June 2011, 5.29 hectares remains to be rehabilitated over the life of the tenements.

## Indigenous Issues

83. *The State undertakes that it will introduce into State Parliament legislation to replace the Aboriginal Relics Act 1975 (Tas.). This will occur following formal consultation with the Tasmanian Aboriginal community to ensure the appropriate management of Aboriginal heritage, including the maintenance of traditional and historic sites, uses and values in Tasmania.*

This commitment is still being implemented.

At the completion of the review period, Tasmania had not yet introduced legislation to replace the *Aboriginal Relics Act 1975*. However, considerable progress has been made towards achieving this objective. As of June 2011 the State Budget had allocated \$610,000 over 18 months to progress the project, with the expectation that new legislation could not realistically be introduced to Parliament before late in 2012.

The new legislation is intended to:

- establish an improved legislative framework for the protection of Aboriginal heritage;
- establish a statutory and central role for the Aboriginal community;
- create greater certainty for land owners, users and managers;
- integrate with existing planning systems; and
- be fair and equitable.

## Competition Principles

87. *The State confirms its commitments under the Competition Principles Agreement, which provides that legislation relevant to the allocation and pricing of hardwood logs from State forests, will be reviewed before the 31 December 1999. Competitive neutrality principles will be taken into account in any changes following the review.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

## Research

89. *The Parties agree to make publicly available, wherever practical, research reports relevant to the substance of this agreement.*

This ongoing commitment has been met during the review period.

All research and other reports produced to satisfy the substance of the RFA are publicly available, as is documentation of recommendations by the Threatened Species Scientific Advisory Committee. Research reports from relevant agencies are generally listed in the annual reports of those agencies.

## Data Use and Access

90. *The Parties recognise that the implementation and monitoring of this Agreement depends on appropriate mutual access to and accreditation of relevant information owned and held by each of them and have agreed to provide such access and accreditation for the term of this Agreement in accordance with the practices and procedures specified in Attachment 14.*

This ongoing commitment has been met during the review period.

## Sustainability Indicators

91. *The Parties agree to develop and establish by the first of December 1999 an appropriate, practical and cost effective set of Sustainability Indicators which:*
- *have regard to the Montreal Process Criteria (as amended from time to time) the current form of which is specified in Attachment 4 and take account of the processes and regional framework of indicators developed by the Montreal Process Implementation Group;*
  - *assess the criteria for sustainable forest management for the whole of the Tasmania Region;*
  - *take account of the results of the Warra Case Study to develop effective regional indicators;*
  - *include appropriate social and economic indicators in the development of those indicators the Parties agree to;*
  - *determine the frequency of monitoring and reporting;*
  - *provide for public consultation and to take account of public comments; and*
  - *develop efficient linkages to the ongoing work being carried out on the Commonwealth and Tasmanian State of the Forests and State of the Environment Reports to avoid duplication of effort.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

The [State of the Forests Tasmania 2012](#) has been prepared to inform the third five-yearly RFA Review on the trends in the agreed sustainability indicators for Tasmanian forests.

## Forest Management

93. *The State agrees, within five years of the date of this Agreement, to further develop its Forest Management Systems and processes through the development and implementation of environmental management systems in accordance with the principles specified in Attachment 5 and acknowledges that its objective for State Forest is system certification comparable with the ISO 14000 series.*

This commitment was reported on and reviewed in the 2002 Review as being fully met in relation to State forest. Forestry Tasmania has and maintains an Environmental Management System (EMS) certified as meeting the requirements of ISO 14001.

The major private forest companies operating in Tasmania during the review period - Gunns Ltd, Norske Skog, Forest Enterprises Australia, Timberlands Pacific Pty Ltd, and SFM Forest Products - have environmental management systems (EMS) for all or part of their operations that are certified as meeting the ISO 14001 requirements.

In addition, Forestry Tasmania, Gunns Ltd, Timberlands Pacific Pty Ltd, Norske Skog (Boyer) and SFM Forest Products also obtained independent certification of their forest management as meeting the requirements of the Australian Forestry Standard (AFS) (AS4708), which is internationally recognised by the Program for Endorsement of Forest Certification (PEFC). Norske Skog and SFM Forest Products

have also received certification under the Forest Stewardship Certification (FSC) scheme.

The reserve system on State forest is covered by Forestry Tasmania's EMS. The Department of Primary Industries, Parks, Water and Environment has continued to develop an EMS for national parks, reserves and other public land managed by the Parks and Wildlife Service. Major components of the EMS are an environmental policy, upgraded environmental impact assessment process, monitoring and evaluation framework, auditing of compliance with the Reserve Management Code of Practice and a supporting information management system.

See also the report on the 2002 Review recommendations 4.12 and 4.13 in Part 2 of this report and the report on the 2007 Review recommendation 25 in Part 4.

94. *The State agrees to publish, and make publicly available, its:*

- *annual compliance audits of the implementation of the Forest Practices Act 1985 (Tas.), Forest Practices Code and its code of reserve management specified in Attachment 10.9*

The Forest Practices Authority, in accordance with s.4 of the *Forest Practices Act 1985*, undertakes an independent audit of a sample of forest practices plans on private property and State forest. The audit uses a random sample, stratified to ensure the activities of all forestry organisations and forest practices officers are sampled. The audit covers forest practices plans for forest harvesting, roading, quarrying and site preparation at various stages of completion. In addition to assessing operational performance, the audit checks the standard of the plan, including all assessments and procedures required by the forest practices system. The audit covers 139 factors within the general areas of roads, bridges, harvesting, snig tracks, landings, stream reserves, Forest Practices Plan, consultation with the local government sector, flora, fauna, geomorphology, cultural heritage and visual landscape.

In addition to the formal audit, the Forest Practices Authority investigates all alleged breaches of the *Forest Practices Act 1985*. A report on these investigations and the full audit results are tabled in Parliament and are publicly available in the Forest Practices Authority's annual reports from the website [www.fpa.tas.gov.au](http://www.fpa.tas.gov.au).

The Tasmanian Reserve Management Code of Practice was published in 2003 (see Attachment 10, clause 11). Compliance auditing of the Tasmanian Reserve Management Code of Practice for reserves under the *Nature Conservation Act 2002* commenced through auditing a sample of Parks and Wildlife Service environmental assessments for new activities in reserves. The environmental assessment system, the Reserve Activity Assessment (RAA) system, was reviewed and, subsequently, processes and documentation were improved.

The Parks and Wildlife Service completed a range of audits for the RAA system for the Southern Region and compliance audits are in progress for the remainder of the state. Audits for the 2010-11 year included:

- Auditing project checklists, used to determine RAA requirements
- Auditing RAA activities during the implementation phase of the project, and
- In-depth auditing of a selection of projects for planning and outcome compliance. These projects involved macropod management, remote area toilet replacement, major front country walking track upgrade, coastal weed

removal, a planned burn and an Aboriginal heritage walk. These projects were chosen as they cover different levels in the RAA system, and represent a range of activities and locations.

The Parks and Wildlife Service has not yet published audits of compliance with the Tasmanian Reserve Management Code of Practice.

Forestry Tasmania has continued to implement a Standard Operating Procedure and Guidelines for Activities in Reserves developed to facilitate the implementation of the Reserve Management Code of Practice.

The procedure and guidelines form part of Forestry Tasmania's Safety and Environment Management System, and are consequently part of the internal and external audit program.

- *five-yearly independent expert reviews of the operation of the above-mentioned codes of practice where they are associated with Forest lands.*

This ongoing commitment has been met during the review period.

The Forest Practices System is based on a philosophy of continuing review and improvement.

Several independent expert reviews have been completed since the RFA was signed. The reviews in the period 1997-2002 and 2002-07 were reported in the 2002 and 2007 Reviews. Since 2007 a number of other reviews have been completed including:

- A review of the biodiversity provisions of the Forest Practices Code by an independent expert panel in 2009 (see [www.fpa.tas.gov.au/data/assets/pdf\\_file/0018/58140/Biodiversity\\_review\\_report.pdf](http://www.fpa.tas.gov.au/data/assets/pdf_file/0018/58140/Biodiversity_review_report.pdf))
- A review of reforestation on private lands by the Forest Practices Authority in 2010 (see FPA Annual Report 2010-11)
- Annual reviews of the Coordinated Smoke Management System by independent forest fire expert Dick Chuter in 2008, 2009, 2010 and 2011 (see [www.fpa.tas.gov.au/forest\\_practices\\_system/smoke\\_management](http://www.fpa.tas.gov.au/forest_practices_system/smoke_management))
- A review of the Forest Practices Authority's Monitoring and Assessment Protocols and Investigation and Enforcement Protocols in 2011 (see [www.fpa.tas.gov.au/compliance](http://www.fpa.tas.gov.au/compliance));
- The management prescriptions for threatened species were reviewed by experts within the Forest Practices Authority and the Department of Primary Industries, Parks, Water and Environment in consultation with independent experts from the non-governmental sector and revised prescriptions were completed in 2012 ready for inclusion in the Threatened Fauna Advisor. The Threatened Fauna Advisor is a decision tool that forms part of the Forest Practices Code and it provides endorsed management prescriptions for incorporation into forest practices plans;
- The management guidelines for cultural heritage were reviewed and revised by the Forest Practices Authority in 2011;

- The provisions under the forest practices system relating to plantations were reviewed by an expert panel from the CSIRO as part of a national review commissioned by the Australian Government in 2011.

The review of the Forest Practices Code was substantially progressed between 2007 and 2010 but was put on hold by the Forest Practices Authority in April 2010 pending clarification from government in relation to major overarching policy issues (see FPA Annual Report 2009-10).

## Databases and Confirmation

96. *The State agrees that any new or altered management prescriptions that are developed over the term of the Agreement for the Priority Species in Attachment 2, as amended from time to time, will:*

- provide for the maintenance of the relevant species;*
- have a sound scientific basis;*
- be endorsed by the Tasmanian Threatened Species Scientific Advisory Committee where relevant; and*
- take note of public comment.*

**(NOTE: On 23 February 2007 the Parties amended clause 96 of the RFA to the above wording)**

This ongoing commitment has been met during the review period.

Priority Species are listed under the Tasmanian *Threatened Species Protection Act 1995* and/or the Commonwealth, *Environment Protection and Biodiversity Conservation Act 1999*. The Scientific Advisory Committee undertakes five yearly reviews of the schedules to the *Threatened Species Protection Act* and as a result of these the listing status of some species has changed. Other changes to the priority species list have arisen from:

- ongoing additions and deletions from the schedules to State and Commonwealth threatened species legislation;
- a full review of priority species undertaken as part of the 2002 RFA Review; and
- a further review of priority species undertaken as part of the 2007 RFA Review.

As a result, new species have been added to and other species deleted from the lists in Appendix 1.2.b of the report [State of the Forests 2012](#).

Public comments were sought on changes to species on the Schedules of the *Threatened Species Protection Act*.

The primary mechanism for seeking public comment on new and revised management prescriptions is through key representative organisations and through the processes governing the review of the *Forest Practices Code* (biodiversity provisions of the code reviewed in 2009). Review and consultative processes for priority species include:

- a peer review by independent scientists with recognised expertise for the relevant species;
- an independent review by the Scientific Advisory Committee of the management prescriptions contained within the Threatened Fauna Advisor planning tool;

- consultation and review with key stakeholders on all new and revised management prescriptions through the Forest Practices Advisory Council (comprising forest industry, local government, private forest owners, public forest managers, the Department of Primary Industries, Parks, Water and Environment and independent conservation scientists).

97. *The State agrees to maintain and to update as necessary a database or databases of management prescriptions and responses to disturbance related to threatened fauna and flora and confirms that it intends to use the database or databases as a basis for updating relevant State management documents and as a basis for the management of threatened species. Updated database contents will be periodically made available in a publicly accessible form for public comment.*

**(NOTE: On 23 February 2007 the Parties amended clause 97 of the RFA to the above wording)**

This ongoing commitment has been met during the review period.

As noted in the 2002 RFA Five Yearly Review, Tasmania has upgraded databases developed for the RFA to make them operationally viable and to provide for new information as it becomes available. Flora and fauna locality information is integrated on the Natural Values Atlas. The fauna components of the databases have been superseded by the Threatened Fauna Adviser (which was under review as at June 2011) and agreed update of management prescriptions.

The Threatened Fauna Database and also more recently the Natural Values Atlas developed by the Department of Primary Industries, Parks, Water and Environment (DPIPWE) provides location and general management information on priority species. Flora data are accessed through the Natural Values Atlas and management prescriptions are derived from the Forest Practices Authority's Forest Botany Manuals, Recovery Plans, Listing Statements and specialist knowledge. All updating has been in accordance with the requirements of the *Threatened Species Protection Act 1995* and provisions of the Forest Practices Code.

As required under Clause 96, the management information and changes were vetted and endorsed by the Scientific Advisory Committee of the *Threatened Species Protection Act 1995* until April 2010. Following a review, the agreed procedures now require formal endorsement by the Board of the Forest Practices Authority and the Secretary, DPIPWE of any new or altered planning tools for the management of threatened species. The Forest Practices Authority and the DPIPWE will consult with, and take account of the advice of the Forest Practices Advisory Council and the Scientific Advisory Committee.

The Threatened Fauna Database and Forest Botany Manuals can be viewed by the public or downloaded from the Forest Practices Authority website ([www.fpa.tas.gov.au](http://www.fpa.tas.gov.au)). Recovery Plans and Listing Statements are similarly available on the DPIPWE website ([www.dpiw.tas.gov.au/](http://www.dpiw.tas.gov.au/)) or by direct link through the Natural Values Atlas ([www.naturalvaluesatlas.dpiw.tas.gov.au](http://www.naturalvaluesatlas.dpiw.tas.gov.au)).

The processes for seeking public comment are described in the report on clause 96 above.

## **Review of sustainable high-quality sawlog supply levels**

98. *The State agrees to undertake a review of sustainable high-quality sawlog supply levels from public land to reflect the changes in forest inventory and new intensive management initiatives concluded in this Agreement. The review will be completed and published during the first year of this Agreement and thereafter will coincide with the five-yearly review of this Agreement.*

This ongoing commitment has been met during the review period.

Sustained yield reviews of high quality eucalypt sawlog supply from Tasmanian State forests were completed and published by Forestry Tasmania in 1998, 2002 and 2007.

Another review will be finalised and published by Forestry Tasmania following the finalisation of relevant outcomes of the Tasmanian Forest Agreement.

## **Review of pricing and allocation policies for commercial Government-owned forestry operations**

99. *The State agrees to undertake by 30<sup>th</sup> April 1998 a review on pricing and allocation policies for commercial government-owned forestry operations and agrees to make available to the public a report describing the outcomes of the review and agrees to consider these outcomes in the development of its pricing and allocation policy.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

## **Financial Assistance**

100. *The Commonwealth will, subject to the provisions of the Natural Heritage Trust of Australia Act 1997, and the terms and conditions of the Partnership Agreement entered into it with Tasmania on 7 October 1997 under section 19 of that Act as to the financial assistance provided to the State thereunder, provide \$20 million for actions to implement the 'Program to protect conservation values on private land in support of the CAR Reserve System' described at Attachment 8 in this Agreement. Such payments are to be made on the basis provided for in that Attachment.*

The Commonwealth provided the full \$20 million of Natural Heritage Trust (NHT) funding to Tasmania for use in the Tasmanian Private Forest Reserves Program (PFRP). With the cessation of the PFRP on 30 June 2006, it was agreed under the Tasmanian Community Forest Agreement (TCFA) that unspent NHT funds from the PFRP would be returned to the Commonwealth for use in the Forest Conservation Fund, as established through the TCFA. During the review period Tasmania acquitted the NHT funds and \$7,688,045 was returned for use in the Forest Conservation Fund.

101. *The Commonwealth will, subject to the terms and conditions under any Commonwealth Act which appropriates money for use by the State for the purposes of this Agreement, provide that money to the State as follows:*
- (i) an amount of \$57 million in equal instalments over three years commencing 1997/98 for the implementation of new intensive forest management initiatives;

- (ii) an amount of \$13 million in equal instalments over three years commencing 1997/98 for the implementation of employment and industry development initiatives specified in Attachment 12;
- (iii) an amount of \$10 million in equal instalments over three years commencing in 1997/98 for infrastructure development projects as specified in Attachment 12, being
  - roading to increase productivity (\$6 million),
  - tourism infrastructure (\$3 million) and
  - new reserve management (\$1 million); and
- (iv) a further amount of \$10 million in equal instalments over 2 years commencing 1997/98 for actions to implement the 'Program to protect conservation values on private land in support of the CAR Reserve System' described at Attachment 8 of this Agreement.

This commitment was fully met prior to, and reported on in, the 2002 Review.

## **Attachment 1 – Protection and Management of National Estate Values**

6. *The Parties agree, by the 31 December 1998, to jointly fund and accredit for land management purposes digital maps at resolution of 1:100 000 of the boundaries of all lands in Tasmania listed on the Register of the National Estate.*

As reported in the 2007 Review this milestone had been partially met prior to changes to the Commonwealth's environment legislation in 2003. As a result of these changes, no further work is required to be done on this commitment.

7. *The Parties note that the Commission has agreed to update the Statements of Significance and Condition and Description Statements for all existing listings on its Register of the National Estate to incorporate the results of the Joint Study. The Parties note that the Commission has agreed:*
- *that existing National Estate places will have their Statements of Significance updated with the values identified in the Joint Study and their Condition and Description Statements amended to reflect the protection and management status of the area they cover;*
  - *to delist Forest places if they have been identified through the CRA to have no Forest-related National Estate Value;*
  - *to consider refinement of boundaries to minimise confusion or to better reflect the intent of listing, on the basis of improved data from CRA assessments;*
  - *that interim-listed Forest places will be progressed as required by the provisions of the Australian Heritage Commission Act 1975 (Cwth) but consistent with the intent of paragraphs 8/10 below, as far as practicable; and*
  - *for those listed places in which forestry activities may take place the Commission will make clear in relevant public documents (place records) the management status of the area and that those areas are not within the agreed CAR Reserve System.*
8. *The Parties agree to recommend to the Commission new listings on Public Land which are drawn from National Estate Values protected within the CAR Reserve System or by other measures appropriate to the value, or which will not be affected by harvesting.*
9. *The Parties note that the Commission has agreed to work in cooperation with the State in delineating places for National Estate listing.*
10. *The Parties agree and note the Commission has also agreed that, for places arising from the Joint Study, only places identified by the above principles will be listed in the Register of the National Estate.*
14. *The Parties note that the Commission has agreed that future nominations will be referred to them, and agree to work in a cooperative and timely fashion when considering whether such nominations will be recommended to the Commission for listing. As part of this process the Parties will compare the nominations with the existing Tasmanian Forest National Estate database to consider any new research or information provided.*

15. *The Parties will jointly agree on any future forest-related recommendations to the Commission for listing. The Parties note that the Commission has agreed to work cooperatively with them on the detail of any consequent listings that may arise.*
16. *The Parties agree that all National Estate Values will be considered in forest management decisions. The advice of the Commission will be sought in relation to proposed actions by the Commonwealth which are outside the scope of this Agreement and which might adversely affect National Estate Values in Tasmania, including proposed actions that may affect National Estate Values in areas outside the CAR Reserve System and which have not been listed on the Register of the National Estate. The Parties note that the Commission has agreed to take into account the undertakings in this Agreement in providing its advice, and will provide such advice in a regional context.*

National Estate Values have been considered in forest-management decisions in accordance with the principles in Attachment 1, clause 4 and the agreed actions in Attachment 1, Table 1. National Estate Values have been addressed at the State level in both forest management plans and reserve management plans prepared or revised since the RFA was signed in 1997, and are addressed in operational planning through the provisions of the Forest Practices Code 2000.

In the Joint Government Response to the Second Five Yearly Review of Progress with Implementation of the Tasmanian Regional Forest Agreement, the governments reconfirmed their commitment to the management of national estate values as set out in Attachment 1 of the RFA, for the duration of the RFA.

As a result of legislative changes to the Commonwealth's environment legislation in 2003, the State now manages National Estate values through the natural and cultural heritage provisions of the Forest Practices System.

Also see clause 6 of this attachment (Attachment 1).

17. *The Parties note that the Commission may delegate preparation of Section 30 advice with respect to Forest Estate areas covered by this Agreement to an appropriate official in a Tasmanian Agency. This delegation would be limited to the Forest Estate documented in the CRA.*

As a result of legislative changes (see clause 6 of this Attachment) this commitment is no longer applicable.

19. *The Parties agree the listing of places on Private Land will take place in consultation with private owners. National Estate natural heritage values on Private Land will only be listed from areas protected under the Private Land elements of the CAR Reserve System.*

As a result of legislative changes (see clause 6 of this Attachment) there will be no further National Estate listings.

20. *The State agrees, as part of the implementation of the program to protect CAR values on Private Land outlined in Attachment 8, to encourage the listing on the Register of the National Estate of areas of Private Land within the CAR Reserve System.*

See response to Attachment 8.

## **Attachment 1 – Table 1 – Additional agreed actions under the Tasmanian RFA**

*Fauna centres of endemism: For the Plomleys Island and St Marys indicative areas, key endemic species to be added to forest management plans (when new ones are prepared or existing ones revised), along with the general principle of maintaining species' presence in the indicative area.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

*Richness of plant communities: Future revision of the Forest Practices Code to consider inclusion of an additional principle under Flora Conservation, along the lines: "Plan and manage timber-harvesting activities to maintain richness of flora species and communities"; and*

*Flora species richness: Future revision of the Forest Practices Code to consider including an additional principle under Flora Conservation, along the lines: "Plan and manage timber-harvesting activities to maintain richness of flora species and communities".*

This commitment was fully met prior to, and reported on in, the 2002 Review.

*Type localities for fauna species: Fauna type localities to be identified as special management zones under the Management Decision Classification System, where practicable.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

*Primitive and relict fauna: For the north-west extremity and Goulds Country indicative areas, key primitive and relict species to be added to Forest Management Plans (when new ones are prepared or existing ones revised), along with the general principle of maintaining species' presence in the indicative area.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

*Disjunct fauna: For Wielangta area, key disjunct species to be added to Forest Management Plans (as new ones are prepared or existing ones revised), along with the general principle of maintaining species presence within the indicative area.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

*Fauna species at the limits of their range: For the north-west extremity, north-east extremity, East Tamar, and Goulds Country indicative areas, key fauna species at the limits of their range to be added to forest management plans (when new ones are prepared or existing ones revised), along with the general principle of maintaining species' presence in the indicative area.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

*Type localities for flora species: Flora type localities to be identified as special management zones under the Management Decision Classification System.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

*Research, teaching and benchmark sites: Indicative areas to be identified as special management zones under the Management Decision Classification System and managed as appropriate to their research value.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

*Geo-conservation values: Future revision of the Forest Practices Code to consider replacing “geomorphology” in the Code with the term “geoconservation”; Tasmanian Geoconservation Database to be incorporated in planning databases; Geoconservation values to be identified in forest management plans.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

*Historic values: Future revision of the Forest Practices Code to consider replacing “archaeology” with “cultural heritage”; to add a definition of “historic cultural heritage significance” identical to the definition given in the Historic Cultural Heritage Act 1995; and to revise the archaeological manual to ensure historic values are considered in a manner consistent with current best practice; and to include National Estate historic indicative areas in upgraded planning databases.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

*Social values: Indicative areas to be incorporated into planning databases.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

*Aesthetic values: Indicative areas to be incorporated into planning databases.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

## **Attachment 6 – The Comprehensive, Adequate and Representative Reserve System on Public Land**

2. *The CAR reserve system on Public Land, not including values managed by prescription, will total 2,700,000 ha, comprising 2,304,000 ha of existing reserves and 396,000 ha of additional reserves. The reservation levels achieved in the CAR Reserve System on Public Land for Forest Communities and Old Growth communities are detailed in Table 1. These do not include values reserved by prescription.*

This commitment was met prior to, and reported on in, the 2002 Review. Further updates have been made.

The CAR reserve system at 30 June 2011 comprises 3,064,500 hectares of land, which is 45 per cent of the total land area of Tasmania. Public land reserves comprise 2,929,100 hectares and private land reserves 135,400 hectares. This is an increase of 35,500 hectares (1 per cent) since 2006.

In 2002 and 2007 it was reported that a few small areas of public land managed by Hydro Tasmania agreed to be protected in the RFA had not been reserved at that time pending a review by Hydro Tasmania of its land asset requirements associated with its power developments. The RPDC recommended that these areas be reserved after Hydro Tasmania's review was completed. See the report on the 2002 Review recommendation 3.2 in Part 2 of this report.

The TCFA changed this RFA commitment. Under the TCFA the Parties agreed to a higher level of reservation of public land. See the report against clauses 6 to 15 in Part 3 of this report, including revised reservation levels detailed in Table 1 of Attachment 6 of the RFA.

5. *The State will finalise boundaries on 1:25 000 maps to enable gazettal, referred to clause 24 of the agreement. Finalisation will include identifying the best management boundaries.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

17. *Forestry Tasmania will identify those Informal Reserve areas on State forest on Management Decision Classification maps as protection zones and manage the areas for the protection of the CAR values identified, subject to field verification of the existence and extent of those values. These informal reserves will be included in new and revised Forest Management Plans by the year 2000.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

18. *The requirement for, and location of, some existing Protection Zones will also be reviewed as a result of the RFA. Any changes will be made in accord with Clause 57 of this Agreement.*

All changes to Informal Reserve boundaries continue to be made in accordance with clause 57.

20. *These Informal Reserves (Stony Head; Little Swanport Hill; Mt Douglas; Maclaines Creek) will be included after public participation in new and revised Management Plans by the year 2000.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

21. *The following Forest Communities, where they occur outside existing and new Formal and Informal Reserves, will be protected on Public land wherever prudent and feasible, to protect those values at a regional level:*

*Eucalyptus risdonii forest*

*E. ovata Shrubby forest*

*E. viminalis wet forest on basalt*

*Notelaea ligustrina/Pomaderris apetala forest*

*Banksia serrata woodland*

*Furneaux E. viminalis forest*

*E. amygdalina inland forest*

*E. globulus grassy forest*

*E. viminalis grassy forest*

*E. viminalis/E. globulus forest*

*E. tenuiramis inland forest*

*E. rodwayi forest*

*E. brookeriana forest*

*King Island E. globulus/ E. brookeriana/ E. viminalis forest*

*Callitris rhomboidea forest*

*Melaleuca ericifolia coastal swamp forest*

*E. pauciflora old growth forest on dolerite*

*E. sieberi old growth forest on granite*

*E. sieberi old growth forest on other substrates*

*E. viminalis/ E. ovata/ E. amygdalina/ E. obliqua old growth damp sclerophyll forest*

This commitment continues to be met by the implementation of the processes detailed below.

Forestry Tasmania's planners identify the forest communities present when Forest Practices Plans are prepared. If any of the communities listed above will be affected by the proposed operations, forest planners must seek advice from the appropriate Forest Practices Authority specialists. Patches of these communities are excluded from operations wherever prudent and feasible. They are protected either by management prescription incorporated in the Plan or by inclusion within informal reserves under Forestry Tasmania's Management Decision Classification System. Protection is also given where these communities are identified on public land through other processes, for example on State forest, such areas are included within informal reserves.

For mineral exploration activities on public land, the Mineral Exploration Working Group identifies areas containing these communities and recommend conditions to mitigate potential impacts.

22. *Deferred Forest Land not required for the CAR Reserve System will be removed from the Register of Deferred Forest Land.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

23. *The following areas of Deferred Forest Land will be referred to the Public Land Use Commission for recommendations on tenure and management.*

*All areas will be available for mineral exploration and mining under the Mineral Resources Development Act 1995.*

<i>near Savage River township</i>	<i>2 230 ha</i>
<i>east of Stanley River</i>	<i>1 350 ha</i>
<i>north of Zeehan</i>	<i>890 ha</i>
<i>north and west of Gladstone</i>	<i>8 350 ha</i>
<i>Leven Canyon</i>	<i>2 720 ha</i>
<i>Bonds Range</i>	<i>2 020 ha</i>

This commitment was fully met prior to, and reported on in, the 2002 Review.

24. *Deferred Forest Land other than those areas identified in 4 above and not required for the CAR Reserve System will, subject to the provisions of the Forestry Act 1920 (Tas), be entered into the Register of Multiple Use Forest Land.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

## Attachment 8 – Program to Protect CAR Values on Private Land

A program to protect CAR values on Private Land by the voluntary participation of private landholders in the CAR Reserve System will be established based on the following principles.

### Principles

- (i) *The program will commence after prioritisation of the CAR values and implementation arrangements are established and will continue for an agreed period. Any extension to this would require the agreement of the Parties.*
- (ii) *Participation in the program by private landowners will be voluntary and no non-voluntary instruments will be used to achieve protection of CAR values on Private Land without proper compensation being paid.*
- (iii) *The program will seek to maximise agreed CAR values on Private Lands in a cost-effective manner.*
- (iv) *The CAR values will, wherever possible, be secured in perpetuity.*
- (v) *Implementation of the program will be the responsibility of the State, in accordance with paragraphs 9 to 22 below.*
- (vi) *CAR values identified on Private Land as suitable for inclusion in the CAR Reserve System may be incorporated through a variety of approaches, including stewardship agreements and voluntary sale.*
- (vii) *Valuations will be conducted by a registered valuer.*
- (viii) *Private landowners will be afforded the opportunity of playing an active role in the formulation of management plans.*

Originally set up to run for four years, the Private Forest Reserves Program (PFRP) was extended in 2002 after the 2002 RFA Five Yearly Review. The PFRP was officially closed on 30 June 2006, although agreements arising from the Program were not all concluded until 30 March 2009.

The PFRP used a range of approaches and voluntary mechanisms, including financial incentives for conservation covenants, competitive tendering for environmental services and a revolving fund.

The financial incentives for entering into a perpetual conservation covenant were based on a proportion of the market value of the land. The success of the PFRP was due in part to the ability to negotiate an outcome commensurate with an agreed level of financial incentive.

Rate rebates were offered by about half of the State's local governments. Such schemes increased the effectiveness of the program and were still operational as of 30 June 2011.

Capital Gains Tax (CGT) had been a major disincentive and psychological barrier to landowners' participation in the program. However, amendments to make financial incentives to landowners with pre-CGT land being exempt from taxation, and to reduce the negative impact of CGT on landowners with post-CGT land, made a significant difference to the acceptability of the agreements. Conservation plans are jointly prepared with landowners for each covenanted property.

By 30 June 2011, the PFRP had concluded and 255 landowners had agreed to place perpetual conservation covenants over 35,605 hectares of targeted native forests of high conservation significance. The PFRP did not enter into any fixed term covenants. The program also produced two term based agreement, one of which progressed to a perpetual covenant and one of which lapsed on sale of the property during 2008.

In exceptional cases, where it appeared to be the only way of securing protection for a particular forest type, or for the best remaining example of a particular forest type, then purchase was considered. All valuations for purchases were prepared by registered valuers. By 30 June 2011 the program had purchased 22 properties, totalling 5,898 hectares. All of this area was placed into the Tasmanian CAR Reserve Estate.

A revolving fund process was used by the PFRP on a small scale to complement other approaches where it was cost-effective and beneficial in terms of conservation outcomes. Revolving a property by covenanting and sale enabled the “reuse” of some program funds. The revolving fund model has proved successful and as of 30 June 2011 the Tasmanian Land Conservancy was also operating a separate and highly successful revolving fund across Tasmania.

### **Strategic Plan and Identification of Priorities**

1. *A strategic plan for implementing the program will be prepared by the Department of Environment and Land Management [now Department of Primary Industries, Water and Environment, “DPIWE”] with advice from the Scientific Advisory Group referred to below. The strategic plan will be submitted to the Parties for joint approval following its consideration by the Advisory Committee also referred to below.*

This commitment was met prior to, and reported on in, the 2002 Review.

2. *The plan will be developed as soon as possible but no later than 3 months from the commencement of the Agreement. The plan will identify priorities in relation to the protection of CAR values. The priorities will be based on protecting the values identified during the Comprehensive Regional Assessment (CRA) process in accordance with the JANIS Reserve Criteria.*

This commitment was met prior to, and reported on in, the 2002 Review.

3. *In the context of (2) above, priority attention will be given to protecting rare, vulnerable and endangered vegetation communities, rare and depleted old-growth forests and the Priority Species identified in Attachment 2. Attention will also be given to protecting National Estate values on Private Land.*

This commitment was met prior to, and reported on in, the 2007 Review.

4. *The implementation of the strategic plan will source, in part, funds from the Natural Heritage Trust of Australia's reserve as established under the Natural Heritage Trust of Australia Act 1997 (Commonwealth). The strategic plan will therefore be framed consistent with the purposes of the Reserve under the Act and the NHT Partnership Agreement, including the objectives and outcomes of relevant NHT programs under that Agreement. Subject to the agreement of the Parties, the strategic plan will formally be made an attachment to the Partnership Agreement.*

This commitment was met prior to, and reported on in, the 2002 Review.

5. *The plan will also identify:*
- *required objectives;*
  - *mechanisms for creating landowner awareness;*
  - *priority setting including timelines; and*
  - *implementation review and monitoring arrangements.*

This commitment was met prior to, and reported on in, the 2002 Review.

### **Advisory Committee**

6. *The Parties will establish an Advisory Committee that will include representatives nominated by Department of Primary Industries, Water and Environment (DPIWE), Private Forests Tasmania (PFT), the Forest Practices Board (FPB), the Tasmanian Farmers & Graziers Association (TFGA) and the Tasmanian Conservation Trust (TCT). The Committee will include a representative of each of the Parties and be chaired by the DPIWE representative.*

This commitment was met prior to, and reported on in, the 2002 Review.

7. *In addition to providing advice to the Parties on the strategic plan, the Committee will, on an ongoing basis, monitor the program and, where appropriate, make recommendations designed to improve the delivery and effectiveness of the program.*

This commitment was met prior to, and reported on in, the 2007 Review.

### **Scientific Advisory Group**

8. *DPIWE will establish a scientific advisory group to advise on formulating the strategic plan and conservation management prescriptions.*

This commitment was met prior to, and reported on in, the 2007 Review.

### **Implementation**

9. *The program will be administered in accordance with this schedule and the strategic plan agreed between the Parties.*

The program was administered in accordance with the RFA and the strategic plan.

10. *Overall responsibility for the administration of the program will reside with the State Minister ("the Minister") who administers the National Parks and Wildlife Act 1970 (Tas.) in consultation with the Minister administering the Private Forests Act 1994 (Tas.).*

The *National Parks and Wildlife Act 1970* was replaced by the *National Parks and Reserves Management Act 2002* and the *Nature Conservation Act 2002*. The *Nature Conservation Act 2002* contains the provisions for developing conservation covenants on private land. Overall responsibility for administration of the PFRP lay with the Tasmanian Minister for Environment and Heritage.

11. *DPIWE will be responsible for the day-to-day management of the program.*

The Department of Primary Industries, Parks, Water and Environment (formerly DPIWE) was responsible for the day-to-day management of the program.

12. *Funds for the program, when made available to the State, will be placed in a trust account and dispersed in accordance with the mechanisms contained in this schedule and the strategic plan.*

Funds for the program made available to the State were placed in a special trust account and dispersed according to the RFA and the strategic plan.

13. *Projects for which funding is sought will be submitted by DPIWE to the Committee for their advice and recommendation on priorities consistent with the strategic plan.*

This commitment was met prior to, and reported on in, the 2007 Review.

14. *Following consideration by the Committee, DPIWE will submit to the Minister projects for approval and the Committee's advice.*

This commitment was met prior to, and reported on in, the 2007 Review.

15. *Where funds are to be sourced from the NHT, the Commonwealth Minister will, in accordance with the Natural Heritage Trust of Australia Act 1997 (Cwth), ensure that the appropriate procedures are followed in relation to the relevant proposals, with a view to the approval of disbursement of funds to the Tasmanian trust fund.*

This commitment was met prior to, and reported on in, the 2007 Review.

16. *The identification of potential areas for protection will be through two mechanisms:*
  - *Direct approach for priorities identified in the strategic plan; and*
  - *Timber Harvesting Plans [now Forest Practices Plans] and Private Timber Reserves processes.*

The PFRP was implemented in accordance with clause 16.

17. *Where potential areas for protection are identified through Forest Practices Plans and Private Timber Reserve processes, decisions will be made in a specified period to ensure the interests of private landowners are not compromised.*

The PFRP was implemented in accordance with clause 17.

## Resourcing

18. *The Commonwealth will provide funding for the program. Tasmania will contribute to the ongoing administrative costs of the program including monitoring.*

As at 30 June 2011, the Commonwealth had accepted the final financial acquittal statement of the program.

19. *Under the Natural Heritage Trust of Australia Act 1997 and through the Natural Heritage Trust Partnership Agreement between the Commonwealth and the State of Tasmania dated 7 October 1997, agreed commitments under that Agreement will be made available to facilitate private landholders of forested land to protect the environment and heritage values of that land in accordance with this Attachment. Funds may also be used to purchase land, with the agreement of the owner.*

The Program was implemented in accordance with clause 19.

20. *Funding proposals for the Natural Heritage Trust of Australia Reserve will be considered by the Commonwealth Minister or Ministers in accordance with the requirements of the Natural Heritage Trust of Australia Act 1997 and the processes outlined in the Partnership Agreement, including the objectives and outcomes of relevant Natural Heritage Trust programs.*

The Program was implemented in accordance with clause 20.

21. *Proposals may be considered quarterly for consideration. Submissions will be made by the relevant Tasmanian Minister direct to the Commonwealth Minister for the Environment outside of the State Assessment Panel process outlined in the Partnership Agreement to maintain confidentiality in recognition of the commercial-in-confidence and privacy issues involved for individual landholders.*

The Parties agreed that proposals could be submitted for NHT funding more often than quarterly to ensure that lengthy approval processes did not disadvantage landholders.

22. *Each proposal submitted will be assessed by the Commonwealth and where approved, funds will be made available to the Tasmanian lead agency under the conditions of the Financial Agreement as prescribed in the Partnership Agreement and any other condition as agreed between Parties.*

The Program was implemented in accordance with clause 22.

## Attachment 9 – Maintaining a Permanent Forest Estate

4. *The State will monitor changes and collate information on the total area of Forest Communities within each IBRA region. This will include monitoring harvest levels, planned harvest and reforestation activity through the Forest Practices System. The State will, as a priority, amend the Forest Practices Act 1985 (Tas) as necessary to achieve this.*

This commitment to amend the Act was met prior to, and reported on in, the 2002 Review.

This ongoing reporting commitment has been met during the review period.

The Forest Practices Authority’s Annual Report to Parliament includes information on the area of forest communities within each Interim Biogeographic Regionalisation for Australia (IBRA) bioregion.

Quarterly reports on the maintenance of the permanent forest estate are available from the FPA at its website ([www.fpa.tas.gov.au](http://www.fpa.tas.gov.au)).

5. *Appropriate action will be taken by the State if the area of any Forest Community within an IBRA (Interim Biogeographic Regionalisation of Australia) region decreases to a level approaching the nominated minimum level for that region. The State will conduct a formal review of the area of Forest Communities within each IBRA region on a five-yearly basis and report on the findings in the 5 yearly review of the Agreement.*

This ongoing commitment to take appropriate action has been met during the review period.

Tasmania’s Permanent Native Forest Estate Policy

([www.dier.tas.gov.au/forests/permanent\\_native\\_forest\\_estate\\_policy](http://www.dier.tas.gov.au/forests/permanent_native_forest_estate_policy)) prescribes that the area of native forest will be retained above minimum thresholds, expressed as a percentage of the native forest estate assessed in 1996 under the RFA. In the Policy that applied from 1997 to 2005 these thresholds were:

- Statewide level: 80 per cent of the 1996 native forest estate to be maintained.
- Bioregional level: Interim Biogeographic Regionalisation for Australia (IBRA 4).

Current proportion of native forest in reserves	Proportion of native forest to be maintained
0–30%	>80%
30–60%	>60%
>60%	current reserve area

- Forest communities: At least 50 per cent of the 1996 area of each community in each bioregion to be maintained.

In November 2005 the State Government released a revised Policy that implemented a commitment in the Tasmanian Community Forest Agreement, which was further revised in 2006, 2009 and 2011. See Part 3 of this Report, clauses 45-46 for further details.

Since 2005 the policy defines the current minimum retention thresholds as:

- Statewide level: 95 per cent of the 1996 native forest estate to be maintained.
- Bioregional level: At least 50 per cent of the current area of each native forest community in each bioregion (IBRA 4) to be maintained.

The Forest Practices Authority reviews the area of native forest maintained against the Policy thresholds on an ongoing basis.

Data on changes to the native forest estate by forest community within the Tasmanian bioregions are given in the Authority's Annual Reports and in quarterly reports both published on the Authority's website [www.fpa.tas.gov.au](http://www.fpa.tas.gov.au).

Overall, the reduction in the native forest estate, as recorded by the Forest Practices Authority, over the five years from 1 July 2006 to 30 June 2011 and the 14 years from 1 July 1997 to 30 June 2011 was 40,033 hectares and 110,644 hectares respectively (1.2 and 4.7 per cent of the estimated 1996 native forest estate) as a result of conversion (mainly for plantation or agriculture) under Forest Practices Plans. The maintenance of the native forest estate in each bioregion is summarised in Table 10.

**Table 10** Native forest in Tasmania and Tasmanian bioregions at 30 June 2011, relative to the estimated extent in 1996

Bioregion	Native forest estate (as % of 1996 area)
Furneaux	99.8
Woolnorth	88.9
Ben Lomond	91.2
Midlands	96.7
Freycinet	97.4
Central Highlands	95.6
West Southwest	99.3
D'Entrecasteaux	94.8
<b>STATE</b>	<b>95.3</b>

Caution is required in interpreting the data for the following reasons:

- The data relate to planned operations, some of which may not have been completed in the reporting period.
- Areas of forest communities given in Forest Practices Plans are generally gross areas that do not exclude reserves such as streamside reserves. The figures relating to conversion of native forest are therefore likely to be overestimated for some communities.
- The proportions of forest communities converted are based on the area of each forest as mapped on the RFA Forest Communities Map (1996). The mapping of forest communities is continuously reviewed and in some cases the estimated 1996 extent of communities has been shown to be inaccurate.
- Some figures from previous years have been revised in the light of more accurate information.

- Prior to 2002, Forest Practices Plans were not legally required for land clearing operations that did not involve the harvesting and utilisation of forest products (for example, where forest was pushed over and cleared without salvaging logs). Areas cleared in this manner prior to 2002 are not known and are therefore not recorded on the Permanent Forest Estate database.

The changes in extent of the Permanent Forest Estate reported here are not readily comparable with changes in extent of forest communities reported in Indicator 1.1.a of the report, *Sustainability Indicators for Tasmanian Forests, 2006-2011* for the reasons given above and the different methods used to collate data. In Indicator 1.1.a changes in the extent of forest communities have been mapped by comparing satellite imagery from two points in time – 2006 and 2011. Changes detected from this process have been checked for vegetation type using TASVEG, the currently maintained vegetation map of Tasmania. The nature of change was validated using a combination of available data including private and public forest plantation data, Forest Practices Plans, forestry activity database, aerial photography and high resolution satellite imagery where available. All patches that were greater than 20 hectares in size were validated through such methods.

Patches less than 20 hectares that still remained unvalidated following the application of the above process were inferred with an amount and type of change by sampling the change occurring in the validated portion of similar patch sizes. This resulted in a decrease in extent of native forest in the RFA vegetation community mapping, indicated by the Monitoring Vegetation Extent Project (MVEP) data source alone, as 8,400 hectares, of which 2,800 hectares have been derived from unverified (statistically inferred) change, including unverified changes carried over from MVEP 2006.

Indicator 1.1.a reports on the actual change in net area from validated satellite imagery, but does not fully reflect all clearing to 2011 due to the lack of a statewide 2011 satellite image and due to cloud cover or poor image quality masking some changes. Thus, the Indicator 1.1.a data underestimate, and the Permanent Native Forest Estate data overestimate, the extent of change.

In summary, Tasmania's native forest estate has been maintained to at least a level equivalent to 95.3 per cent of the native forest area that existed in 1996. For further information refer to the Annual Report of the Forest Practices Authority at [www.fpa.tas.gov.au](http://www.fpa.tas.gov.au).

8. *The State will, in addition, in respect of Private Land introduce by the year 1999 mechanisms to encourage native vegetation retention and management including the protection of riparian vegetation, consistent with the agreed outcomes of the national Vegetation Initiative as set out in the Tasmanian Partnership Agreement.*

This commitment was met prior to, and reported on, in the 2002 and 2007 Reviews.

Subsequent to the 2007 Review further mechanisms have been implemented to further facilitate native vegetation retention on private land. These have included:

- amendments to the *Forest Practices Act 1985* and the *Nature Conservation Act 2002* which commenced on 30 April 2007 provide for the protection of threatened native vegetation communities (including both forest and non-forest) from clearance and conversion on all land tenures

- a revised Permanent Native Forest Estate Policy that placed annual limits on the area on native forest that could be converted in any single property on private land
  - the Australian Government's Forest Conservation Fund to protect high conservation value forest on private land – see Part 3 of this report
  - incentives to assist landowners in developing property management plans
  - through the continuing Private Land Conservation Program, facilitation of conservation on private land generally, through incentives, conservation plans and education and awareness
  - provision of Land Tax relief and local government rate rebates in some municipalities as incentives to private land conservation.
9. *The State is pursuing this policy on a state-wide basis will aim to ensure that no further Forest Communities become endangered.*

This ongoing commitment has been met during the review period.

No further forest communities have become endangered since 1996.

The Tasmanian Government's Policy on Maintaining a Permanent Native Forest Estate was amended to include a provision that all viable threatened communities are to be maintained and to require the Forest Practices Authority to take action to ensure that conversion of any non-threatened community does not result in that community becoming threatened.

11. *The State agrees that the policy will be reviewed as part of the ongoing review of the Forest Practices Code and in accordance with the provisions for public comment and review set out in the Forest Practices Act 1985.*

This commitment has been superseded by commitments in subsequent inter-government bilateral agreements,(see clause 45 of the TCFA.)

The Policy has been regularly reviewed and amended; the latest Policy documents can be accessed on the Department of State Growth web site.

<http://www.stategrowth.tas.gov.au/forestry/native-forest>

## Attachment 10 – Improvements to Tasmania’s Forest Management Systems

*The State intends to further improve its forest management systems across forest management agencies and land tenures by:*

1. *Implementing the State Policy Setting New Standards for Water Quality;*

This ongoing commitment has been met during the review period.

Tasmania’s *State Policy on Water Quality Management* came into operation in September 1997. The Policy provides the mechanism for implementing the National Water Quality Management Strategy in Tasmania.

The Policy requires that:

- Emissions from diffuse sources of pollution should be reduced and managed through developing and implementing best-practice environmental management so as not to prejudice the achievement of Water Quality Objectives.
- To protect and maintain water quality, forest practices as defined in the *Forest Practices Act 1985* should be carried out in accordance with the relevant provisions of the Tasmanian Forest Practices Code and have regard to the policy.
- The Forest Practices Code should be reviewed to ensure that it is consistent with the Policy. This review has been completed and the Code amended to reflect review recommendations.
- The authorities responsible for resource management and environment protection should ensure that adequate monitoring is carried out to determine whether Water Quality Objectives are being achieved.

Protected Environmental Values (PEV), which represent current values and uses of waterways, have now been set for all surface waters in Tasmania, including surface waters in State forest, private and reserved land. This values-setting process was based on extensive community consultation. The PEV-setting process has proven to be more complex than intended, and this in turn has led to delays and difficulties in determining water-body specific Water Quality Objectives. However, it has had the effect of raising awareness and knowledge in the community and industry about water quality issues. The determination of the Water Quality Objectives has also been affected by a lack of specific water quality data for many areas.

Despite the delays in determining Water Quality Objectives, a review of the Forest Practices Code to ensure that it is consistent with the Policy has been completed, and a number of amendments have subsequently been made to the Code. All forest practices, as defined by the *Forest Practices Act 1985* must be conducted in accordance with the Code. This includes forestry activities on State forest, private lands and public reserves.

Monitoring is an important part of the Policy. Monitoring activities for surface water are now being progressively improved and co-ordinated through the *Tasmanian Surface Water Quality Monitoring Strategy*, finalised in 2003.

Water quality data are available publicly through the State of the Environment Report and on the web on the Water Information System of Tasmania, which is being progressively upgraded.

The requirements of the Policy have been included in the Reserve Management Code of Practice 2003. The Policy provides a mechanism for auditing the efficacy of the Code with respect to water-quality management. An auditing system, based on the audit system for the Forest Practices Code, is currently being developed.

2. *Developing a State Policy on integrated catchment management;*

As reported in 2002 and 2007, implementation of this commitment has not proceeded as envisaged in 1997.

3. *Developing and implementing a Threatened Species Protection Strategy and recognising the role of sub-regional plans where appropriate (by 31 December 1998) and a Tasmanian Biodiversity Strategy (by 31 December 1999);*

The Threatened Species Strategy was released in December 2000, and implementation of priority actions within the strategy is ongoing as reported in the 2007 Review.

Strategic directions for biodiversity will be progressively aligned with *Australia's Biodiversity Conservation Strategy 2010-2030*, to which all Australian governments are signatories.

The Tasmanian Government released its response to the Strategy addressing each recommendation and highlighting 17 that are supported as a high priority.

Implementation of the Strategy is ongoing in accordance with the Tasmanian Government's response.

See also response to Recommendation 4.7 in Part 2 of this report.

4. *Implementing the Historic Cultural Heritage Act 1995*

This ongoing commitment has been met during the review period.

5. *Developing new legislation in relation to Aboriginal cultural heritage to replace the Aboriginal Relics Act 1975*

As at 30 June 2011, Tasmania had not yet introduced legislation to replace the *Aboriginal Relics Act 1975*. However, reform of this legislation is high on the agenda of the current State Government.

A project is underway to develop new legislation that will ensure appropriate management of Aboriginal heritage in Tasmania. The purpose of the new legislation will be to provide effective recognition, assessment, protection and management of Aboriginal heritage, and the empowerment of the Tasmanian Aboriginal community in relation to that heritage. It is being developed in consultation with the Tasmanian Aboriginal community.

As of June 2011 the State Budget had allocated \$610,000 over 18 months to progress the project, with the expectation that new legislation would be introduced to Parliament in 2013. The new legislation is intended to:

- establish an improved legislative framework for the protection of Aboriginal heritage
- establish a statutory and central role for the Aboriginal community
- create greater certainty for land owners, users and managers;
- integrate with existing planning systems

- be fair and equitable.

6. *Further developing and applying flexible silvicultural systems on Public Land to promote the sustainable production of long-rotation speciality timbers, particularly in the south and north-west regions;*

This ongoing commitment has been met during the review period.

Long-rotation specialty timbers grow in rainforests and as an understorey in mixed eucalypt-rainforests. Hence, the special species supply is very largely dependent upon harvesting in old growth forests. Some of these have been zoned as Special Timbers Zones (STZs) which have been designated for long-term production of special timbers such as myrtle, sassafras and celery-top pine, as well as large-dimension eucalypts, using non-clearfell silviculture and long rotations.

The STZs are mostly rainforest but also contain areas of mixed eucalypt-rainforest and can be considered as green 'wood banks' that can be harvested at low volumes for high value purposes. The timbers they contain are not required to meet the legislated supply target of high quality eucalypt sawlogs.

The area of STZs is about 100,000 hectares comprising about 80,000 hectares of blackwood and rainforest that is managed to optimise the production of special timbers on a sustainable basis, and about 20,000 hectares of eucalypt forest rich in special timbers, which will be regrown for at least 200 years (Forestry Tasmania 2010).

Continuous cover silvicultural techniques have been developed for tall myrtle-dominated rainforest and shorter rainforest dominated by celery-top pine based on long-term monitoring of silvicultural trials established in the 1970s and 1980s (e.g. Hickey and Wilkinson 1999, Jennings and Hickey 2003). The silvicultural system developed for tall myrtle forests includes harvesting sawlog trees, using single tree/small group selection, to a minimum diameter limit of 50 centimetres diameter at breast height (dbh), minimising stem damage and retaining at least 80 per cent canopy cover after harvesting. Gaps are allowed to regenerate naturally and cutting cycles of 100 years are proposed, with a notional minimum stump return time of 200 years.

Recent research based on long-term monitoring indicates that myrtle wilt, a fungal pathogen that kills myrtle trees, can be kept to moderate levels if stem damage is minimised and at least 50% of canopy cover is retained (Elliott *et al.* 2005). The silvicultural system proposed for shorter rainforest with celery-top pine is to harvest sawlog trees, using single tree/small group selection, to a minimum diameter limit of 30 centimetres dbh, retain at least 80 per cent of the forest cover, minimise soil damage and allow gaps to regenerate naturally. It is proposed that 200-year cutting cycles be adopted with a notional 400-year stump return time. These systems have been applied to a very limited extent over the five year reporting period because the bulk of the supply has come from arisings from operations in wet eucalypt forest.

Very small quantities of Huon pine are salvaged using predominantly dead and down timber from previously cut-over stands in the Teepookana State forest south of Strahan. Huon pine regeneration 16 years after harvesting was recently evaluated and found to be adequate in the vicinity of seed trees although growth is very slow (Jennings *et al.* 2005). The study reaffirmed existing prescriptions, which are to: recover dead and down timber and trees in poor condition; retain at least 10 seed

trees per hectare (where present); and, plant seedlings in areas that lack seed trees. No future harvest is planned for rehabilitated areas.

Silvicultural options for mixed eucalypt-rainforest (sometimes referred to as tall old growth) in STZs are complex and variable. Single tree/small group selection was applied in tall old growth forest as one of the alternative treatments at the Warra Silvicultural Systems Trial (Hickey *et al.* 2006). However, it proved to be dangerous to workers, uneconomic and failed to meet eucalypt regeneration standards. Based on this experience, a design group, including special timbers interest groups, developed silvicultural prescriptions for a revised approach. This was based on larger gaps, or fairways, of about 80 metres width, where 30 per cent of the forest is harvested over three cutting cycles, leaving 10 per cent of the forest to maintain late successional species and structures (SGS Design Group 2004).

Where eucalypt production is the primary objective, then the cutting cycles would be at 30 years, but where special species timbers is the primary objective the cutting cycles would be lengthened to 70 years, leading to a notional stump return time of 210 years. An example of this treatment was harvested in 2006 at the Warra Silvicultural Systems trial. Variations of this theme have also been applied, in consultation with special timber interest groups, within a nearby STZ (Clark 2005).

Other areas of old growth forest on public land outside STZs are zoned for wood production and form about one-third of the eucalypt sawlog supply over the next thirty years. These forests have traditionally been managed using clearfell, burn and sow silviculture using planned rotation times of 80-100 years, which allows limited recruitment of special timbers other than blackwood and silver wattle. Alternatives to clearfelling in these forests have been extensively evaluated (Forestry Tasmania 2009). Under the TCFA a new silviculture for old growth forests is being adopted so that non-clearfell silviculture will be used for at least 80 per cent of the annual harvest of these forests.

The principal silvicultural technique in tall old growth forests will be variable retention where typically about 20 per cent of the forest, usually in patches from 1 to 3 hectares, will be retained within coupes to maintain late successional species and structures. The majority of the felled area will be within a tree's length of standing trees that will be kept for at least one rotation. This is expected to result in higher levels of regeneration of special timbers (Tabor *et al.* 2006). Although primarily set aside for biodiversity conservation, some of the patches may be harvested in the future, for example in 90 years' time, particularly if new patches of 90-year-old regrowth forest are retained to become old growth. Hence this system will retain some special timbers in retained patches now, allow substantial recruitment in felled areas and maintain options for future generations to decide whether these forests should be managed primarily for eucalypt or special timbers production or for other purposes.

Blackwood is a fast growing special timber tree and has a relatively short life. It occurs in blackwood swamps, rainforests and mixed eucalypt-rainforests and wet sclerophyll forests. The blackwood swamps supply a sustainable sawlog yield that is derived from coupes harvested on a 70-year rotation. Blackwood arisings from the harvest of wet eucalypt forest will continue, but at a reduced level, as the proportion of regrowth harvesting increases and old growth forest harvesting declines. An additional blackwood resource has been created by the fenced-intensive-blackwood program, which established over 1500 hectares of fenced eucalypt/blackwood regeneration between 1985 and 2005. Silvicultural prescriptions for growing

blackwood in native forests were extensively reviewed in 2005 (Forestry Tasmania 2005) based on recent research (eg, Jennings *et al.* 2003).

## References

Clark, S.B. (2005). STMU Progress, Warra 17B. A report to Huon District. Extension Report. No. 02/2005. Division of Forest Research and Development, Forestry Tasmania, Hobart

Elliott, H.J., Hickey, J.E. and Jennings, S.M. (2005). Effects of selective logging and regeneration treatments on mortality of retained trees in Tasmanian cool temperate rainforest. *Australian Forestry*, 68(4): 274-280

Forestry Tasmania (2009). A new silviculture for Tasmania's Public Forests: a review of the variable retention program. Forestry Tasmania, Hobart.

Forestry Tasmania (2010). Special Timbers Strategy, Forestry Tasmania, Hobart.

Hickey, J.E. and Wilkinson, G.R. (1999). Long-term regeneration trends from a silvicultural systems trial in lowland cool temperate rainforest in Tasmania. *Tasforests*, 11: 1-22

Hickey, J.E., Neyland, M.G., Grove, S.J. and Edwards, L.G. (2006). From little things big things grow: The Warra Silvicultural Systems Trial in Tasmanian wet *Eucalyptus obliqua* forest. *Allgermaine Forst und Jagdzeitung*, 177: 113-119

Jennings, S.M. and Hickey, J.E. (2003). Regeneration after seed-tree retention in tall *Nothofagus* rainforest in Tasmania. *Tasforests*, 14: 15-29

Jennings, S.M., Edwards, L.G. and Hickey, J.E. (2005). Natural and planted regeneration after harvesting of Huon pine (*Lagarostrobos franklinii*) at Traveller Creek, western Tasmania. *Tasforests*, 16: 61-70

Jennings, S.M., Wilkinson, G.R. and Unwin, G.L. (2003). Response of blackwood (*Acacia melanoxylon*) regeneration to silvicultural removal of competition in regrowth eucalypt forests of north-west Tasmania, Australia. *Forest Ecology and Management*, 177: 75-83

SGS2 Design Group (2004). Harvesting Design for a Group Selection treatment at Warra 8G. Unpublished report to Forestry Tasmania

Tabor, J., McElhinny, C., Hickey, J. and Wood, J. (2007, in press). Colonisation of clearfelled coupes by rainforest tree species from mature mixed forest edges, Tasmania Australia. *Forest Ecology and Management*

7. *Developing and implementing within the first five years of this Agreement, State-wide policies across all tenures on fire management, nature-based tourism and recreation management, cultural-heritage management on forest lands, and forest pest and disease management;*

It was reported in the 2007 Review that this commitment had been largely completed. No further progress has been made since that Review in developing further statewide policies.

Ongoing implementation of the statewide policy frameworks, as described in the 2007 Review, has continued.

8. *Ensuring that management plans are implemented for all State forest and National Parks by the year 2000, and all other reserves within the Formal Reserve element of the CAR Reserve System by the year 2003 or as soon as practicable thereafter. Management plans will include objectives and be periodically reviewed to assess performance against each objective;*

Further progress has been made to completing this commitment during the review period.

Forest Management Plans for all State forests were prepared prior to 2000 and were revised in 2008 to take account of the Tasmanian Community Forest Agreement outcomes—see report on clause 12 in Part 3 of this report. Forestry Tasmania reviews the implementation of all of these plans annually.

Management plans are in force for 16 of Tasmania's 19 National Parks:

- Douglas-Apsley 1993
- Ben Lomond 1998
- Maria Island 1998
- Cradle Mountain/Lake St Clair 1999
- Franklin/Gordon Wild Rivers 1999
- Hartz Mountains 1999
- Walls of Jerusalem 1999
- Southwest 1999
- Freycinet 2000
- Narawntapu 2000
- South Bruny 2001
- Strzelecki 2000
- Tasman 2001
- Mt Field 2002
- Mole Creek Karst 2004
- Kent Group 2005.

Of the three remaining national parks, a draft management plan for Savage River National Park was released for public comment and the government is considering

the submissions. Management planning for Mt William and Rocky Cape National Parks continues to be deferred pending agreement with the Tasmanian Aboriginal community about future management arrangements for these parks. In 2011 an alteration to the Tasman National Park and Reserves Management Plan 2001 was approved to provide for assessment and approval of the proposed Three Capes Walk.

Management plans are in place for a number of other significant reserves:

- Arthur Pieman Conservation Area 2002
- Waterhouse Conservation Area 2003
- Moulting Lagoon Game Reserve 2003
- Logan Lagoon Conservation Area 2005
- Southport Lagoon Conservation Area 2006
- Trevallyn Nature Recreation Area 2008
- Pitt Water Nature Reserve (approval anticipated in 2012).

A draft set of proposed changes to the Tasmanian Wilderness World Heritage Area (TWWHA) Management Plan was released for public comment during the review period. At the end of the review period finalisation of the plan was awaiting resolution of legal matters concerning the exercise of statutory powers in the TWWHA that arose during the plan review.

A draft General Management Plan has been prepared, covering approximately 380 reserves that are not already covered by management plans. This draft plan met the 2007 Review recommendation for a management regime to cover all reserves. However, since the draft General Management Plan was developed, the reserve estate has grown further with proclamation of new reserves and expanded reserves resulting from the Crown Land Assessment and Classification project.

Specific management plans and non-statutory management statements (Coningham Nature Recreation Area, Woodvine Nature Reserve and Murphys Flat Conservation Area) for priority reserves continued to be prepared as necessary.

9. *Implementing as a high priority the mechanisms for improving the transparency and independence of the Forest Practices Board;*

This RFA commitment was met prior to, and reported on, in the 2002 Review.

In addition the Resource Planning and Development Commission, in its Final Recommendations Report to the governments on the 2002 Review, recommended that the State undertake a series of further measures to improve the transparency of the Forest Practices System. These were completed prior to, and reported on, in the 2007 Review.

10. *Continuing to adequately resource the system surrounding the Forest Practices Code (including compliance, implementation, education, training, review, and research) and maintaining appropriate contributions by industry to ongoing management costs associated with the Code.*

This ongoing commitment has been met during the review period.

The objective of the Tasmanian forest practices system is to deliver sustainable forest management in a way that is as far as possible self-funding (Schedule 7 *Forest Practices Act 1985*). The Act also provides under s.44 that certain functions of the Forest Practices Authority will be paid out of money allocated by Parliament. Full financial details for the operation of the forest practices system are presented in the annual reports of the Forest Practices Authority ([www.fpa.tas.gov.au](http://www.fpa.tas.gov.au)).

### **Self-funding of activities conducted by industry**

The industry has self-funded the implementation of the *Forest Practices Act* by providing the following services:

- the employment of approximately 200 Forest Practices Officers and other staff involved in the preparation, certification and supervision of Forest Practices Plans;
- training and education of contractors and operators.

The Authority estimates the value of these services to be in the vicinity of \$7 million each year. This is the cost that would otherwise be borne by the government if the forest industry did not employ forest practices officers to plan and supervise forest operations.

### **Self-funding of activities conducted by the Forest Practices Authority**

The self-funding activities of the Forest Practices Authority are primarily related to the cost of the advice and services provided by Authority staff in relation to the processing of Forest Practices Plan applications. The funding for these activities of the Forest Practices Authority is derived from an application fee for Forest Practices Plans in accordance with s.18 of the *Forest Practices Act*.

In addition to the direct funding of the research and advisory programs, the Forest Practices Authority receives income from research grants and consultancy work. The Authority also regulates the harvesting of tree ferns under a user-pays system. All tree ferns must be affixed with a tag issued by the Authority prior to removal from the harvesting area. Revenue collected from the sale of tree fern tags is used to cover the cost of regulatory activities and to fund further research into the long-term sustainability of harvesting tree ferns. The schedules of fees for Forest Practices Plans and tree fern tags are detailed in the *Forest Practices Regulations*.

Total revenue received under the self-funding activities of the Forest Practices Authority in 2010-11 amounted to \$1.34 million and expenditure was \$1.74 million.

### **Funding of the Forest Practices Authority from Parliament**

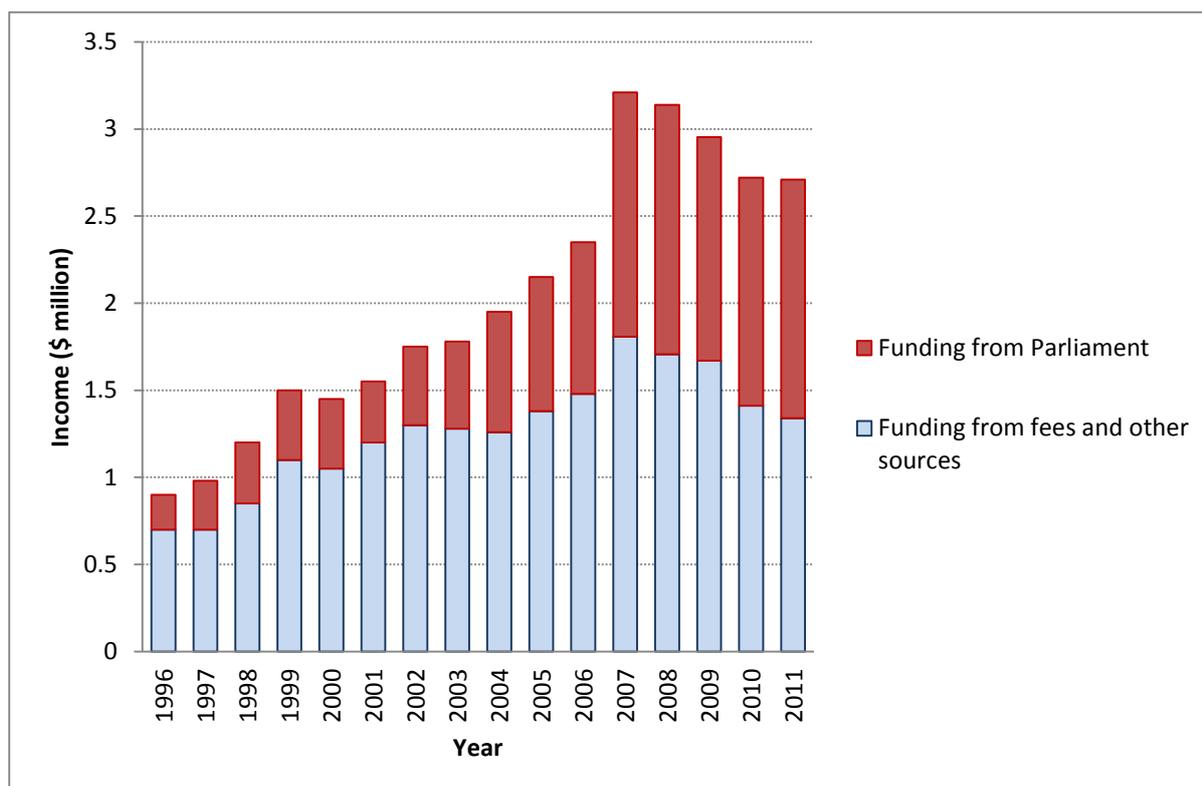
Section 44 of the *Forest Practices Act* provides that the costs and expenses incurred for the following activities are to be paid out of monies provided by Parliament:

- annual assessment of the forest practices system and Forest Practices Plans;
- preparation of the annual report to Parliament;
- detection and investigation of breaches of the Act;
- laying of complaints and prosecuting offences;
- payment of compensation for the refusal of Private Timber Reserves;
- remuneration of the Chief Forest Practices Officer;
- administrative support for the Chief Forest Practices Officer;
- exercise of the Authority's powers and functions.

Total revenue provided by Parliament for the independent regulatory functions of the Forest Practices Authority in 2010-11 amounted to \$1.32 million. A further \$1.39 million was received from the payment of fines and other revenue. Expenditure

for the year amounted to \$2.99 million. Income received by the Forest Practices Authority for the period from 1996-97 to 2010-11 for the self-funding and independent regulatory activities steadily increased to 2006-07, but has declined since then due to a reduction in income from fees on forest practices plans (Figure 1). Income from fees is expected to decline to about \$300,000 in 2011-12 as a result of a major decline in forest harvesting. This will result in a total income of about \$1.7 million in 2011-12, which is about half of the income received in 2006-07.

Figure 1 – **Income for the Forest Practices Authority since 1996** (actual amounts not corrected for inflation)



11. *Developing and implementing by the year 2000, a code of practice for reserve management to cover all environmental practices, including guidelines concerning erosion risk from roads and tracks within reserves;*

This commitment has been completed during the review period.

The Reserve Management Code of Practice was completed and released in 2003 – see [www.parks.tas.gov.au/publications/tech/management\\_code/summary.html](http://www.parks.tas.gov.au/publications/tech/management_code/summary.html).

The Code is being implemented in all Formal Reserves under the management of the Parks and Wildlife Service and Forestry Tasmania.

12. *In relation to the Forest Practices System, including the Forest Practices Code, ensuring that:*

- *where the management intention for the Forest or Private Land is to regenerate forest, timber harvesting plans will specify best-practice reforestation standards and provide for ongoing monitoring; and*
- *where endangered species have been identified in an area for which timber-harvesting plan approval is sought by private landholders, the plan will include conditions which ensure the application of appropriate management prescriptions to those species.*

This ongoing commitment has been met during the review period.

Amendments to the *Forest Practices Act 1985* in 1999 provided that all reforestation activities must be covered by a forest practices plan certified in accordance with the Forest Practices Code. The amended Forest Practices Code 2000 details the reforestation standards that must be achieved.

The Forest Practices Code 2000 contains procedures that must be followed where threatened species occur, or potentially occur, on private (and public) land. The procedures have been agreed with the Secretary of the Department that administers the *Threatened Species Protection Act 1995*. Under the procedures, forest practices plans must contain endorsed prescriptions for any threatened species that may occur within the area covered by the plan. The prescriptions are derived from expert planning tools, including the Forest Botany Manuals, Threatened Fauna Manual, and the Threatened Fauna Advisor. Independent experts have scientifically endorsed these planning tools. Forest Practices Officers who have been trained and accredited use the tools, seeking further expert advice where necessary. Specialists from the Forest Practices Authority provide advice and monitor the implementation of the prescriptions in conjunction with specialists from the Threatened Species Section of the Department of Primary Industries, Parks Water and Environment.

Compliance with prescriptions for threatened species and with reforestation requirements is monitored at three levels under the general monitoring provisions of the *Forest Practices Act*, as follows:

- Specialists from the Forest Practices Authority in association with the Threatened Species Section of the Department of Primary Industries, Parks Water and Environment provide advice and monitor the planning and assessment processes and the implementation of prescriptions.
- From 1999, the *Forest Practices Act* required reports on compliance, including reforestation and threatened species provisions, to be submitted upon the completion of all Forest Practices Plans. These provisions were strengthened in 2005 with the introduction of requirements for reporting on compliance at the end of each discrete operational phase within a Forest Practices Plan.
- Compliance with the planning processes and implementation of prescriptions within the forest practices plan, including threatened species and reforestation requirements, is assessed in the Authority's annual audit of Forest Practices Plans.

13. *Ensuring that management plans for Formal Reserve and Informal Reserve elements of the CAR Reserve System clearly identify the CAR values identified in the CRA and the actions being taken in each reserve to appropriately manage those values.*

This ongoing commitment has been met during the review period.

Forest Management Plans identify the formal reserve and informal reserve elements of the CAR Reserve System on State forest. Management prescriptions for the protection of CAR values in reserves often coincide with routine protective measures. Where more specific measures are determined for recovery plans or particular vegetation or animal communities, the particular requirements are being, and will continue to be, implemented.

Management plans under the *National Parks and Reserves Management Act 2002* for the formal reserve component of the CAR reserve system identify the CAR values in the relevant reserve and provide objectives, policies and actions for managing them.

## Attachment 11 – Public Reporting and Consultation Mechanisms

### Existing Commitments

*Current public reporting and consultative mechanisms relevant to the management of Tasmania's forests include:*

- *preparation and amendment of forest management plans under the Forestry Act 1920 (Tas) every 10 years;*

Forestry Tasmania revised all of its forest management plans in 2007-08, in accordance with the TCFA clause 12.

- *preparation of annual three-year wood production plans for State forest;*

This ongoing commitment has been met during the review period. The Plans are published on Forestry Tasmania's website <http://www.forestrytas.com.au/forest-management/3yp>

Before three year plans are completed, there is formal public consultation, particularly with local government.

- *changes to the lists of species, preparation of and amendment to the Threatened Species Strategy, Recovery Plans and Threat Abatement Plans all of which have been developed under the Threatened Species Protection Act 1995;*

This ongoing commitment has been met during the review period.

Details of changes to the listing of species under the Act are contained in Indicator 1.2.b of the report [State of the Forests 2012](#). Further details of activities under the *Threatened Species Protection Act* are given in responses to clauses 32 to 37 of the RFA.

- *changes to the Register under the Historic Cultural Heritage Act 1995;*

This ongoing commitment has been met during the review period.

Reporting and consultation on additions to, or deletions from, the Register continue in accordance with the Act, and are published in the Tasmanian Government Gazette.

- *reviews of guidelines to the Forest Practices Code (Tas) and comment on proposed revisions to that Code;*

This ongoing commitment has been met during the review period.

Since the signing of the RFA, the Forest Practices Code has been subject to several independent reviews and to a major revision, as reported under clause 94. Public comment on reviews of the Code was sought and considered by the Forest Practices Advisory Council, which is made up of representatives of key stakeholder bodies.

- *preparation, amendment and review of management plans for reserves under the National Parks and Wildlife Act 1970;*

This ongoing commitment has been met during the review period.

The *National Parks and Wildlife Act 1970* has been revoked. Provisions for the preparation, amendment and review of management plans for reserves under the *Nature Conservation Act 2002* are now prescribed in the *National Parks and Reserves Management Act 2002*.

Public consultation and reporting mechanisms for management plans for reserves, including independent review by the Resource Planning and Development Commission of the Director of National Parks and Wildlife's response to public representations on draft plans, continues as prescribed by the *National Parks and Reserves Management Act 2002*.

- *preparation of management plans for lands covered by the Crown Lands Act 1976;*

This ongoing commitment has been met during the review period.

Provisions for the preparation of management plans for Public Reserves were incorporated in amendments to the *Crown Lands Act 1976* contained in the *Regional Forest Agreement (Land Classification) Act 1998*. These requirements came into force on 31 December 2001. The Act requires management plans for public reserves to be advertised in local newspapers and provides for a minimum of 30 days for public comment.

- *nomination, preparation and possible contravention of Recovery Plans and Threat Abatement Plans, all of which are prepared under the Endangered Species Protection Act 1992 (Cwth);*

This ongoing commitment has been met during the review period.

Provisions for public reporting and consultation have continued to be implemented.

- *listing of places on the Register of the National Estate under the Australian Heritage Commission Act 1975 (Cwth);*

This commitment is no longer relevant.

Following legislative changes in 2002 (see Attachment 1) no further listings on the Register will be made.

- *publication of annual reports by Forestry Tasmania, DPIWE, Private Forests Tasmania, the Forest Practices Board, the Cooperative Research Centre for Sustainable Production Forestry, and the Tasmanian Forest Research Council;*

This ongoing commitment has been met during the review period.

Annual reports have continued to be published by these organisations, or their successors (Department of Primary Industries, Parks, Water and Environment, Forest Practices Authority, Cooperative Research Centre for Forestry), during the review period. The Tasmanian Forest Research Council no longer exists.

- *publication of five-yearly State of the Environment and State of the Forests reports;*

This ongoing commitment has been met during the review period.

The most recent *State of the Forests Report* and *State of the Environment Report* were published in 2012 and 2009, respectively.

- *Consultation with the Aboriginal community in relation to Aboriginal cultural heritage information.*

This ongoing commitment has been met during the review period.

## **New reports to be prepared by the State**

1. *Complete and publish silvicultural guidelines for the management of commercial forest types by 31 December 1998.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

2. *Publish by 31 October 1998 a description of the methods of calculating sustainable yield on Public Land, including special-species timber sawlogs.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

3. *From the 1997/98 financial year, relevant agencies will include in their annual reports a report on the outcome of compliance audits for codes of practice, and the monitoring of forest regeneration success and trends.*

This ongoing commitment has been met during the review period.

The annual reports of the Forest Practices Authority have reported on compliance audits for the Forest Practices Code since 1989-90. The reports present the results of a stratified random sample of Forest Practices Plans. The audit covers compliance within the following categories:

- Planning
- Roading and bridges
- Harvesting
- Reforestation
- Fuels and rubbish
- Soils and water
- Flora
- Fauna
- Landscape
- Cultural heritage
- Geomorphology.

Until 1997-98, the area of native forest regenerated was reported in Forestry Tasmania's Annual Report. In subsequent years, Forestry Tasmania has also reported on the percentage of regenerated forest meeting the required stocking standard.

Regeneration surveys are carried out only after seedlings are clearly established and expected to develop into trees; this is generally between one and three years after harvesting. The trends in regeneration success are also reported on in Indicator 2.1.e in the report [State of the Forests 2012](#).

Private Forests Tasmania does not monitor or report on reforestation of private land.

The success of reforestation on all lands is included in compliance reporting to the Forest Practices Authority (FPA). The FPA independently assesses and reports on the standard of reforestation as part of its annual assessment program (see the FPA's Annual Reports).

See the report on clause 94 of the RFA for information on reporting of compliance with the Reserve Management Code of Practice.

4. *By 30 April 1998, a document describing the Management Decision Classification System will be released. This document will include information on the classification criteria for each zone and summaries of special management zones.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

5. *By the 31 March 1999, prepare and release a revised manual for the Management Decision Classification System, including prescription guidelines for special management zones.*

This commitment was fully met prior to, and reported on in, the 2002 Review.

## **Attachment 12 - RFA Forests – Employment and Industries Development Strategy**

The RFA Employment and Industries Development Strategy contained 29 individual clauses, 27 of which contained commitments to over 70 specific actions by both Governments, either jointly or singularly. These include actions relating to generic industry development, generic employment and skills development, specific to the wood and wood products, tourism and minerals industries and other industries reliant on access to forests. Detailed reports against all commitments were provided for the 2002 and 2007 Reviews.

In the Report on the 2002 Review it was recommended that the Governments clarify the intent of the Strategy and prepare an updated industry development strategy. The report on the 2007 Review noted this had not been done and that the RFA Attachment 12 was largely a collection of generic actions that Governments do each and every year or specific actions that were already being implemented or planned at the time (1997) and consequently had either been since completed, discontinued or superseded. The independent reviewer recommended to the Governments that they review the detail of Attachment 12 and discontinue detailed reporting of many of those commitments. The Governments accepted this recommendation in their January 2010 joint response.

Accordingly, set out below is a report against those Attachment 12 commitments and actions recommended in the 2007 Review (appendix 4 Table 1) as requiring ongoing reporting.

See also reports against Recommendation 5.2 of the 2002 Review and Recommendations 38 and 39 of the 2007 Review in Parts 2 and 4 of this report.

### **Generic Industries Development Actions**

4. *The Parties agree to jointly implement the following generic actions:*
- *continuing to jointly assist in funding, where appropriate, pre-feasibility and feasibility studies for forest-based industry projects which have strategic significance and economic potential for the State and the nation.*

In the 2002 Review report feasibility studies to support the development of rotary peeler processing in Tasmania were outlined. The project has subsequently progressed to development with construction of mills in the Huon Valley and at Smithton by Malaysian plywood producer Ta Ann. The Huon mill became operational in 2007 and the Smithton mill in 2008.

### **Generic Employment and Skills Development Actions**

8. *The Commonwealth will continue to provide advice and assistance through its industry programs to eligible businesses (including forest-based businesses) in the areas of:*
- *research and development;*
  - *commercialisation;*
  - *business & strategic planning;*
  - *business networks;*

- *business licensing; and*
- *innovation.*

### **Specific Tourism Industry Development Actions**

10. *The Parties will jointly facilitate sustainable tourism development by the following actions:*

- *providing resources to maintain the environment and heritage values of existing and new reserves*

The annual operating budget of the Parks and Wildlife Service remained at approximately \$20 million (the same as the previous reporting period) which provided for the day to day management of reserves to protect values and provide services and facilities for reserve visitors. Requirements for management of natural, cultural and social values in reserves are identified in management plans and other forms of planning for reserves.

Forestry Tasmania funds the management and protection of CAR reserves on State forest from its internal funding as part of its integrated management of State forest. Management requirements for environment and heritage values are outlined in the 10-year statewide forest management plan, the Sustainability Charter.

- *providing resources for the visitor infrastructure and services required by markets in existing and new reserves, including Commonwealth funding under the RFA for the establishment of two new major interpretation facilities at suitable locations;*

During the period 2001 to 2010 Forestry Tasmania implemented a statewide tourism strategy that saw the completion of major visitor infrastructure: the AirWalk at Tahune Forest Reserve (\$4.3 million), Tarkine Forest Adventures at Dismal Swamp (\$4.5 million), Hollybank Treetops Adventure (\$850,000) - a joint venture with private sector operator Australian Canopy Tours, the Maydena Adventure Hub (\$2.1 million), and the Scottsdale Forest EcoCentre (\$1.2 million). Marketing for the attractions was consolidated under the 'Adventure Forests' brand in 2008-09, and continued investment in product renewal has taken place. Forestry Tasmania is now focussed on attracting investment in state forest tourism from the private sector, rather than on continuing in the role of developer. In 2010, Tarkine Forest Adventures was leased to a private sector operator, GMG Pty Ltd. An 'Adventure Forests' franchise model has been developed to examine opportunities through the Natural Heritage Trust (which became the "Caring for our Country" Program during the review period) , to fund projects to implement elements of the Tasmanian State-wide Walking Track Strategy.

In the five years to 2010-11, funding for visitor infrastructure and services in reserves was obtained from five significant sources:

- Urban Renewal and Heritage Fund (Tasmanian Government)- \$635,000
- Jobs Fund (Commonwealth Government) - \$1,498,000
- Priority Asset Maintenance Program (Tasmanian Government)- \$511,959
- Infrastructure Tasmania Fund (Tasmanian Government) - \$400,000
- Dick Smith (philanthropic donation) - \$100,000 a year for 10 years.

During this period the focus has been on substantial upgrading, replacing and maintaining existing visitor infrastructure and services, including walking tracks, in reserves.

The following visitor facilities and services were undertaken by the Parks and Wildlife Service in forested reserves:

- Cradle Mountain National Park
  - Sewerage Treatment Project
  - Commenced planning for the new Cradle Mountain Visitor Centre and relocating facilities to the disused airstrip area
- Sarah Island (World Heritage Area) – improved the visitor experience by undertaking conservation work and providing interpretation
- Kate Reed and Trevallyn Nature Recreation Areas in Launceston – created a Mountain Bike Strategy and reconfigured tracks in these peri-urban woodland reserves
- Arthur-Pieman Conservation Area - conducted surveys of natural, cultural and social values associated with the extensive vehicle track network in the reserve; implemented targeted and innovative community engagement in track management issues; undertook priority track management and rehabilitation works; implemented a new access permit system; upgraded and expanded visitor reception and management facilities; achieved Ministerial approval of the Sustainable Recreational Vehicle Access Report in 2012 and commenced implementation of the report.
- Other work has been conducted on visitor facilities and attractions in other reserves which are less forested:
  - Gunns Plains and Mole Creek Caves – relighting inside caves
  - Maria Island National Park – restoration and conservation of buildings and prepared the visitor experience site for World Heritage declaration

Major walking track upgrade and maintenance projects were substantially commenced, continued or completed, including:

- Cradle Mountain-Lake St Clair National Park – upgraded and maintained the Overland Track and associated hut and camping facilities including replacement of a walkers hut. Continuing improvement of services for walkers on the Overland Track.
- Mount Field National Park – upgraded and maintained the alpine track network
- Cradle Mountain National Park - upgraded and maintained day-walk areas
- Freycinet National Park – completed a major re-route and upgrade of the walking track and viewing area over Wine Glass Bay
- Tasman National Park – undertook planning and commenced work on the Three Capes Track (multiday bushwalking project)
- Southwest National Park - upgraded and maintained sections of the South Coast Track

- Franklin-Gordon Wild Rivers National Park – substantially commenced a major upgrade of the Frenchmans Cap Track, funded in partnership with Dick Smith, whereby the Parks and Wildlife Service matches his commitment of \$100,000 per annum for ten years.

12. *Tasmania will, on a continuing basis, examine opportunities under Commonwealth programs for research into sustainable tourism.*

Tourism Tasmania continues to be a funding partner in the Cooperative Research Centre for Sustainable Tourism. In collaboration with the Office of Vocational Education and Training, it is examining the potential for growth of environmental tourism and exploring development opportunities and training strategies that can support sustainable tourism.

A separate Commonwealth funded program (\$6.4 million nationally) supporting ecotourism training and employment has now ended. Funds from this program were used to provide extensive skill enhancement in thematic interpretation for the tourism industry in Tasmania.

13. *Tasmania will facilitate sustainable tourism resource development by the following actions:*

- *detailing priority locations/areas that have significant potential for nature-based tourism development;*
- *developing investment briefs for identified sites with potential for major investment in nature based tourism developments, (eg Freycinet, Cradle Mountain, Mt Wellington); and*
- *consulting with the tourism industry, consistent with the Tourism Protocol Agreement for the management of visitor impact.*

During the reporting period the management of tourism continued to evolve to meet the needs of tourism operators and visitors.

The Global Financial Crisis had a significant impact on the domestic and overseas visitors, although in 2009-10 visitor numbers rebounded to a degree. None the less this set in train revised thinking and energy for planning the directions and strategies for tourism. During the reporting period, Tourism Tasmania developed a new Strategic Plan 2010-13. Tourism Tasmania and the Tourism Industry Council of Tasmania are the joint owners of this strategy and amongst many things the plan recognised that product development needed to be successful at the regional level and be able to make use of natural areas to create iconic tourism infrastructure.

A policy and practice of developing Destination Development Plans was commenced in the period and it is expected this will continue and will provide focus for regional development and use of natural areas.

Progress was made gaining approval for a day use facility at The Springs in the Wellington Park, although at the end of the period this project had not progressed further. The projects that were funded under the TCFA were completed during the period.

A second Tourism and Forestry Protocol was signed between the Tourism Industry Council of Tasmania, Forestry Tasmania, the Forest Industries Association of Tasmania, and Private Forests Tasmania in 2009. The revised protocol builds on the

first agreement signed in 2003 to facilitate communication, consultation and liaison between the stakeholders at the strategic and operational levels.

### Wood and Wood Products Industry Development Actions

14. *Both Parties agree to implement the national “Plantations for Australia: The 2020 Vision” for expanding plantations in the Tasmanian context.*

This ongoing commitment has been met during the review period.

The *Plantations for Australia: The 2020 Vision* has been the flagship plantation policy statement underpinning industry and government direction since its launch in 1997. It was reviewed in 2002. Implementation of the Vision 2020 ([www.plantations2020.com.au](http://www.plantations2020.com.au)) is continuing in the Tasmanian context.

The Vision has not been reviewed or revised during this review period. While the notional 2020 goal of establishing 3 million hectares of plantations in Australia by the year 2020 is unlikely to be achieved due to a nation-wide decline in new plantation establishment during the last few years, growth in hardwood plantations has been significant.

The Australian Bureau of Agricultural and Resource Economics and Sciences publish a comprehensive report on plantations in Australia every five years with annual updates. These reports are available on the Bureau’s website at: [daff.gov.au/abares/publications\\_remote\\_content/publication\\_topics/forests](http://daff.gov.au/abares/publications_remote_content/publication_topics/forests)

Table 11 below shows that the plantation areas in Tasmania increased during the five-year period 2006-11. The major increase has been in the area of eucalypt plantation established. The bulk of this expansion was in the period up to 2009. New plantation establishment dropped dramatically after that due to a loss of investor confidence in managed investment schemes, which are no longer a driver for new plantation establishment in Australia. The total area of both eucalypt and softwood plantation is close to 309,000 hectares as at 30 June 2011.

**Table 11: Tasmanian Plantation Areas**

Reporting Year	Eucalypt Plantation (ha)	Softwood Plantation (ha)	All Plantations (ha)
2001 (30 June)	117,600	80,400	198,000
2006 (30 June)	158,900	71,500	230,400
2011 (30 June)	233,200	75,600	308,800
10 yr difference	(+98%)	(-6%)	(+56%)

Over the current reporting period there was an 80,000 hectare increase in hardwood plantation and a 2,000 hectare decrease in softwood plantation. Most of the hardwood plantation increase (89%) has been on private freehold land. The active role played by managed investment schemes was a significant contributing factor to the increase on this tenure since 2006.

16. *The State will facilitate the development of the softwood plantation development and related employment opportunities by expanding the current rate of softwood plantation development;*

There was expansion of softwood plantations, primarily on State forest as a joint venture between Forestry Tasmania and GMO Renewable Resources in the period 1 July 2001 to 30 June 2006. Approximately 3,200 hectares of new softwood plantations were established.

Since 2006 no expansion has been reported. In Table 11, the statewide trend of reduction in softwood plantation has continued up until 30 June 2011. This trend is consistent with other parts of Australia where plantation expansion has been focussed on short rotation eucalypts, not longer rotation softwood. Part of the State trend is due to conversion of plantation land from softwood to eucalypt.

18. *The Parties will jointly facilitate wood and wood-products industry development and related employment opportunities by the following actions:*

- *continuing to support programs to educate the public on issues of forest management and on the sustainability of wood as an environmentally acceptable raw material for a wide range of uses;*

Both Governments are supporting initiatives through a variety of programs.

The Australian Government supports public education on forest management issues in a range of ways, including through jointly funding Forest and Wood Products Australia (FWPA) with industry.

The FWPA supports a number of projects related to educating and effectively communicating to the public on the environmentally sustainable use of wood and forest management issues, particularly through investment in various research and development projects that support industry. In addition, the FWPA promotes the benefits of forests and wood products through various industry promotional activities.

The FWPA has sponsored the development and implementation of the successful advertising campaign, *Wood. Naturally Better.*<sup>™</sup>. The campaign was designed to promote the benefits of timber and wood products and since being launched in 2008 has had a positive impact on public understanding of wood products, sustainability and carbon storage.

In addition, FWPA has successfully worked with Planet Ark (a not-for-profit environmental organisation) on the *Make it Wood – Do your world some good* advertising campaign. The campaign promoted timber and wood products as responsible building materials that act as a natural carbon store.

Forestry Tasmania produces a range of publications, media stories and advertisements, and offered many interpreted in-forest opportunities, to educate the public on issues of forest management. Initiatives undertaken include:

- Forestry Tasmania corporate, planned burns and giant trees websites;
- media releases, in addition to targeted editorial for forestry, tourism and business publications;
- *Branchline* magazine, a quarterly publication for external stakeholders;
- *Forestry Matters* periodical information sheets;
- Annual financial report and Sustainable Forest Management report;

- *Sustainable Forest Management* information booklet;
- A range of information brochures about Forestry Tasmania projects;
- Corporate advertising on forest management issues e.g. alternatives to clearfelling in old growth forests, wedge tailed eagle habitat management;
- Presentations and displays at conferences and events;
- Tasforests.

The forest industry and Forestry Tasmania have continued to support the Forest Education Foundation ([www.forest-education.com](http://www.forest-education.com)), which develops and delivers school based educational resources, field experiences for students and professional development programs for teachers. These cover an understanding of the ecology and distribution of Tasmania's forests, human interactions with forest environments, the early timber industry and modern forest management through to the processing and use of forest resources in Tasmania. The Forest Education Foundation works across education sector including; students and teachers (lower primary to Year 11/12), curriculum developers, University of Tasmania teacher training and TAFE Tasmania.

Each year, Private Forests Tasmania publishes, in its Annual Report, information on promoting sound management of native forests and plantations on private land in Tasmania. Private Forests Tasmania also has a strong presence each year at Agfest (total public attendance more than 40,000 each year) where the emphasis is on the sustainable management of privately owned forests and the values that accrue from the integration of trees into agriculture.

In addition, Private Forests Tasmania each year conducted farm forestry dinners and field days, where the emphasis is on best practice silviculture, sustainable forest management and market opportunities.

Private Forests Tasmania has produced a series of information papers on a range of plantation related issues which are being progressively updated, In June 2007 Private Forests Tasmania published a paper containing extensive data on the private plantation estate as at 31 December 2006, and this information will be updated from time to time. The report is available on the website ([www.privateforests.tas.gov.au](http://www.privateforests.tas.gov.au)). In addition, during 2011 Private Forests Tasmania completed two carbon projects, in association with other partner organisations, which were funded by the Federal Government's Forest Industries Climate Change Research Fund. Private Forests Tasmania is also playing an active role in the development of new markets for forest products, in particular markets relating to the use of farm and forest residues for energy production.

All Tasmanian and Commonwealth agencies involved with aspects of forest management have developed and maintained web sites that provide information on a range of issues concerning forest management. These sites include:

Department of Primary Industries, Parks, Water and Environment  
[www.dpipwe.tas.gov.au](http://www.dpipwe.tas.gov.au)

Department of Primary Industries, Parks, Water and Environment– Parks and Wildlife Service [www.parks.tas.gov.au](http://www.parks.tas.gov.au)

Department of Infrastructure, Energy and Resources (Department of State Growth - [www.stategrowth.tas.gov.au/forestry](http://www.stategrowth.tas.gov.au/forestry))

Forest Practices Authority [www.fpa.tas.gov.au](http://www.fpa.tas.gov.au)

Forestry Tasmania [www.forestrytas.com.au](http://www.forestrytas.com.au)

Private Forests Tasmania [www.privateforests.tas.gov.au](http://www.privateforests.tas.gov.au)

Australian Government Department of Agriculture, Fisheries and Forestry (now the Department of Agriculture) [www.agriculture.gov.au/forestry](http://www.agriculture.gov.au/forestry)

Australian Government Department of the Environment  
[www.environment.gov.au/index.html](http://www.environment.gov.au/index.html)

Forests and Wood Products Research and Development Corporation (now Forests and Wood products Australia) [www.fwpa.com.au](http://www.fwpa.com.au)

CSIRO Forest and Forest Products  
<http://www.csiro.au/Outcomes/Environment/Australian-Landscapes/Forestry.aspx>

CRC for Forestry [www.crcforestry.com.au/](http://www.crcforestry.com.au/)

Bureau of Rural Resources – Forestry and Vegetation Sciences (ABARES)  
[www.agriculture.gov.au/brs/forest-veg](http://www.agriculture.gov.au/brs/forest-veg)

The Commonwealth (through the Department of Agriculture) and the State (through Forestry Tasmania, Private Forests Tasmania and the Forests and Forest Industry Council) have actively disseminated information on the Australian Forestry Standard, certification and labelling. The Australian Forestry Standard Ltd.'s website [www.forestrystandard.org.au](http://www.forestrystandard.org.au) provides extensive information.

- *continuing the funding of research, including specific funding under the Agreement, into new processing technologies and market opportunities to assist in the transition from old-growth to regrowth and plantation resources including:*
  - *new sawing and seasoning techniques,*
  - *technologies for manufactured wood products, and*
  - *commercialisation of new technologies;*

A total of \$1.6 million of RFA funds were allocated by the Australian Government under clause 101(ii) to the Forests and Forest Industry Council (FFIC) of Tasmania to facilitate strategic research and development of new sawing and seasoning techniques, technologies for manufactured wood products and commercialisation of new technologies and processes. The funds have been used to assist a variety of projects, focussing on sawing and seasoning of young eucalypts and disseminating results to the industry.

Results of sawing studies of plantation grown eucalypts with the aim of understanding the potential for producing quality sawlogs and veneer logs from plantation grown eucalypts in Tasmania have been published and reviewed, both nationally and internationally.

In the review period research continued into new processing technologies by the CRC for Forestry, Forest and Wood Products Research and Development and the Timber Research Unit of the University of Tasmania. Research partners include industry and the FFIC.

- *supporting a new emphasis on furniture design and marketing that complements Tasmania's existing success in 'one-off' design for high value, but focuses on product lines more suited to large-scale production for medium- to high-value markets; and*

A variety of initiatives have been taken by the Department of Economic Development to facilitate expansion of production of medium- to high-value furniture and for design and marketing. They include assisting furniture designers and manufacturers to attend exhibitions, trade shows and specialty events for niche high value added products nationally and overseas.

The Department of Economic Development had the facilities and resources for promoting the sector but there was little demand in terms of promotional opportunities. Primarily the FFIC played the central role in promoting the development of design and marketing for the production of furniture. The FFIC provided funding for the University of Tasmanian Design Centre and the Sustainable Architecture Centre.

The Australian Government Department of Industry, through the Wood and Paper Industry Strategy, funded export-marketing brochures and marketing and promotion strategies for the Australian fine-furniture industry. These national projects, which have provided indirect benefits to the Tasmanian industry, include:

- The Furnishing Industry Action Agenda (Meeting the Challenge), developed with industry, to improve competitiveness. The Australian Government provided an assistance package of \$4 million.
- The Cooperative Research Centre (CRC) for Innovative Wood Manufacturing commenced in 2001. It had funding from the Australian Government of \$16.3 million over seven years from 1 July 2001, matched with \$47.2 million from the participants. Furnishing-industry members of the centre included the Furnishing Industry Association of Australia and the Australasian Furnishing Research and Development Institute Ltd, based in Tasmania. The CRC researched such issues as innovative techniques for manufacturing high quality and high-performance, value-added wood products.
- *investigating opportunities to improve forest-harvesting technologies by, for example, the design of log trucks.*

It was reported in the 2007 Review that the Forests and Forest Industry Council of Tasmania (FFIC) assisted in the development of a new electronic system that uses Pocket PCs to record hardwood sawlog detail. There have been no further projects in this field by the FFIC in this reporting period.

The program undertaken by Forestry Tasmania to establish two integrated wood centres, one in the south near Huonville and one in Smithton have been completed in the period. These centres have a log merchandiser as an integral element of the design which has brought improvements to log harvesting and recovery.

19. *The State will facilitate wood and wood-products industry development by the following actions:*

- *supporting the development by industry of comprehensive reports on market trends, commodity and log-price information, and supply and demand factors facing the timber, pulp and paper, panel and woodchip industries;*

Private Forests Tasmania is currently developing an on-line forest products market place information tool that will assist private forest owners' access markets for their wood. The tool will also contain information to assist forest owners successfully step through the necessary planning and regulation process that is involved.

- *maintaining an internet site for Tasmanian timber, open to all industry participants, to provide a new method of marketing and increasing awareness of individual products; and*

The 'Tasmanian Timber' website ([www.tastimber.tas.gov.au](http://www.tastimber.tas.gov.au)) has been established through the timber research unit of the University of Tasmania and funded by the Tasmanian Timber Promotion Board who is responsible for its regular updating.

- *continuing to support the Tasmanian Wood Design Collection through:*
  - *sponsorship and other assistance by Forestry Tasmania;*
  - *continuing the biennial exhibition and purchase program; and*
  - *seeking further opportunities to use the collection to advertise Tasmanian wood design nationally and overseas.*

The Tasmanian Wood Design Collection was established in 1991 with the assistance of the forestry industry. A permanent home for the Collection was established in custom-built galleries in City Park, Launceston with assistance from public and private sources including the Forests and Forest Industry Council. This gallery provides for a professional presentation of the museum collection and allows the Collection to exhibit diverse range of design pieces and events for the wider Tasmanian, national and international audience. The Design Centre (as it is now known) is the only venue in Tasmania to focus solely upon Tasmanian wood design and its interpretation.

The Collection is a continuously-evolving museum collection of contemporary wood design. It is the only museum collection of its type in Australia and has toured extensively in Tasmania, interstate and overseas.

The Tasmanian Wood Design Collection has maintained and grown its collection since 2002. It continues to receive wide support for Forestry Tasmania and the Forests and Forest Industry Council. See <http://designtasmania.com.au/>

20. *The Commonwealth will facilitate, through the Forest Industry Structural Adjustment Program and other programs, industry development for the Private Forests sector by the following actions:*

- *assisting in the expansion of private planting, including by encouraging partnerships and joint ventures between property owners and investors; and*

The Integrated Farm Forestry Planning and Forest Establishment Project, managed by Private Forests Tasmania, was supported through the Farm Forestry Program of the Natural Heritage Trust and has been completed.

Private Forests Tasmania also delivered the Sustainable Farm Forestry for Conservation and Production Project. The Project has resulted in the establishment of 138 hectares of plantations, re-vegetation of 82 hectares of riparian area enhanced protection of 355 hectares of existing vegetation and 485 hectares for native forest management'.

In partnership with the States and industry, the Australian Government has progressed the development of plantations through the *Plantations for Australia: the Vision 2020* framework in Tasmania and other states.

- *assisting the State in programs aimed at achieving increased numbers of private forest owners managing and improving productivity in their forests.*

A number of programs were initiated and implemented. Refer to paragraph 3 of Attachment 12 for specific funding initiatives.

21. *The Commonwealth will facilitate, through the Forest Industry Structural Adjustment Program and other programs, overall industry development by the following actions:*

- *providing assistance for sawmilling industry redevelopments on a case-by-case basis, designed to help industry adjust to predominantly regrowth and plantation resource supplies, while achieving value-adding investments, improved productivity and international competitiveness;*

See Part 3 of this report, clauses 53-56 for further initiatives under the TCFA to assist the Tasmanian sawmilling industry.

- *advocating the use of wood and wood products sourced from regions covered by RFAs and from regions where the Commonwealth has removed export controls on wood sourced from plantations, on the basis that they:*
  - *are recognised as sustainably managed; and,*
  - *will be considered by the Commonwealth to have environmental credentials such that there is no basis for discrimination against such products on the issue of sustainability.*

The Commonwealth has articulated its support for the use of wood and wood products from RFA regions as they are sustainably managed. This includes the *Statement on Sustainable Forest Management in Tasmania* (see item 22).

The *Renewable Energy (Electricity) Regulations 2001* prescribe that wood waste from RFA regions, or regions where equivalent criteria are in place, is defined as an eligible renewable energy source under the Government's Mandatory Renewable Energy Target (MRET) scheme, where certain criteria are met. These criteria reflect the concerns of Parliament surrounding the utilisation of natural resources for electricity generation.

Forest certification schemes play an important role in ensuring that certified forests are sustainably managed, and in providing public and purchaser confidence in demonstrating environmental outcomes of forestry operations. Forest management and chain of custody certification schemes are also increasingly important for market access both domestically and internationally.

There are two forest certification programs operating in Australia - the Australian Forest Certification Scheme operated by Australian Forestry Standard (AFS) Limited

and the Forest Stewardship Council (FSC) scheme operated by Responsible Forest Management Australia Limited trading as FSC Australia.

The Australian Government supports all credible internationally recognised forest certification schemes that provide for legal and sustainable forest management. The government believes in equitable treatment of certification schemes in Australia and encourages all operational certification schemes in Australia to work together to develop a mutually acceptable standard for the certification of all types of forest in Australia.

### **Minerals Industry Development Actions**

25. *The Parties will jointly facilitate minerals industry development and related employment by the following actions:*

- *actively advocating and supporting the Agreement as providing secure access to those areas having land tenure suitable for minerals exploration and mining; and*

Access to land for exploration and mining continues to be provided under the Tasmanian Government's *Mineral Resources Development Act 1995* and *Mining (Strategic Prospectivity Zone) Act 1993*.

- *through data acquisition and research, support the development of an improved geoscientific knowledge base at regional and continental scale to promote investment in mineral exploration.*

Mineral Resources Tasmania, through its own programs and joint projects with Geoscience Australia and the Centre of Excellence in Ore Deposits, continues to support the development of an improved geoscientific knowledge base.

26. *The State will provide and maintain relevant databases and search and retrieval systems online to clients.*

Mineral Resources Tasmania supports an extensive online facility to assist clients. More information is available at:

[www.mrt.tas.gov.au/portal/page?\\_pageid=35,832308&\\_dad=portal&\\_schema=PORTAL](http://www.mrt.tas.gov.au/portal/page?_pageid=35,832308&_dad=portal&_schema=PORTAL)

### **Actions to Develop Other Industries Dependent on Access to Forests**

27. *Tasmania will facilitate industry development and related employment for woodcraft industries dependent on special-species timbers by the following actions:*

- *Promoting access to unprocessed and semi-processed special species timbers and craftwood and by developing new opportunities for the use of species such as silver wattle and white sassafras, noting that these actions are currently being addressed through Forestry Tasmania's 'Island Specialty Timbers';*

Forestry Tasmania has maintained the Island Specialty Timbers business to facilitate access to special-species timbers and craftwood.

- *supporting the establishment of the 'Living Boat Trust' for registration, preservation and study of Tasmania's wooden boats and for recording of associated history;*

The Wooden Boat Centre in Franklin was established in 1992 as the Shipwrights Point School of Wooden Boat Building.

The Wooden Boat Centre / School offers recreational and formal training to provide Certificate 3 qualification in the construction of wooden boats. Since 1992, the school has taught more than 500 students and has carried out numerous wooden boat repairs, produced about 50 wooden dinghies and constructed 8 yachts / motor launches. The Centre has an excellent visitor interpretation with exhibits and a viewing level to enable visitors to view the construction or repair of wooden boats.

28. *The Commonwealth will assist the State in:*

- *establishing a trading house and permanent storage facility for wooden boat boards, such that irregular supply and demand patterns can be managed to optimise the long-term State-wide recovery of boards suited to wooden-boat building from sawmillers processing Huon pine and celery top pine (in particular);*

The Forests and Forest Industry Council of Tasmania continued to manage the wooden boat board bank as described in the 2007 Implementation Report. Regular audits were made and small sales of material made of any boards showing significant deterioration in quality. The government is considering options for future management of the bank.

29. Tasmania will facilitate industry development and employment for other industries dependent on forests by the following actions:

- *developing and implementing an agreed management plan and licensing system for the harvest of Dicksonia antarctica tree ferns across all available land tenures, to be administered by Forestry Tasmania and DPIWE and to meet therequirements of the Wildlife Protection (Regulation of Exports and Imports) Act 1982 (Commonwealth); and*

This task was completed in the previous review period

- *completing the implementation of the protocol for leatherwood honey management on all Public Land tenures throughout the State, as agreed between the Tasmanian Beekeepers' Association, Forestry Tasmania and DPIWE.*

This task was not completed

## **PART 2**

# **REPORT ON IMPLEMENTATION OF RECOMMENDATIONS FROM THE 2002 FIVE YEAR REVIEW**

In 2002 the Tasmanian Resource Planning and Development Commission (RPDC) conducted the first five-year review of progress with implementation of the Tasmanian RFA; the RPDC subsequently provided the Governments with a Final Recommendations Report.

In May 2005 the Premier of the State of Tasmania and the Prime Minister of the Commonwealth of Australia signed a Supplementary Agreement to the Tasmanian RFA, referred to as the Tasmanian Community Forest Agreement (TCFA). As part of the TCFA (clause 3) the Governments agreed to implement the RPDC recommendations, except recommendation 4.5. They also agreed (clause 4) that the TCFA represents a full and final response to the RPDC Report.

The following details the actions that have been taken by both governments to implement the RPDC recommendations. Several of the recommendations, as noted, have been superseded by the TCFA.

### **Land Use**

#### **Recommendation 3.1**

*That the State continues to improve forest community mapping. Particular attention needs to be given to improving the mapping of forest communities in reserves through additional field survey.*

Implementation of this recommendation is in progress and is ongoing.

In 2004 the Tasmanian Government provided new initiative funding over three years to address this recommendation. Two projects were established with the funding:

- A statewide revision of RFA mapping (RFA Revision Mapping Project)
- Development and implementation of a system to report changes in native vegetation extent, including facilitation of the development of a change detection program to comply with State reporting requirements (Monitoring Vegetation Extent Project).

#### RFA Revision Mapping Project

Regional forest revision mapping has so far concentrated on the Ben Lomond Bioregion and Tasman Peninsula and has involved extensive ground-truthing. The completed revision<sup>2</sup> of mapping in the Ben Lomond Bioregion, which occupies about 620,000 hectares covering all or parts of 50 1:25,000 map sheets, has considerably refined existing forest mapping that was largely derived from RFA mapping. For example, within this bioregion:

- Undifferentiated classes are no longer used. There are five *Eucalyptus amygdalina*-dominated forest communities, separated on the nature of the substrate and upgraded since the RFA. Only 344 hectares of the undifferentiated

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<sup>2</sup> Based on a comparison of TASVEG 1.3 and 2.0, which represent pre-and post revision mapping in the Ben Lomond bioregion.

class (DAI) is still mapped in the region. The mapped area of *Eucalyptus amygdalina* inland forest and woodland on Cainozoic deposits (DAZ) has decreased from almost 3850 hectares, pre revision, to 612 hectares, through reallocation to *E. viminalis* shrubby/heathy woodland (DVS) as a result of finer scale mapping in TASVEG. The mapped areas of the threatened community *E. amygdalina* forest and woodland on sandstone (DAS) has also decreased, reflecting resolution of mapping and possibly some land clearance between the date of aerial photographs used to produce the RFA maps and more recent aerial photos used in TASVEG mapping.

- Large RFA polygons of *E. sieberi* forests are now resolved to show associated forest types.
- New areas of some important forest and woodland types are mapped e.g. *E. brookeriana* wet forest (WBR), *E. rodwayi* forest and woodland (DRO), and *E. regnans* forest (WRE). Thirty-seven hectares of *E. gunnii* woodland (DGW) is now mapped within the bioregion.
- *Allocasuarina verticillata* forest (NAV) is more widespread than was indicated by RFA mapping.

Revised mapping for the Tasman Peninsula covered all or parts of nine 1:25,000 map sheets. The mapping included a detailed revision of the extent and distribution of *E. globulus* dry forest and woodland (DGL) which was previously mapped within the extent of *E. pulchella* forest and woodland (DPU), and *E. globulus* wet forest (WGL) previously subsumed within the RFA wet swamp gum (*E. regnans*) forest mapping unit and undifferentiated within the RFA mapping of wet *E. obliqua*.

The bioregional mapping approach has resulted in improvement of forests mapped within the reserves of the Ben Lomond and Southern Ranges Bioregions. Revised forest mapping has also been completed in a new reserve at Recherche Bay.

#### Monitoring Vegetation Extent Project

This project has developed and tested a method to monitor change in vegetation extent in Tasmania. The method compares pre-processed Landsat imagery from the Department of Climate Change from two points in time, and specifically caters for the types of change that are of relevance to reporting on vegetation change in Tasmania. An accuracy assessment for a trial area was completed in 2006. This assessment used a polygon-based random sample covering 1 per cent of the area in areas of non-change, overlaid on recent high-resolution imagery (Quickbird). Each polygon of non-change (which has been attributed from TASVEG) was visually compared to the Quickbird imagery to check for any change missed. Virtually all change greater than one hectare was detected by the Landsat change detection methods.

Processing of forest data was completed for the analysis period 2000 to 2005 using the methods formulated and documented from the trial, and was used for reporting against Indicator 1.1 in the report [Sustainability Indicators for Tasmanian Forests 2001-2006](#).

The method has subsequently been improved for the 2005-10 analysis period, and has been used for reporting against Indicator 1.1 in the report [State of the Forests 2012](#).

## **Recommendation 3.2**

*That the State reserves areas currently vested in the Hydro-Electric Corporation and identified in the RFA as indicative reserves by 30 June 2004..*

The State continues to make progress towards completing the implementation of this recommendation. Clause 15 of the TCFA is also relevant as some of the old growth areas agreed for protection in the TCFA are within these indicative RFA areas.

Since 2006 Hydro Tasmania completed its review of Crown land areas identified for protection under the RFA and TCFA. This review identified precise boundaries for land that is no longer required by Hydro Tasmania for management of its power generation assets. Agreement has been reached between land management agencies on proposals to Parliament for the new reserve types and boundaries. Plans are being prepared for presentation to Parliament for approval of the revocation of vesting as land managed by Hydro Tasmania and proclamation of the new reserves. Formal business and Parliamentary approval is expected in 2012. All areas are being managed by Hydro Tasmania for conservation pending this formal approval.

## **Recommendation 3.3**

*That the Parties commit to designing a program that provides for the long term future of the Private Forest Reserves Program and in particular provides for the future financial resources for management, monitoring and reporting of properties conserved under the RFA Private Forest Reserves Program.*

Under the terms of the TCFA, the Private Forest Reserves Program (PFRP) ceased on 30 June 2006 – see Part 3 of this report. See Part 1 of this report (Attachment 8) for details of the PFRP outcomes.

The PFRP was replaced by two programs:

- The Australian Government administered Forest Conservation Fund (FCF), which provided incentives for voluntary protection of old growth and under-reserved forest on private land. See reporting against clauses 20 through 29 of the TCFA in Part 3 of this report for details of the FCF.
- The Tasmanian Government administered Private Land Conservation Program (PLCP), which seeks to facilitate conservation of natural values on private land, through property-based planning approaches.

The Tasmanian Government provided funding from 2002-03 until June 2007 to implement a monitoring and stewardship program for those reserves covenanted under the PFRP. Subsequently, the Australian Government provided funding to the Tasmanian Land Conservancy's Revolving Fund in 2007, establishing a Fund to purchase protect and on-sell private land with conservation agreements, protecting old growth and under-reserved forest and under-represented vegetation communities.

The Monitoring and Stewardship section of the PLCP is responsible for providing services to landholders who have entered into covenants with the Tasmanian Government. The section provides support and advice to enable those landowners to conserve the natural values under the covenant. The section is also monitoring biotic aspects of the covenanted areas to evaluate the longer-term environmental outcomes of the covenanting program.

During this reporting period, the PLCP:

- continued to build on the Property Monitoring component of the PFRP, with 395 Vegetation Condition Assessments conducted on 105 reserves, representing 8,170 hectares of assessment zones
- provided ongoing stewardship support for landowners with covenanted properties by undertaking 633 site visits to provide conservation management advice and by maintaining regular newsletter contact and through the establishment of a funded works program with contributions from Regional Natural Resource Management (NRM) organisations.

### **Recommendation 3.4**

*That the State reinforces and makes more effective the mechanism for providing the RFA Private Forest Reserves Program with basic forest type and coverage information for areas being assessed under the Private Timber Reserve approval process.*

The Private Forest Reserves Program (PFRP) ceased on 30 June 2006 as an outcome of the TCFA – see Part 3, clause 27 of this report.

### **Recommendation 3.5**

*That the Parties clarify the commitment in Clause 39 of the RFA and make publicly available information on progress to date and how they intend to pursue the implementation of this commitment including the timelines.*

Clause 39 of the RFA committed the Parties to jointly participate in a process of further assessment of Australia-wide themes of World Heritage, commencing by 30 June 1998. As described in the 2002 Review, this commitment was met through the commencement of a national process to identify themes.

Since 2002, the Australian Government has significantly revised the legislative arrangements for National and World Heritage listing.

The 2003 amendments to the *Environment Protection and Biodiversity Conservation Act 1999* established the National Heritage List (NHL).

The April 2004 National Heritage Protocol outlined arrangements for the coordination of Commonwealth, State and Territory Governments systems for the protection of heritage.

Under that protocol it was agreed that, as a general principle, future nominations for World Heritage listing will be drawn from the NHL.

### **Recommendation 3.6**

*That the State makes known its decision on future access to the deep red myrtle resource in the Savage River Pipeline Corridor by February 2003.*

Implementation of this recommendation was completed prior to, and reported on in, the 2007 Review.

## **Ecologically Sustainable Forest Management**

### **Recommendation 4.1**

*That the State improves the accountability of the Forest Practices System. Issues to consider include:*

- *improving transparency and communications, in particular, public access to information on Forest Practices Plans, through a central access point designed to improve industry consultation with neighbours and local communities;*
- *improving on ground implementation of Forest Practices Plans by introducing minimum standards of training, education and accreditation of forest operatives, and introducing systems to convey the detail of the Forest Practices Code and Forest Practices Plans in a form readily available and understandable to forest operatives;*
- *improving public understanding of the Forest Practices System including the Forest Practices Code, the role of the Forest Practices Board and, in particular, the public and legal policy framework in which the Forest Practices Board operates;*
- *providing for a specific position on the Forest Practices Board for a person with ecological and/or conservation expertise;*
- *reviewing the efficacy of the self regulatory aspects of the Forest Practices System in the next five year review of the Forest Practices System; and*
- *ensuring provision of additional funding, including from industry, to support the communication and research functions of the Forest Practices System.*

Implementation of this recommendation was completed prior to, and reported on in, the 2007 Review.

### **Recommendation 4.2**

*That the State completes the Nature Conservation Strategy and commences implementation of the Strategy.*

The Strategy was completed in 2001 and implementation is ongoing.

### **Recommendation 4.3**

*That the State completes the Reserve Management Code of Practice and commences implementation of the Code. That the State undertakes annual reporting on compliance with the Reserve Management Code of Practice.*

The Code was completed in 2003 and implementation is ongoing.

See the report against RFA clause 94 in Part 1 and Recommendation 10 in Part 4 of this report for further information on reporting of compliance with the Code.

#### **Recommendation 4.4**

*That the Parties complete the preparation of Recovery Plans for all endangered forest-related threatened species within the next five years. Where species listed under the Tasmanian Act meet the criteria for listing under the Commonwealth Act, both Parties should contribute funding.*

Progress in implementing this recommendation received considerable attention in the 2007 Review and has been superseded by Recommendations 12 and 14 of that Review. See Part 4 of this report.

#### **Recommendation 4.5**

*That the Parties accredit Threatened Species Listing Statements as an alternative to Recovery Plans for listed threatened species, and as providing for adequate management of listed threatened species under the RFA.*

As reported at the 2007 Review the Governments have agreed that this recommendation will not be implemented.

#### **Recommendation 4.6**

*That the State provides for the protection of threatened Forest Communities through an appropriate statutory framework.*

Implementation of this recommendation was completed prior to, and reported on in, the 2007 Review.

#### **Recommendation 4.7**

*That the State provide sufficient resources, including financial resources to be allocated in the 2003-04 Budget, to ensure that the implementation of the Threatened Species Strategy for Tasmania is carried out in an effective and timely manner.*

Implementation of this recommendation was reported in the 2007 Review and is ongoing.

#### **Recommendation 4.8**

*That the State subjects future substantive changes to management prescriptions for Priority Species to public consultation and take note of public comment.*

Implementation of this recommendation is ongoing.

There are no specific mechanisms for seeking broad public comment on new and revised management prescriptions. However, key stakeholder organisations and experts are consulted and the public has an opportunity to comment through the processes governing the review of the Forest Practices Code.

Review and consultative processes for management prescriptions for priority species include the following:

- peer review by independent scientists with recognised expertise for the relevant species;
- independent review by the Threatened Species Scientific Advisory Committee of the management prescriptions contained within the planning tool "Threatened Fauna Advisor"; and

- consultation and review with key stakeholders on all new and revised management prescriptions through the Forest Practices Advisory Council (comprising forest industry, local government, private forest owners, public forest managers, the Department of Primary Industries, Parks, Water and Environment; and independent conservation scientists).

### **Recommendation 4.9**

*That the Parties deliver on the outstanding National Estate commitments contained in Clause 6 and Table 1, Category 3 of Attachment 1 to the RFA, prior to commencement of the next five year review.*

Implementation of this recommendation was completed prior to, and reported on in, the 2007 Review.

### **Recommendation 4.10**

*That the Parties prepare a list of relevant research reports at future five yearly reviews*

This recommendation has been implemented.

Attachment 13 to the RFA contained a list of Priority Areas of Research designed to be used to guide State and Commonwealth governments when examining research proposals and establishing research programs. Recommendation 4.10 of the RFA requires preparation of a list of research reports relevant to these Priority Areas that have been published over review periods. A list of relevant research reports published during the period 2006-11 is provided in Appendix 1 of this report.

This list has been compiled using information provided directly by a number of forest research agencies and extracted from their Annual Reports. Informing agencies were:

- Forestry Tasmania
- the Department of Primary Industries, Parks, Water and Environment
- Forest Practices Authority, Tasmania
- the Cooperative Research Centre for Forestry
- CSIRO
- Schools of Architecture, Geography and Environmental Studies, Plant Science, and Zoology, University of Tasmania.

Research reports have been selected if they contained research relevant to Tasmanian forestry issues.

Confidential reports, conference papers and presentations, higher degree theses, and reports covering basic science applicable more broadly than Tasmania, are not included. No attempt has been made to collect relevant research reports from interstate or international research organisations since it would be difficult to make such a collection other than partial.

Research reports have been allocated to one of the nine forestry and forest science Priority Areas enumerated in the Tasmanian RFA in 1997. For each Priority Area, reports are then divided into refereed journal publications, books and book chapters, and technical reports.

A total of 851 research reports are listed, comprising 452 journal publications, 78 books and book chapters, and 321 technical reports (see Table 12). The majority of these (789 or 93 per cent) are in five of the nine priority areas (biodiversity conservation and management, pests, silviculture techniques, social and economic research, and soil and water conservation) - these are topics that are both directly applicable to forest managers and of interest to the scientific and wider communities. The other four priority areas (carbon budgets, fire, heritage conservation (natural and cultural) and non-wood values of forests) are, in comparison, minor topics of research. This lack of reported activity may however partly be because these areas may be subject mostly to basic research performed outside Tasmania and/or not necessarily specific to Tasmania (carbon budgets, fire), or because the research may be done mostly in combination with other research topics under which the reports are listed (fire), or because the research may in part be carried out by organisations other than those polled here (heritage conservation (natural and cultural)).

**Table 12: Forest research publications 2006-2011**

<b>TOPIC</b>	<b>Journal publications</b>	<b>Books and book chapters</b>	<b>Technical reports</b>	<b>Total</b>
Biodiversity conservation and management	148	24	59	231
Carbon budgets/flows	7	3	0	10
Fire	16	4	3	23
Heritage conservation (natural and cultural)	12	5	7	24
Non-wood values of forests	4	1	0	5
Pests	58	8	64	130
Silviculture techniques	147	27	109	283
Social and economic research	28	4	46	78
Soil and water conservation	32	2	33	67
<b>Total</b>	<b>452</b>	<b>78</b>	<b>321</b>	<b>851</b>

### **Recommendation 4.11**

*That the list of priority research areas in Attachment 13 should be reviewed by the Parties, in consultation with relevant stakeholders, at future five yearly reviews to determine if priorities have changed.*

This recommendation has been implemented.

In accord with Attachment 13 of the RFA, the list of research priorities relevant to the RFA and the period 2007-2011 was produced in 2006. The priorities were collated with input from CSIRO, the Department of Primary Industries, Parks, Water and Environment, Forestry Tasmania, the Cooperative Research Centre for Forestry, and others, including the Research Priorities Coordinating Committee that reported to the Primary Industries Ministerial Council's Forestry and Forest Products Committee.

A total of 55 research priorities were identified. These have been organised in the list below under the same nine broad research areas identified in the RFA.

These priority research areas can be used as a guide by the Parties when examining research proposals and establishing research programs.

## **1. Biodiversity conservation and management**

- Landscape-level requirements for persistence of forest-dependent species, including predictive biological models for species and communities in different landscape mosaics, and population viability analyses of individual species.
- Long-term ecological research on natural processes, the effects of forest management and climate change, and long-term monitoring at established sites.
- Contribution of regrowth forests to landscape-level measures of biodiversity, including comparison of forests regrowing after logging and wildfire disturbance, the effect of thinning or fuel reduction, and the development of late-successional structures.
- Contribution of plantation blocks to landscape-level measures of biodiversity, and the role of remnant native vegetation in plantation estates.
- Impact of alternative silvicultural techniques on biodiversity, with special reference to mature forest habitat features.
- Impact of forest management on flora and fauna of high conservation significance and their habitats, including value and management of retained habitat.
- Development of a coordinated approach, tools and protocols for vegetation mapping, vegetation extent and vegetation condition assessment.
- Improved systems for natural values and resource condition reporting.
- Taxonomy, ecology, population monitoring and conservation management of poorly known species, whether common or rare.
- Research to underpin Recovery Plans and Threat Abatement Plans, and development of means to assess the effectiveness of such conservation plans.
- Research to underpin management prescriptions for Threatened Species under the Forest Practices Code, and development of means to assess the effectiveness of such prescriptions.

## **2. Carbon budgets/flows**

- Research priorities as identified in the National Greenhouse Response Strategy.
- Determination of carbon stored in Tasmanian forests of different types and disturbance and management histories.
- Determination of carbon fluxes associated with forest regeneration, growth, management, and natural disturbance (e.g. wildfire) or harvesting in different Tasmanian forest types.
- Potential contribution of forestry activities to greenhouse gas amelioration or reduction.

### **3. Fire**

- Research on maximising opportunities for appropriate fuel-reduction, ecological and regeneration burning while minimising smoke and other community impacts.
- Development of fire regimes for ecological forest management in non-production forest areas.
- Relative social impacts and perceptions of wildfire compared to fuel-reduction, ecological and regeneration burns.

### **4. Heritage conservation (natural and cultural)**

- Methods for in-situ management and conservation of Aboriginal and cultural heritage at forest sites.
- Research to underpin management prescriptions for natural and cultural values under the Forest Practices Code, and development of means to assess the effectiveness of such prescriptions.

### **5. Non-wood values of forests**

- Development of tools for valuation and realisation of non-wood benefits of forests (eg honey production, soil conservation, water, recreation, biodiversity and cultural heritage).
- Impact on forest management of future potential valuation systems for non-wood values (eg carbon credits).

### **6. Pests**

- Continued development of methods for cost-effective detection, identification, impact evaluation and control of pests and diseases in native forests and plantations, including remote-sensing methods for forest health.
- Methods for temporal and spatial prediction of pest damage, and the ability to guide intervention strategies based on yield and economic impact modelling.
- Development of integrated management systems for weeds, browsing mammals, and insect pests.
- Effect of predicted climate change on forest health and susceptibility to pests and diseases.
- Development of methods to assess human and environmental risks associated with use of individual chemicals in forest management, and investigation of approaches to modify, reduce or eliminate chemical use.
- Alternatives to 1080 for management of native browsing animals on private land.
- Research to support methods for elimination of foxes from Tasmania.
- Research to support the Tasmanian Devil Facial Tumour Disease management strategy.

## **7. Silviculture techniques**

- Implementation of alternative silvicultural techniques for commercial harvesting and regeneration of wet old-growth eucalypt forests.
- Investigation of silvicultural techniques that allow persistence and regeneration of late-successional structures across the range of managed forest landscapes.
- Comparison between natural and anthropogenic disturbances on forest structure, diversity and productivity, and effect of cumulative individual disturbances.
- Continued breeding of plantation trees for wood properties of economic importance to end users.
- Gene pool management of key native forest and plantation species.
- Site-specific silviculture of plantation trees for highest value uses, including effect of genotype, site and management on stand production and end-use product suitability, and integration of predicted wood values into estate planning.
- Development of remote sensing techniques for assessment of forest structure, inventory and productivity.
- Development and verification of process-based models that predict the size-class distribution of trees within plantations.
- Management of plantation and regrowth eucalypts for minimal defect.
- Development of systems that model the effect of management (e.g. fertilisation, weed control, pruning, thinning and genetic selection) on future wood and water yield, fixed carbon and biodiversity parameters.
- Effect of predicted climate change on plantation site suitability and productivity, and silvicultural management techniques that mitigate these effects.

## **8. Social and economic research**

- Development of sustainable forest-based tourism in Tasmania, including the effect of various types of visitation on provider communities and on forest sites, and implementation of international best management practices.
- Determination of market conditions and investment required for industry projects of strategic economic significance, especially those that add value to or provide novel uses for timber.
- Further development of the use of Tasmanian wood products in building and allied construction.
- Further development of sawing and seasoning methods and technologies for regrowth and plantation eucalypt timbers, and the use of this timber in manufactured wood products.
- Research on market awareness of origins and uses of current and future types of timber, the impact of certification, and environmental aspects of timber use and performance.

- Research on community understanding of the concept of sustainability of forest management, on how social acceptability is determined and influenced, and on perceptions of natural and anthropogenic disturbance and change.
- Impact of changes in forestry land uses on human communities.

## **9. Soil and water conservation**

- Determination of natural and historical flow-regimes in Tasmanian streams and rivers and associated water quality parameters.
- Development of predictive systems for determining water use by Tasmanian forests and plantations of various type, age and management, including contributions by weeds and understorey species.
- Prediction of the effect of native forest harvesting and regeneration on local water flows in Tasmanian catchments, including long-term paired-catchment studies.
- Prediction of the effect of plantation establishment, growth, management and harvesting on water yields, in the context of alternative land-uses and land-use changes.
- Impact of forestry practices on head-water stream values, and evaluation of the effectiveness of streamside buffers and other management options in protecting water quality and aquatic systems.
- Development of soil and nutrient management systems and harvesting regimes for maintenance of plantation soil nutrient and organic status across rotations.
- Development of an erosion and landslip risk assessment system for Tasmanian soils and landforms.

### **Recommendation 4.12**

*That the State develops an environmental management system for reserves and other public lands consistent with Attachment 5 of the RFA prior to the next five yearly review.*

Implementation of this recommendation was reviewed in the 2007 Review and a further recommendation (25) was made which supersedes this. See Part 4 for details.

### **Recommendation 4.13**

*That the Parties encourage the development of environmental management systems in the private forest sector*

Implementation of this recommendation is ongoing.

Formal environmental management systems (EMS) are in place for the private sector operations of Gunns Ltd, Timberlands Pacific, Norske Skog and SFM.

Private Forests Tasmania has continued to work with smaller-scale private forest owners to promote the benefits of the adoption of an appropriate EMS. While to date no smaller landowners have met the criteria for certification under the Australian Forestry Standard, significant progress has been made in improving the environmental management of forests and native vegetation on private property.

The Department of Primary Industries, Parks, Water and Environment allocated resources to the Private Land Conservation Program to provide advice and information to landholders in relation to sustainable management of natural values on private land. The Program is supporting the investigation, development and delivery of tools that can be used by land managers to identify and manage the conservation of natural values. These tools include property-based conservation plans that can provide an important element of EMSs on-farm.

In addition, the three NRM regions continue to provide incentives to landowners to develop property management plans to address environmental issues.

Private Forests Tasmania received \$500,000 from the Tasmanian Government to assist it to lead non-industrial forest owners down forest management certification pathways. In July 2011, a staff member was appointed by Private Forests Tasmania to manage the project. The project is now progressing at an accelerated rate and, when completed, will ensure a full range of certification options are available for, and promoted to, Tasmanian private forest owners. In 2010, a substantial area of private native forest on the Lagoon of Islands property in Tasmania's central highlands became the first native forest in Australia to receive FSC certification.

#### **Recommendation 4.14**

*That the State completes the review of the policy on maintaining a Permanent Forest Estate taking into account public comment. That, subsequent to the review and before the end of May 2003, the State amends the policy to increase the levels of retention of native forest, and specifically to ensure that no further forest communities become threatened and that there is no deterioration in the status of any existing threatened forest community.*

Implementation of this recommendation was completed prior to, and reported on in, the 2007 Review.

#### **Recommendation 4.15**

*That, subsequent to the review of the policy on maintaining a Permanent Forest Estate, the State implements the policy through a legislative framework*

Implementation of this recommendation was completed prior to, and reported on in, the 2007 Review.

#### **Recommendation 4.16**

*That the Forest Practices Board considers during the next review of the Forest Practices Code, the issue of smoke management from forestry operations, including giving effect to the smoke management guidelines.*

Implementation of this recommendation has been completed.

In 2003 Forestry Tasmania and the Forest Industries Association of Tasmania introduced a coordinated forest industry approach to providing better public information and coordination of planned burns. Information about the location of planned burns is publicly available through a web-based facility.

In 2007 the Forest Practices Authority, in consultation with the Environment Protection Authority, the Parks and Wildlife Service and the forestry sector, developed a Coordinated Smoke Management System to regulate the emission of smoke from planned burns. This system provides:

- guidelines for improved planning for smoke dispersal using data and models developed by the Bureau of Meteorology
- coordination of planned burns to minimise the risk of high concentrations of smoke within individual airsheds - this means that restrictions are to be imposed as required to ban or limit the number of burns on days when weather forecasts predict poor smoke dispersal
- improved training and accreditation of personnel involved in the planning and conduct of burns
- additional smoke monitoring stations.

The system has been reviewed and revised following its implementation in 2008, 2009, 2010 and 2011 (see [www.fpa.tas.gov.au](http://www.fpa.tas.gov.au)).

### **Recommendation 4.17**

*That the State moves quickly to enable proclamation of the Natural Resource Management Act 2002 (Tas) and facilitate regional natural resource management strategies.*

Implementation of this recommendation was completed prior to, and reported on in, the 2007 Review.

## **Wood and Wood Product Industry Development**

### **Recommendation 5.1**

*That the Parties develop a process, as a priority, to obtain reliable data to inform social and economic indicators for the community, and the performance of the forest based industries relevant to Attachment 12 of the RFA. The sustainability indicators relevant to the social and economic aspects of the industry need to be reviewed when such reliable data becomes available.*

Implementation of this recommendation has progressed considerably during the five year reporting period.

The report [State of the Forests 2012](#) documents the current indicators used for tracking environmental, social and economic criteria, and the status of the data available to measure sustainability.

However, the quantity and quality of data in some important social and economic indicators has reduced over the period since 2002. This is largely due to changes in the level and scope of statistical reporting on the forest sector by the Australian Bureau of Statistics. This impacts on the ability to report on social and economic indicators of sustainability at both the State and national levels.

The Parties will continue to address this recommendation on an ongoing basis, through exploration of improved data availability.

## Recommendation 5.2

*That the Parties clarify the intent of Attachment 12 by 30 June 2003 and that the State prepares an industry development strategy, in consultation with the Commonwealth and the Forests and Forest Industry Council, by 30 June 2004, based on that intent and providing an industry vision and an action plan to achieve it. Table 5.1 provides an incomplete list of issues that should be covered by the industry development plan.*

**Table 5.1 Issues to be considered to clarify the intent of Attachment 12**

<i>Issue</i>	<i>Aspects for consideration of further action</i>
<i>Increased domestic downstream processing</i>	<i>Introduction of the Log Supply Charter, improved training and accreditation throughout the production chain, assistance to smaller sectors including special species and furniture industries, Commonwealth assistance to industry development including continuation of Forest Industry Client Manager position, Forest Industry Structural Adjustment Package funding.</i>
<i>Industry information</i>	<i>Improve information about the industry and its regional impact, improve social and economic indicator data.</i>
<i>Public education</i>	<i>Improve public information about the RFA, industry value, and sustainability of forest management and wood.</i>
<i>Market information</i>	<i>Provide up to date market information for the industry including supply and demand information from both public and private forests.</i>
<i>Industry training</i>	<i>Accreditation and training to support Log Supply Charter.</i>
<i>Research and development</i>	<i>Using existing and new research and development opportunities to prepare for the future changes in resource, support for the proposed Tree Technology Cooperative Research Centre.</i>
<i>Forest and product certification</i>	<i>Support for development and implementation of certification schemes and facilitation of international recognition of the Australian Forestry Standard.</i>

As reported in Part 1, this recommendation has been superseded by Recommendation 39 of the 2007 Review.

As reported in the Joint Government response to the 2007 Review report, the Tasmanian Government commissioned the Forests and Forest Industry Council to prepare a new forest industry development strategy. The strategy, *The New Forest Industry Plan* ([www.ffic.com.au/plan](http://www.ffic.com.au/plan)) was released by the Tasmanian Government in February 2010.

## Wood Resource Security

### Recommendation 6.1

*That the State continues to improve transparency in reporting, and continuously improves the methodology as identified in previous sustainable yield reviews, with the aim of increasing public understanding of, and confidence in, the sustainable yield reviews of high quality sawlogs from public land.*

Implementation of this recommendation is continuing.

Forestry Tasmania considered the comments of the independent auditors of the 2002 sustainable yield review and improved the methodology as part of the sustainable yield of high quality eucalypt sawlog from public land published in 2007. [www.forestrytas.com.au/sfm/sustainable-high-quality-eucalypt-sawlog-supply-from-tasmanian-state-forest](http://www.forestrytas.com.au/sfm/sustainable-high-quality-eucalypt-sawlog-supply-from-tasmanian-state-forest). Similarly, further enhancements to transparency and methodology will be incorporated by Forestry Tasmania in the next review report.

### Recommendation 6.2

*That the State develops a strategy for ongoing supply of special species timbers from public lands. The State needs to provide information to the market to clarify the future resource.*

Implementation of this recommendation has been completed.

Forestry Tasmania published the *Special Species Strategy* in February 2010 following release of a draft strategy for public comment in July 2009. The strategy is at

[www.forestrytas.com.au/uploads/File/pdf/pdf2010/special%20timbers%20strategy%200ssml.pdf](http://www.forestrytas.com.au/uploads/File/pdf/pdf2010/special%20timbers%20strategy%200ssml.pdf).

The Strategy sets out objectives for sustaining the resource, maximising value and promoting products to the markets.

## Other Forest Uses

### Recommendation 7.1

*That the State finalises its nature based tourism and recreational management policy by 31 March 2003.*

Implementation of this recommendation was completed prior to, and reported on in, the 2007 Review.

### Recommendation 7.2

*That the State continues to work with the apiary industry to resolve the issues on public land for bee keeping and the leatherwood resource. That the State and the Tasmanian Beekeepers Association jointly prepare a plan for management of the leatherwood resource in the southern forests by 30 June 2003.*

Implementation of this recommendation is continuing.

In the current period, the industry was profiled by Crooks (2008) and Leech (2009). They reported that the apiary industry is a small but important regional employer supporting approximately 153 jobs, of which approximately 100 are full-time job equivalents (Leech 2009). As noted by Crooks (2008), and discussed by Leech (2009) at length, the Tasmanian industry is more vertically integrated than the

mainland industry with producers undertaking a range of tasks in the supply chain. Operations that have some supply chain control appear to be buffered from the large commodity price fluctuations (Leech 2009). They also lead to more employment opportunities in individual business.

## **Monitoring and Reporting**

### **Recommendation 9.1**

*That the Parties support ongoing research and development for sustainability indicators including, where appropriate, consideration of benchmarks and interpretation to guide performance outcomes.*

Implementation of this recommendation is continuing.

The report [State of the Forests 2012](#) provides details of ongoing work to develop sustainability indicators. This report provides an interpretation of performance outcomes for most indicators.

Both Governments participate in the international Montreal Process for the development and reporting of sustainable forest management indicators. Both Governments also participate in the preparation of the national State of the Forests Report that leads to refinement of indicators over time based on reporting experience and research.

# APPENDIX 1 – LIST OF RESEARCH PUBLICATIONS 2007-11

## 1. BIODIVERSITY CONSERVATION AND MANAGEMENT

### Journal Publications

- Archibald, R.D., Craig, M.D., Bialkowski, K., Howe, C., Burgess, T.I. and Hardy, G.E.S.J. (2011). Managing small remnants of native forest to increase biodiversity within plantation landscapes in the south west of Western Australia. *Forest Ecology and Management* 261: 1254-1264
- Archibald, R.D., Craig, M.D., Burgess, T.I. and Hardy, G.E.S.J. (2010). Bird communities in small native remnants of contrasting understorey condition within bluegum plantations. *Ecological Management & Restoration* 11: 215–217
- Baker, S., Barmuta, L., Grove, S. and Richardson, A. (2009). Are streamside buffers edge affected habitat for ground dwelling beetle assemblages? *Biodiversity and Conservation* 18: 3467–3482
- Baker, S.C., Barmuta, L.A. and Richardson, A.M.M. (2009). Response of ground dwelling beetles across logging coupe edges into stream side reserves. *Australian Journal of Entomology* 48: 194–203
- Baker, S.C., Grove, S.J., Forster, L., Bonham, K.J. and Bashford, D. (2009). Short-term responses of ground-active beetles to alternative silvicultural systems in the Warra Silvicultural Systems Trial, Tasmania, Australia. *Forest Ecology and Management* 258: 444-459
- Baker, S.C. and Read, S.M. (2010). Variable retention in Tasmania's wet forests: ecological rationale, adaptive management and synthesis of biodiversity benefits. *Forest Ecology and Management* submitted
- Baker, S.C., Barmuta, L.A., McQuillan, P.B. and Richardson, A.M.M. (2007). Estimating edge effects on ground-dwelling beetles at clearfelled non-riparian stand edges in Tasmanian wet eucalypt forest. *Forest Ecology and Management* 239: 92-101
- Baker, S.C., Barmuta, L.A. and Richardson, A.M.M. (2009). Response of ground-dwelling beetles across logging coupe edges into streamside reserves. *Australian Journal of Entomology* 48: 194-203
- Baker, S.C., Grove, S.J., Forster, L., Bonham, K.J. and Bashford, D. (2009). Short-term responses of ground-active beetles to alternative silvicultural systems in the Warra Silvicultural Systems Trial, Tasmania, Australia. *Forest Ecology and Management* 258: 444-459
- Baker, S.C. and Read, S.M. (2009) Variable retention silviculture in Tasmania's wet forests – background and ecological evaluation. *Forest Ecology and Management* submitted
- Baker, S.C., Richardson, A.M.M. and Barmuta, L.A. (2007). Site effects outweigh riparian influences on ground-dwelling beetles adjacent to first order streams in wet eucalypt forest. *Biodiversity and Conservation* 16: 1999-2014

- Baker, S.C. and Read, S. (2011). Variable retention silviculture in Tasmania's wet forests – background and ecological evaluation. *Australian Forestry* 74(3): 218-232
- Barbour, R.C., Baker, S.C., O'Reilly-Wapstra, J.M., Harvest, T.M.A. and Potts B.M. (2009d). A footprint of tree-genetics on the biota of the forest floor. *Oikos* 118: 1917–1923
- Barbour, R.C., Crawford, A.C., Henson, M., Lee, D., Potts, B.M. and Shepherd, M. (2008). The risk of pollen-mediated gene flow from exotic *Corymbia* plantations into native *Corymbia* populations in Australia. *Forest Ecology and Management* 256: 1-19
- Barbour, R.C., Forster, L.G., Baker, S.C. and Potts, B.M. (2009c). Biodiversity consequences of genetic variation in bark characteristics within a foundation tree species. *Conservation Biology* 23: 1146–1155
- Barbour, R.C., O'Reilly-Wapstra, J.M., de Little, D.W., Jordan, G.J., Steane, D.A., Humphreys, J.R., Bailey, J.K., Whitham, T.G. and Potts, B.M. (2009). A geographic mosaic of genetic variation within a foundation tree species and its community-level consequence. *Ecology* 90(7): 1762–1772
- Barbour, R.C., Otahal, Y., Vaillancourt, R.E. and Potts, B.M. (2008). Pollen-mediated gene flow from exotic *Eucalyptus globulus* plantations in Australia. *Biological Conservation* 141, 896-907
- Barbour, R.C., Storer, M.J. and Potts, B.M. (2009b). Relative importance of tree genetics and microhabitat on macrofungal biodiversity on coarse woody debris. *Oecologia* 160: 335–342
- Barbour, R.C., Potts, B.M. and Vaillancourt, R.E. (2007). 'Gene flow between introduced and native *Eucalyptus* species: morphological analysis of tri-species and backcross hybrids involving *E. nitens*' *Silvae Genetica* 56 (3-4): 127-133. ISSN 0037-5349
- Barbour, R.C., Storer, M.J. and Potts, B.M. (2009). Relative importance of tree genetics and microhabitat on macrofungal biodiversity on coarse woody debris. *Oecologia* 160 (2): 335-342. ISSN 0029-8549
- Barbour, R.C., Wise, S., McKinnon, G.E., Vaillancourt, R.E., Williamson, G. and Potts, B.M. (2010). The potential for gene flow from exotic eucalypt plantations into Australia's rare native eucalypts. *Forest Ecology and Management* 260 (12): 2079-2087. ISSN 0378-1127
- Bekessy, S.A., Wintle, B.A., Gordon, J.A., Fox, J.C., Chisholm, R., Brown, B., Regan, T., Mooney, N., Read, S.M. and Burgman, M.A. (2009). Modelling human impacts on the Tasmanian wedge-tailed eagle (*Aquila audax fleayi*). *Biological Conservation* 142: 2438–2448
- Bethge, P., Munks, S.A., Otley, H. and Nicol, S. (2009). Activity patterns and sharing of time and space of platypuses, *Ornithorhynchus anatinus*, in a subalpine Tasmanian lake. *Journal of Mammalogy* 90:1350–1356
- Bloomfield, J.A., Nevill, P., Potts, B.M., Vaillancourt, R.E. and Steane, D.A. (2011). Molecular genetic variation in a widespread forest tree species, *Eucalyptus obliqua* (Myrtaceae) on the island of Tasmania. *Australian Journal of Botany* 59: 226–237

- Bode, M., Hawkins, C., Rout, T. and Wintle, B. (2009). Efficiently locating conservation boundaries: searching for the Tasmanian devil facial tumour disease front. *Biological Conservation*, 142 (7): 1333–1339
- Boyce, C.K., Lee, J.E., Field, T.S., Brodribb, T.J. and Zwieniecki, M.A. (2010). Angiosperms helped put the rain in the rainforests: The impact of plant physiological evolution on tropical biodiversity. *Annals of the Missouri Botanical Garden*. 97(4): 527-540. ISSN 0026-6493
- Browning, B.J., Jordan, G.J., Dalton, P.J., Grove, S.J., Wardlaw, T.J., Turner, P.A.M. (2010). Succession of mosses, liverworts and ferns on coarse woody debris, in relation to forest age and log decay in Tasmanian wet eucalypt forest. *Forest Ecology and Management* 260: 1896–1905
- Calder, J.A. and Kirkpatrick, J.B., (2008). Climate change and other factors influencing the decline of the Tasmanian cider gum (*Eucalyptus gunnii*). *Australian Journal of Botany* 56: 684-692
- Cawthen, L., Munks, S., Richardson, A. and Nicol, S.C. (2009). The use of temperature loggers to monitor tree hollow use by mammals. *Ecological Management and Restoration*. 10(2): 155-157
- Cawthen, L. and Munks, S.A. (2011). The design and testing of linen thread weak-links in brushtail possum radio-collars. *Australian Mammalogy*. 33: 33–35
- Cawthen, L. and Munks, S. (2011). The use of hollow-bearing trees retained in multi-aged regenerating production forest by the Tasmanian common brushtail possum (*Trichosurus vulpecula fuliginosus*). *Wildlife Research*. 38: 687-695.
- Chuter, A.E., Jordan, G.J., Dalton, P.J. and Wapstra, M. (2008). Spore germination and early gametophyte development of the soft tree fern *Dicksonia antarctica*. *Tasforests* 17: 1-8
- Chuter, A. (2010). Distribution and ecology of three threatened Tasmanian endemic species of *Boronia*. *The Tasmanian Naturalist* 132: 63–77
- Close, D.C., Davidson, N.J. and Watson, T. (2008). Health of remnant woodlands in fragments under distinct grazing regimes. *Biological Conservation* 141: 2395-2402
- Davidson, N.J., Close, D.C., Battaglia, M., Churchill, K., Ottenschlaeger, M., Watson, T. and Bruce, J. (2007). Eucalypt health and agricultural land management within bushland remnants in the Midlands of Tasmania, Australia', *Biological Conservation*. 139: (3-4) 439-446. ISSN 0006-3207
- Driscoll, D.A., Kirkpatrick, J.B., McQuillan, P.B. and Bonham, K.J. (2010). Classic metapopulations are rare among common beetle species from a naturally fragmented landscape. *Journal of Animal Ecology* 79: 294-303
- Eberhard, R. and Slee, A. (2009). Do pine plantations have an impact on the density of brushtail possums in karst caves?, *Australian Cave and Karst Management Association Journal* 74: 40–41
- Eberhard, R. and Slee, A. (2009). 'Do pine plantations have an impact on the density of brushtail possums in karst caves?'. *The Tasmanian Naturalist*. 131: 70-72
- Flynn, E.M., Jones, S.M., Jones, M.E., Jordan, G.J. and Munks, S.A. (2011). Characteristics of mammal communities in Tasmanian forests: exploring the influence of forest type and disturbance history. *Wildlife Research* 38, 13–29.

- Flynn, E.M., Munks, S.A. and Jones, S.M. (2011). Influences of forest type and disturbance on reproduction of the brushtail possum (*Trichosurus vulpecula*). *Journal of Mammalogy* 92:1050-1059
- Foster, S.A. McKinnon, G.E., Steane, D.A., Potts, B.M. and Vaillancourt, R.E. (2007). Parallel evolution of dwarf ecotypes in the forest tree *Eucalyptus globulus*. *New Phytologist*. 175(2): 370-380. ISSN 0028-646x
- Gates, G.M, and Horton, B.M. (2009). A new *Entoloma* (Basidiomycetes, Agaricales) from Tasmania. *Mycotaxon* 107: 175-179
- Gates, G.M., Mohammed, C., Ratkowsky, D.A., Wardlaw, T. and Davidson, N.J. (2011). Diversity and ecology of epigeous ectomycorrhizal macrofungal assemblages in a native wet eucalypt forest in Tasmania, Australia. *Fungal Ecology* 4, 290–298
- Gates, G.M., Mohammed, C., Wardlaw, T., Davidson, N.J. and Ratkowsky, D.A. (2011). Diversity and phenology of the macrofungal assemblages supported by litter in a tall, wet *Eucalyptus obliqua* forest in southern Tasmania, Australia. *Fungal Ecology* 4: 68–75
- Gates, G.M., Mohammed, C., Wardlaw, T., Ratkowsky, D.A. and Davidson, N.J. (2011). The ecology and diversity of wood-inhabiting macrofungi in a native *Eucalyptus obliqua* forest of southern Tasmania, Australia. *Fungal Ecology* 4: 56–67
- Gates, G.M., Ratkowsky, D.A. and Grove, S.J. (2009). Aggregated retention and macrofungi: a case study from the Warra LTER site, Tasmania. *Tasforests* 18: 33–54
- Glenny, D. and Jarman, S.J. (2008). Three species regarded as New Zealand endemics, now recorded from Tasmania. *Australasian Bryological Newsletter* 55: 10–12
- Griffin, R.A., Hingston, A.B. and Ohmart, C.P. (2009). Pollinators of *Eucalyptus regnans* (Myrtaceae), the world's tallest flowering plant species. *Australian Journal of Botany* 57: 18–25
- Grimbacher, P.S. and Stork, N.E. (2009). How do beetle assemblages respond to cyclonic disturbance of a fragmented tropical rainforest landscape? *Oecologia* 161: 591–599
- Grove, S.J. (2009). Beetles and fuelwood harvesting: a retrospective study from Tasmania's southern forests. *Tasforests* 18: 77–99
- Grove, S.J. (2011). How well does a log decay-class system capture the ecology of decomposition? A case study from Tasmanian *Eucalyptus obliqua* forest. *Forest Ecology and Management* 262: 692–700
- Grove, S.J. and Forster, L. (2011). A decade of change in the saproxylic beetle fauna of eucalypt logs in the Warra long-term log-decay experiment, Tasmania. 1. Description of the fauna and seasonality patterns. *Biodiversity and Conservation* 20: 2149–2165
- Grove, S.J. and Forster, L. (2011). A decade of change in the saproxylic beetle fauna of eucalypt logs in the Warra long-term log-decay experiment, Tasmania. 2. Log-size effects, succession, and the functional significance of rare species. *Biodiversity and Conservation* 20: 2167–2188

- Grove, S.J., Stamm, L. and Barry, C. (2009). Log decomposition rates in Tasmanian *Eucalyptus obliqua* determined using an indirect chronosequence approach. *Forest Ecology and Management* 258: 389-397
- Grove, S. (2009). A decade of deadwoodology at Warra. *The Tasmanian Naturalist* 131: 25-35
- Grove, S., Bashford, R. and Yee, M. (2008). A long-term experimental study of saproxylic beetle (Coleoptera) succession in Tasmanian *Eucalyptus obliqua* logs: findings from the first five years. Invited paper, pp 72-114 in: Fattorini, S. (Ed.), Insect ecology and conservation. Research Signpost, Kerala, India
- Grove, S., Bashford, R., Yaxley, B., and Appleby, B. (2006). The Warra log decay project: saproxylic beetles from the first three-year sampling cycle. New Zealand Ecological Society/Ecological Society of Australia joint conference, 28 August - 2 September 2006, Wellington, New Zealand
- Grove, S.J. and Yee, M. (2007). Giant Velvet Worms (*Tasmanipatus barretti*) and postharvest regeneration burns in Tasmania. *Ecological Management and Restoration* 8(1): 66-71
- Grove, S.J. (2006). Sounds, scents and sensibilities in the Tasmanian bush. *The Tasmanian Naturalist* 128: 23-25
- Grove, S.J. (2007). Mudguts. *The Tasmanian Naturalist* 129: 2-7
- Grove, S.J. (2007). Vicariance, dispersal and the strange case of the Tasmanian black nerites. *The Tasmanian Naturalist* 129: 34-36
- Grove, S.J. (2008). Marine molluscs of Tarooona spiral upwards. *The Tasmanian Naturalist* 130: 14-25
- Grove, S.J. (2009). Beetles and fuelwood harvesting: a retrospective study from Tasmania's southern forests. *Tasforests*. 18: 77-99.
- Grove, S.J. and Forster, L. (2010). A decade of change in the saproxylic beetle fauna of eucalypt logs in the Warra long-term log-decay experiment, Tasmania. 1. Description of the fauna and seasonality patterns. *Biodiversity and Conservation* 20: 2149-2165
- Grove, S.J. and Forster, L. (2010). A decade of change in the saproxylic beetle fauna of eucalypt logs in the Warra long-term log-decay experiment, Tasmania. 2. Log-size effects, succession, and the functional significance of rare species. *Biodiversity and Conservation* 20: 2167-2188
- Grove, S.J., Richards, K., Spencer, C. and Yaxley, B. (2006). What lives under large logs in Tasmanian eucalypt forest? *The Tasmanian Naturalist* 128: 86-93
- Grove, S.J., Yaxley, B. and Taylor, R. (submitted). The effectiveness of wildlife habitat strips in maintaining mature forest carabid beetle assemblages: findings from a long-term study in Tasmanian wet eucalypt forest. *Forest Ecology and Management*
- Gust, N., Griffiths, J., Driessen, M., Philips, A., Stewart, N. and Geraghty, N. (2009). Distribution, prevalence and persistence of mucormycosis in Tasmanian platypuses (*Ornithorhynchus anatinus*) from Tasmania. *Australian Journal of Zoology* 57: 245-54
- Hamede, R., McCallum, H. and Jones, M. (2008). Seasonal, demographic and density related patterns of contact between Tasmanian devils: implications for transmission of Devil Facial Tumour Disease'. *Austral Ecology* 33(5): 614-622

- Hamilton, A.J., Basset, Y., Benke, K.K., Grimbacher, P.S., Miller, S.E., Novotny, V., Samuelson, A., Stork, N.E., Weiblen, G.D. and Yen, J.D.L. (2010). Reducing uncertainty in estimating global arthropod species richness. *American Naturalist* 176: 90–95
- Harris, J.M., Munks, S.A., Goldingay, R.L., Wapstra, M. and Hird, D. (2008). Distribution, habitat conservation status of the eastern pygmy possum, *Cercartetus nanus* in Tasmania. *Australian Mammalogy* 29:213-232
- Harris, S. and Lazarus, E. (2006). Ecological observations on a remote montane occurrence of *Bedfordia arborescens* (Asteraceae), Cape Barren Island, Tasmania. *Papers and Proceedings of the Royal Society of Tasmania* 140: pp.1–14
- Harris, S., Shaw, J. and Crane, N. (2009). Planning the integration of ex situ plant conservation in Tasmania. *Cunninghamia*, 11(1): 123-130
- Harvest, T., Davidson, N.J. and Close, D.C. (2008). Is decline in high altitude eucalypt forests related to rainforest understorey development and altered soil bacteria following the long absence of fire? *Austral Ecology* 33: 880-890
- Hawkins, C.E. et al. (2006). Emerging disease and population decline of an island endemic, the Tasmanian devil *Sarcophilus harrisii*. *Biological Conservation* 131(2): 307–24
- Hesterman, H., Jones, S.M. and Schwarzenberger, F. (2007). Reproductive endocrinology of the largest dasyurids: Characterisation of ovarian cycles by plasma and faecal steroid monitoring. Part I. The Tasmanian devil (*Sarcophilus harrisii*). *General and comparative endocrinology*.
- Hingston, A.B., Grove, S. (2010). From clearfell coupe to old-growth forest: Succession of bird assemblages in Tasmanian lowland wet eucalypt forests. *Forest Ecology and Management* 259: 459–468
- Horrigan, N., Davies, P.E. and Read, S.M. (Submitted). Grazing land use and river macroinvertebrate community structure at local and catchment scales. *Environmental Management*.
- Horton, B.M., Glen, M., Davidson, N.J., Close, D.C., Wardlaw, T. and Mohammed, C.L. (2008). Ectomycorrhizal community composition in relation to canopy health and understorey vegetation in Tasmanian *Eucalyptus delegatensis* forest. *ESA Annual Conference proceedings*, 1-5 Dec, Sydney, pp. 51
- Jones, M. and McCallum, H. (2007). Managing an emerging disease in a threatened species: Tasmanian Devil Facial Tumour Disease. *The Australian and New Zealand Journal of Obstetrics and Gynaecology* 47 (Suppl. 1): A16. The Fertility Society of Australia 26th Annual Scientific Meeting, 9–12 September, Hobart, Tasmania, Australia. 144
- Jones, M.E., Cockburn, A., Hamede, R., Hawkins, C., Hesterman, H., Lachish, S., Mann, D., McCallum, H. and Pemberton, D. (2008). Life-history change in disease-ravaged Tasmanian devil populations. *Proceedings of the National Academy of Sciences of the United States of America*, 105(29): 10023–10027
- Jones, M.E., Jarman, P.J., Lees, C.M., Hesterman, H., Hamede, R.K., Mooney, N.J., Mann, D., Pukk, C.E., Bergfeld, J. and McCallum, H. (2007). Conservation management of Tasmanian devils in the context of an emerging, extinction-threatening disease: Devil Facial Tumor Disease. *Ecohealth* 4(3): 326–37

- Jones, T.H., Vaillancourt, R.E. and Potts, B.M. (2007). Detection and visualization of spatial genetic structure in continuous *Eucalyptus globulus* forest. *Molecular Ecology* 16(4): 697-707. ISSN 0962-1083
- Kantvilas, G. (2008). Observations on the genus *Scoliciosporum* in Australia, with the description of a second species of *Jarmania*. *The Lichenologist* 40(3): 213–219
- Kantvilas, G. (2009). The genus *Mycoblastus* in the cool temperate Southern Hemisphere, with special reference to Tasmania. *The Lichenologist* 41(2): 151–178
- Kantvilas, G. and Lumbsch, H.T. (2010). A new species and new record of Australian *Scoliciosporum*. *Australasian Lichenology* 66: 16-23
- Koch, A.J., Wapstra, M. and Munks, S.A. (2005). Re-examining the use of retained trees for nesting birds in logged dry eucalypt forest in north-eastern Tasmania: Eleven years on. *Tasmanian Bird Report* 33. 10 pp.
- Koch, A., Munks, S.A. and Spencer, C. (2009). Bird use of native trees retained in young eucalypt plantations: species richness and use of hollows. *Wildlife Research* 36: 581–591
- Koch, A.J. and Woehler, E.J. (2007). Results of a survey to gather information on the use of tree hollows by birds in Tasmania. *The Tasmanian Naturalist* 129: 37-46 and 7-64
- Koch, A.J. (2008). Errors associated with two methods of assessing tree hollow occurrence and abundance in *Eucalyptus obliqua* forest, Tasmania. *Forest Ecology and Management* 255: 674–85
- Koch, A.J., Baker, S.C. (2011). Using aerial photographs to remotely assess tree hollow availability. *Biodiversity and Conservation* 20: 1089–1101
- Koch, A.J., Munks, S.A., Driscoll, D.A. and Kirkpatrick, J.B. (2008). Does hollow occurrence vary with forest type? A case study in wet and dry *Eucalyptus obliqua* forest. *Forest Ecology and Management* 255: 3938-3951
- Koch, A.J., Munks, S.A. and Woehler, E.J. (2009). Hollow-using vertebrate fauna of Tasmania: distribution, hollow requirements and conservation status. *Australian Journal of Zoology* 56: 323–349
- Koch, A.J., Wapstra, M. and Munks, S.A. (2009). Re-examining the use of retained trees for nesting birds in logged dry eucalypt forest in north-eastern Tasmania: 11 years on', *Tasmanian Bird Report* 33: 4-9
- Koch, A. and Baker, S.C. (2011). 'Using aerial photographs to remotely assess tree hollow availability', *Biodiversity and Conservation*, 20 pp. 1089–1101. ISSN 0960-3115
- Koch, A.J., Munks, S.A. and Driscoll, D.A. (2008). The use of hollow-bearing trees by vertebrate fauna in wet and dry *Eucalyptus obliqua* forest, Tasmania. *Wildlife Research* 35(8): 727-746. ISSN 1035-3712
- Koch, A and Woehler, E, (2007). Results of a survey to gather information on the use of tree hollows by birds in Tasmania. *The Tasmanian Naturalist* 129 pp. 37-64. ISSN 0819-6826
- Koch, A.J. and Baker, S.C. (in review). Remotely assessing hollow availability using aerial photographs. *Forest Ecology and Management* submitted

- Koch, A.J. and Baker, S.C. (2011). Remotely assessing hollow availability using aerial photographs. *Biodiversity and Conservation* 20: 1089-1101
- Koch, A.J., Munks, S.A. and Spencer, C. (2009). Bird use of native trees retained in young eucalypt plantations: species richness and use of hollows. *Wildlife Research* 36: 581–591
- Koch, A.J., Munks, S.A. and Woehler, E.J. (2008). Hollow-using vertebrate fauna of Tasmania: distribution, hollow requirements and conservation status. *Australian Journal of Zoology* 56: 323–349
- Koch, A.J., Munks, S.A., Driscoll, D.A. and Kirkpatrick, J.B. (2008). Does hollow occurrence vary with forest type? A case study in wet and dry *Eucalyptus obliqua* forest. *Forest Ecology and Management* 255: 3938-3951
- Kreiss, A., Fox, N., Bergfeld, J., Quinn, S.J., Pyecroft, S. and Woods, G.M. (2008). Assessment of cellular immune responses of healthy and diseased Tasmanian devils (*Sarcophilus harrisii*). *Developmental and Comparative Immunology* 32(5): 544–53
- Larcombe, M., McKinnon, G.E. and Vaillancourt, R.E. (2011). Genetic evidence for the origins of range disjunctions in the Australian dry sclerophyll plant *Hardenbergia violacea*. *Journal of Biogeography*. 38 pp. 125-136. ISSN 0305-0270
- Lefort, P. and Grove, S. (2009). Early responses of birds to clearfelling and its alternatives in lowland wet eucalypt forest in Tasmania, Australia. *Forest Ecology and Management* 258: 460-471
- Loh, R., Bergfeld, J., Hayes, D., O'Hara, A., Pyecroft, S., Raidal, S. and Sharpe, R. (2006). The pathology of Devil Facial Tumour Disease in Tasmanian devils (*Sarcophilus harrisii*). *Veterinary Pathology* 43(6): 890–5
- Loh, R., Hayes, D., Mahjoor, A., O'Hara, A., Pyecroft, S. and Raidal, S. (2006). The immunohistochemical characterisation of Devil Facial Tumour Disease in the Tasmanian devil (*Sarcophilus harrisii*). *Veterinary pathology*, 43 (6): pp. 896–903.
- Macgregor, J.W., Holyoake, C.S., Munks, S.A., Robertson, I.D. and Warren, K.S. (2010). Preliminary investigation into the prevalence of mucormycosis in the platypus (*Ornithorhynchus anatinus*) in three catchments in north-west Tasmania. *Australian Veterinary Journal* 88: 190–196
- Mallick, S.M. and Driessen, M. (2009). Impact of hive honey bees on Tasmanian leatherwood *Eucryphia lucida* Labill. (Eucryphiaceae). *Austral Ecology* 34: 185–195
- Mann, A.N., O'Reilly-Wapstra, J.M., Glason, G.R., Sanson, G., Davies, N.W., Tilyard, P., Williams, D. and Potts, B.M. (2012). Mammalian herbivores reveal marked genetic divergence between populations of an endangered plant species. *Oikos*. 121(2): 268-276.
- McCallum, H., Tompkins, D.M., Jones, M., Lachish, S., Marvanek, S., Lazenby, B., Hocking, G., Wiersma, J. and Hawkins, C.E. (2007). Distribution and impacts of Tasmanian Devil Facial Tumour Disease. *Ecohealth* 4 (3): 318–25
- McMullan-Fisher, S.J.M., Kirkpatrick, J.B., May, T.W. and Pharo, E.J. (2010). Surrogates for macrofungi and mosses in reservation planning. *Conservation Biology* 24: 730-736

- Michaels, K.F. (2007). Using staphylinid and tenebrionid beetles as indicators of sustainable landscape management in Australia: a review. *Australian Journal of Experimental Agriculture* 47: 435–49
- Mimura, M., Barbour, R.C., Potts, B.M., Vaillancourt, R.E. and Watanabe, K.N. (2009). Comparison of contemporary mating patterns in continuous and fragmented *Eucalyptus globulus* native forests. *Molecular Ecology* 18: 4180–4192
- Munks, S.A., Koch, A.J. and Wapstra, M. (2009). From guiding principles for the conservation of forest biodiversity to on-ground practice: lessons from tree hollow management in Tasmania. *Forest Ecology and Management* 258: 516–524
- Munks, S.A., Wapstra, M., Corkrey, R., Otley, H., Miller, G. and Walker, B. (2008). The occurrence of potential tree hollow resource in the dry eucalypt forests of south-eastern Tasmania, Australia. *Australian Zoologist* 34: 22–36
- Munks, S.A., Koch, A.J., Wapstra, M. (2009). From guiding principles for the conservation of forest biodiversity to on-ground practice: Lessons from tree hollow management in Tasmania. *Forest Ecology and Management* 258: 516–524
- Neyland, M.G. (?) Understorey islands as a means of conserving structural and plant diversity within harvested wet eucalypt forests in Tasmania. *Journal of Sustainable Forestry*
- Nicolle, D., Potts, B.M. and McKinnon, G.E. (2008). *Eucalyptus cordata* subsp. *quadrangulosa* (Myrtaceae), a new taxon of restricted distribution from southern Tasmania. *Papers and Proceedings of the Royal Society of Tasmania*
- Noordeloos, M. and Gates, G.M. (2009). Preliminary studies in the genus *Entoloma* in Tasmania – II. Cryptogamie. *Mycologie* 30: 107–140
- O'Dwyer, C. (2010). Insect ecology in fragmented Grey Box grassy woodlands in North Central Victoria. PhD, The University of Melbourne.
- Pemberton, D., Gales, S., Bauer, B., Gales, R., Lazenby, B. and Medlock, K. (2008). The diet of the Tasmanian devil, *Sarcophilus harrisii*, as determined from analysis of scat and stomach contents. *Papers and proceedings of the Royal Society of Tasmania* 142(2): 13–21
- Pharo, E.J., Hodge, D.A., Turner, P.A.M. and Dalton, P.J. (2009). Successional patterns of terrestrial bryophytes along a wildfire chronosequence in the wet eucalypt forests of southern Tasmania. *Tasforests* 18 (November 2009) pp. 67-75. ISSN 1033-8306
- Prior, L.D., Lee, Z.E., Brock, C., Williamson, G. and Bowman, D.M.J.S. (2010). What limits the distribution and abundance of the native conifer *Callitris glaucophylla* (Cupressaceae) in the West MacDonnell Ranges, central Australia? *Australian Journal of Botany* 58(7): 554-564. ISSN 0067-1924
- Prior, L.D., McCaw, W.L., Grierson, P.F., Murphy, B. and Bowman, D.M.J.S. (2011). Population structures of the widespread Australian conifer *Callitris columellaris* are a bio-indicator of continental environmental change. *Forest Ecology and Management* 262(2): 252-262. ISSN 0378-1127
- Rathbone, D.A., McKinnon G.E., Potts B.M., Steane, D.A. and Vaillancourt, R.E. (2007). Microsatellite and cpDNA variation in island and mainland populations  
*Implementation of the Tasmanian RFA 2007 – 2012*

- of a regionally rare eucalypt, *Eucalyptus perriniana* (Myrtaceae). *Australian Journal of Botany* 55: 513-520
- Ratkowsky, D.A. and Gates, G.M. (2008). Generalised canonical correlations analysis for explaining macrofungal species assemblages. *Australasian Mycologist* 27(1): 33-40
- Ratkowsky, D.A. and Gates, G.M. (2009). Macrofungi in early stages of forest regeneration in Tasmania's southern forests. *Tasforests* 18: 55–66
- Richardson, A., Hopgood-Douglas, S., Munks, S., Doran, N. and Peters, D. (2008). Predicting the distribution of a threatened freshwater burrowing crayfish: *Engaeus granulatus* in central northern Tasmania. *Freshwater Crayfish* 16: 43-46
- Sanger, J.C., Davidson, N.J., O'Grady, P. and Close, D.C. (2011). Are the patterns of regeneration in the endangered *Eucalyptus gunnii* ssp. *divaricata* shifting in response to climate? *Austral Ecology* 36: 612-620. ISSN 1442-9985
- Shepherd, M. and Raymond, C.A. (2010). Species delineation and gene flow in the Blackbutts (genus *Eucalyptus* subgenus *Eucalyptus* section *Pseudophloius*). *Conservation Genetics* 11: 1965–1978
- Siddle, H.V., Kreiss, A., Eldridge, M.D.B., Noonan, E., Clarke, C.J., Pyecroft, S., Woods, G.M. and Belov, K. (2007). Transmission of a fatal clonal tumor by biting occurs due to depleted MHC diversity in a threatened carnivorous marsupial'. *Proceedings of the National Academy of Sciences of the United States of America* 104 (41): 16221–26
- Styger, J., Kirkpatrick, J.B., Marsden-Smedley, J.B. and Leonard, S.W.J. (2011). Fire incidence, but not fire size, affects macropod densities. *Austral Ecology* 36: 679-686
- Tedersoo, L., Gates, G. Dunk, C.W., Lebel, T., May, T.M., Kõljalg, U. and Jairus, T. (2009). Establishment of ectomycorrhizal fungal community on isolated *Nothofagus cunninghamii* seedlings regenerating on dead wood in Australian wet temperate forests: does fruit-body type matter? *Mycorrhiza* 19: 403–416
- Tedersoo, L., Jairus, T. and Horton, B.M. (2008). Strong host preference of ectomycorrhizal fungi in a Tasmanian wet sclerophyll forest as revealed by DNA barcoding and taxon-specific primers. *New Phytologist* 180(2): 479-490
- Tedersoo, L., Pärtel, K., Jairus, T., Gates, G., Põldmaa, K. and Tamm, H. (2009). Ascomycetes associated with ectomycorrhizas: molecular diversity and ecology with particular reference to the Helotiales. *Environmental Microbiology* 11: 3166–3178
- Wapstra, M., Munks, S.A. and Brown, B. (2007). A design for a lightweight, collapsible and inexpensive sampling frame for ecological research and monitoring. *Ecological Management and Restoration* 8: 71–72
- Wardlaw, T.J., Grove, S.J., Hopkins, A.J.M., Yee, M., Harrison, K.S. and Mohammed, C.L. (2009). The uniqueness of habitats in old eucalypts: contrasting wood-decay fungi and saproxylic beetles of young and old eucalypts. *Tasforests* 18: 17–32
- Wardlaw, T.J., Grove, S.J., Yee, M., Hopkins, A.J.M., Harrison, K.S. and Mohammed, C.L. (submitted). What makes old eucalypts special? Contrasting the wood-decay and saproxylic beetles of young and old eucalypts. *Tasforests*

- Webber, E., Brack, C. and Grove, S.J. (submitted). A metric decay-classification system for Eucalyptus coarse woody debris from wet eucalypt forests of southern Tasmania, Australia. *Forest Ecology and Management*
- Werkman, T., Davidson, N.J. and Close, D.C. (2008) Is decline in high altitude eucalypt forests related to rainforest understorey development and altered soil bacteria following the long absence of fire? *Austral Ecology*. 33: 880-890.
- Wiersma, J.M. and Richardson, A. (2009). Foraging of white-bellied sea eagles *Haliaeetus leucogaster* in relation to marine fish farms in Tasmania. *Corella* 33: 71–79
- Wiltshire, R.J.E. and Jordan, G.J. (2009). TreeFlip - Life-size guide to the trees of Tasmania. School of Plant Science and Forestry CRC, Hobart, pp. 1
- Wiltshire, R.J.E. and Potts, B.M. (2007). EucaFlip - Life-size guide to the eucalypts of Tasmania. University of Tasmania, Hobart, pp. 32
- Worth, J.R.P., Jordan, G.J., McKinnon, G.E. and Vaillancourt, R.E. (2009). The major Australian cool temperate rainforest tree *Nothofagus cunninghamii* withstood Pleistocene glacial aridity within multiple regions: evidence from the chloroplast. *New Phytologist* 182(2): 519-532. ISSN 0028-646X
- Yee, M., Grove, S., and Borrer Closs, L. (2007). Giant velvet worms (*Tasmanipatus barretti*) and postharvest regeneration burns in Tasmania. *Ecological Management and Restoration* 8: 66-69

### **Books and Book Chapters**

- Bloomfield, J.A. (2009). Genetic diversity in Tasmanian *Eucalyptus obliqua*. Honours thesis, University of Tasmania
- Browning, B.J. (2009). Cryptogam succession in relation to forest age and log decay progression in Tasmanian wet eucalypt forest. [Masters Research]
- Cawthen, L. (2007). Den use by the brushtail possum in logged and unlogged dry forest in south-eastern Tasmania. Honours thesis. University of Tasmania, Hobart
- Chuter, A. (2010). Landscape Symposium: 29 and 30 March 2010, Book of Abstracts. CRC for Forestry: Hobart, Tasmania
- Davies, P. and Munks, S.M. (2009). Wedge and Tyenna block hydrobiid snail study: pre- vs. Post-logging survey, progress report, Forest Practices Authority, Hobart
- Flynn, E. (2010). A multi-dimensional approach to exploring the influence of disturbance history and forest type on the common brushtail possum', PhD thesis, University of Tasmania, Hobart
- Gates, G.M. (2009). Coarse woody debris, macrofungal assemblages, and sustainable forest management in a *Eucalyptus obliqua* forest of southern Tasmania. PhD, University of Tasmania
- Gates, G. (2009). Coarse woody debris, macrofungal assemblages, and sustainable forest management in a *Eucalyptus obliqua* forest of southern Tasmania. [PhD]

- Hopkins, A.J.M. (2007). The Taxonomy and Ecology of Wood Decay Fungi in *Eucalyptus obliqua* Trees and Logs in the Wet Sclerophyll Forests of Southern Tasmania. [PhD]
- Howe, C. (2008). The influence of remnant condition and habitat structure on reptile communities in forest remnants within bluegum plantation in southern Western Australia. Honours thesis, Murdoch University
- Jones, N.M., McQuillan, P.B., Grove, S.J. and Davies, S. (submitted). Beetle communities associated with the Tasmanian tree fern *Dicksonia antarctica*. *Australian Journal of Entomology*
- Kirkpatrick, J.B. and DellaSala, D.A. (2011). Temperate rainforests of Australasia. In DellaSala, D.A. (ed.) *Temperate and Boreal Rainforests of the World*. Island Press Washington, pp. 195-212
- Koch, A.J. (2007). Tree hollows in Tasmanian *Eucalyptus obliqua* forest and their use by vertebrate fauna. PhD Thesis, University of Tasmania, Hobart
- Lefroy, T., Bailey, K., Norton, T. and Unwin, G. (eds.) (2008). *Biodiversity: Integrating Conservation and Production. Case Studies from Australian Forests and Fisheries*. CSIRO Publishing, Collingwood, Victoria. pp. i-x, 1-272. ISBN 9780643094581 (2008) 272 pp.
- Olsson, H.R. (2009). Distribution and individual characteristics of the platypus (*Ornithorhynchus anatinus*) in the Plenty River, Southeast Tasmania. Honours thesis, University of Tasmania, Hobart
- Piech, M. (2008). Large suburban and bush Tasmanian Blue Gums (*Eucalyptus globulus*) and Black Gums (*Eucalyptus ovata*) in Mt Nelson, Tasmania, as foraging resources for the endangered Swift Parrot (*Lathamus discolor*). Masters coursework
- Richards, K. (2010). An ecological, morphological and molecular investigation of *Beddomeia* species (Gastropoda: Hydrobiidae) in Tasmania. PhD thesis, University of Tasmania, Hobart
- Sanger, J. (2009). Ecological factors influencing the regeneration of an endangered Tasmanian tree, *Eucalyptus gunnii* subsp. *divaricata* (McAulay & Brett). Honours thesis, University of Tasmania, Hobart
- Smith, T.J. (2007). The ecology of *Sarcochilus australis*, Tasmania's only epiphytic orchid. Honours thesis, University of Tasmania, Hobart
- Unwin, G., Lord, J. and Lyons, A. (2008). Measuring the biodiversity values of a small-scale farm forestry enterprise in northern Tasmania. Ch. 21, pp. 223-232 in: Lefroy, T., Bailey, K., Norton, T. and Unwin G. (eds.) (2008). *Conservation and Production – Case Studies from Australian Farms, Forests and Fisheries*. CSIRO Publ.
- Wapstra, M., Roberts, N., Wapstra, H. and Wapstra, A. (2010). Flowering times of Tasmanian orchids: A practical guide for field botanists, 2nd edition, self-published by the authors, Hobart
- Whitham, T.G., Gehring, C.A., Evans, L.M., LeRoy, C.J., Bangert, R.K., Schweitzer, J.A., Allan, G.J., Barbour, R.C., Fischer, D.G., Potts, B.M. and Bailey, J.K. (2010). A community and ecosystem genetics approach to conservation biology and management. *Molecular Approaches in Natural Resource Conservation and Management*. 2010 Cambridge University Press, J. Andrew

DeWoody, John W. Bickham, Charles H. Michler, Krista M. Nichols, Gene E. Rhodes, Keith E. (ed), USA, pp. 50-70. ISBN 9780521515641

Wiersma, J. (2010). White-bellied sea eagle. In Tingay, R. and Katzner, T. (eds), The eagle watchers. Cornell University press, USA

Worth, J.R.P. (2009). Range-wise chloroplast DNA phylogeographies of the widespread Australian cool temperate rainforest plants. PhD thesis.

## Technical Reports

Archibald, R. (2008). Using fire to manage biodiversity in remnant forests within plantations. Report (1) to WA industry partners in CRC for Forestry: Biodiversity Project

Archibald, R. (2009). Restoring degraded remnants within plantations: report on a workshop held in Albany WA at the Department of Agriculture and Food on 12 May 2009. Report to members of the CRC for Forestry

Archibald, R. and Craig, M. (2009). Vertebrate fauna in plantations in the Albany area. Report (3) to WA industry partners in CRC for Forestry: Biodiversity Project

Archibald, R. and Hardy, G. (2009). Maintaining tree health in WA forest remnants: assessment, monitoring and management. Report (2) to WA industry partners in CRC for Forestry: Biodiversity Project

Backhouse, G., Jackson, J. and O'Connor, J. (2008a). National Recovery Plan for the Australian Grayling *Prototroctes maraena*. Department of Sustainability and Environment, Melbourne.

Baker, S., Grove S., McElwee, D., Neyland, M., Read, S., Scott, R. and Wardlaw, T. (2009). Ecological goals, biodiversity outcomes, and performance measures for aggregated retention coupes. Division of Forest Research and Development Technical Report 03/2009. Forestry Tasmania, Hobart

Baker, S., Grove, S., Read, S., Wardlaw, T., Neyland, M. and Scott, R. (2009). Biodiversity outcomes from aggregated retention coupes, Division of Forest Research and Development Technical Report 3/2009. Forestry Tasmania, Hobart

Baker, S.C. (2011). Seeking a balance between forestry and biodiversity – the role of variable retention silviculture. Insights from western USA and Canada. Forest & Wood Products Australia, Melbourne, pp. 60

Balmer, J.M. (2010). A first appraisal of the importance of landscape on Tasmanian wet forest biodiversity. School of Geography & Environmental Studies Conference Abstracts 2010, 28 June 2010, University of Tasmania, Sandy Bay

Barbour, R.C., Crawford, A.C. and Shepherd, M. (2007). Pollen-mediated gene flow from exotic *Corymbia* plantations into native *Corymbia* populations in Australia. ARC (LP0455522)

Barbour, R.C., O'Reilly-Wapstra, J.M., Forster, L.G., Baker, S.C., Storer, M.J., Schweitzer, J.A., Bailey, J.K., Humphreys, J.R., Freeman, J.S., Vaillancourt, R.E., Whitham, T. and Potts, B.M. (2008). Characterising the 'long arm' of the gene in *Eucalyptus globulus*: genetic impacts at the community and

- ecosystem levels. 33rd ESA Annual Conference Scientific Program, 1-5 Dec, Sydney. 57 pp.
- Barker, R. and Bashford, R. (2006). Final Activity Report – Tasmania. Urban Surveillance Hazard Site Surveillance Program 2005-06 Season. DPIW Report to DAFF. 41 pp
- Barker, R. and Bashford, R. (2007). Mid Activity Report (Stage 5) – Tasmania. Urban Surveillance Hazard Site Surveillance Program 2006-07 Season. DPIW Report to DAFF. 12pp.
- Biodiversity Review Panel (2008). Review of the biodiversity provisions of the Tasmanian Forest Practices Code, unpublished report to the Forest Practices Authority, Hobart
- Carter, O and Sutter, G. (2010). National Recovery Plan for Clover Glycine *Glycine latrobeana*. Department of Sustainability and Environment, Melbourne.
- Carter, O. and Walsh, N. (2011). National Recovery Plan for the Swamp Everlasting *Xerochrysum palustre*. Department of Sustainability and Environment, Melbourne.
- Chuter, A. and Munks, S.A. (2011). Developing a framework for the conservation of habitat of RFA priority species - Background Report 2. A review of the approach to the conservation of RFA priority species in areas covered by the Tasmanian Forest Practices System. Report to the Commonwealth Department of Sustainability, Environment, Water, Population and Communities and the Tasmanian Forest Practices Authority, Hobart, Tasmania
- Chuter, A. and Munks, S.A. (2011). Developing a framework for the conservation of habitat of RFA priority species – Background Report 3. A report on the on-ground implementation of current forest management prescriptions for the conservation of RFA priority species. Report to the Commonwealth Department of Sustainability, Environment, Water, Population and Communities and the Tasmanian Forest Practices Authority, Hobart, Tasmania
- Davies, P.E., Munks, S.A., Cook, L.S.J., Von Minden, P. and Wilson, D. (2007). Mapping suitability of habitat for the giant freshwater crayfish, *Astacopsis gouldi*: background document to GIS mapping layer. Forest Practices Authority Scientific Report 4. Forest Practices Authority, Hobart
- Department of Primary Industries, Parks, Water and Environment (2010). Draft Recovery plan for the Tasmanian devil (*Sarcophilus harrisi*). Department of Primary Industries, Parks, Water and Environment, Hobart
- Forest Practices Authority (2009). 'Management of gene flow from plantation eucalypt species'. Flora Technical Note No. 12. Forest Practices Authority: Hobart
- Forest Practices Authority (2010). Interim species habitat planning guideline for the conservation management of *Lathamus discolor* (Swift Parrot) in areas regulated under the Tasmanian Forest Practices System. Internal report to the Forest Practices Authority.
- Forest Practices Authority (2007). Tree Fern Management Plan for the Sustainable Harvesting, Transporting or Trading of *Dicksonia antarctica* in Tasmania. Forest Practices Authority, Hobart

- Forest Practices Authority (2008). FPA Planning Guideline 2008/1. An internal planning framework developed by the Forest Practices Authority for the purposes of delivering management prescriptions through the threatened fauna adviser to avoid or limit the clearance and conversion of significant habitat for threatened forest fauna. Forest Practices Authority, Hobart
- Forest Practices Authority (2011). Proposed strategic landscape approach for the management of RFA priority species and their habitats to be delivered via the Tasmanian forest practices system – Landscape planning guideline: A framework for the management of RFA priority species and their habitats at the landscape scale – Summary Document. Report to the Commonwealth Department of Sustainability, Environment, Water, Population and Communities and the Tasmanian Forest Practices Authority
- Grove, S., Baker, S., Bashford, D., Forster, L., Bonham, K.J., Lewis-Jones, R. and Brown, G. (2008). Early responses of ground-active beetle assemblages to clearfelling and its alternatives at Warra, Tasmania. Old Forests, New Management Conference Program and Abstract Book. February, Hobart, Tasmania, pp. 103-103
- Grove, S. (2006). A research agenda for insects and dead wood. pp. 98-108 in Grove, S.J. and Hanula, J.L. (Ed.), Insect biodiversity and dead wood. Proceedings of a symposium at the International Congress of Entomology, Brisbane, Australia, August 2004. USDA Forest Service Southern Research Station General Technical Report SRS-93, Asheville, N.C.
- Grove, S.J. (2006). A long-term experimental study of saproxylic beetle succession in Tasmanian *Eucalyptus obliqua* logs: findings from the first five years. Report No. 166. Cooperative Research Centre for Forestry, Hobart
- Grove, S.J. (2006). Forestry Tasmania surveys for broad-toothed stag beetle *Lissotes latidens* in Wielangta State Forest, January/February 2006. Technical Report no. 02/2006. Forestry Tasmania, Hobart
- Grove, S.J. and Hanula, J.L. (Editors) (2006). Insect biodiversity and dead wood. Proceedings of a symposium at the International Congress of Entomology, Brisbane, Australia, August 2004. USDA Forest Service Southern Research Station General Technical Report SRS-93, Asheville, N.C.
- Grove, S.J., Kershaw, R.C., Smith, B.J., and Turner, E. (2006). A systematic list of the marine molluscs of Tasmania. 120 pp. Occasional Paper no. 8, Queen Victoria Museum and Art Gallery, Launceston
- Grove, S.J., Yee, M. and Borrer Coss, L. (in press). Tailoring forest management to the habitat needs of the giant velvet worm (*Tasmanipatus barretti*). In Lefroy, E. (ed.). Biodiversity - balancing conservation and production: case studies from the real world. Proceedings of the conference at the University of Tasmania, 27 April 2007. University of Tasmania, Hobart
- Hamilton, M., Brown, M. and Nolan, G. (2008). Comparing the biodiversity impacts of timber and other building materials. Report for Forest and Wood Products Australia Project PR07.105
- Hopkins, A.J.M., Harrison, K.S., Grove, S.J., Wardlaw, T.J. and Mohammed, C.L. (2006). Decayed wood, wood-inhabiting fungi and saproxylic beetles in living trees in southern Tasmania. 8th International Mycological Congress, 20-24 August 2006, Brisbane.

- Hopkins, A.J.M., Yuan, Z-Q., Grove, S.J., Wardlaw, T.J. and Mohammed, C.L. (2006). Wood-inhabiting fungi in logs in logged and unlogged wet sclerophyll forests in southern Tasmania. 8th International Mycological Congress, 20-24 August 2006, Brisbane
- Jarman, S.J. and Kantvilas, G. (2010). Lichen and bryophyte studies in the Warra silvicultural systems trial, 1997-2010. Division of Forest Research and Development Technical Report 16/2010. Forestry Tasmania, Hobart
- Jones, R.C., Steane, D.A. Potts, B.M. and Vaillancourt, R.E. (2008). Managing complex gene pools: The case of *Eucalyptus globulus* in southeastern Australia, Proceedings of Old Forests, New Management, 17-21 February 2008, Hobart, Australia. pp. 64
- Jones, R.C., Steane, D.A., Potts, B.M. and Vaillancourt, R.E. (2008). Molecular evolution in complex forest tree gene pools: The case of *Eucalyptus globulus* in southeastern Australia', IUFRO-CTIA Joint Conference: Adaptation Breeding and Conservation in the Era of Forest Tree Genomics and Environmental Change, 25-28 August, 2008, Quebec, Canada, pp. 106
- Koch, A.J. and Baker S. (2008). Exploring remote methods for estimating hollow availability. Chapter 4 In Koch, A.J. Hollows project final report. Report to Cradle to Coast NRM and the Forest Practices Authority. Forest Practices Authority Scientific Report 6, pp 37-56
- Koch, A.J. (2007). Review of the value of paddock trees with comments on their management under the provisions of the Tasmanian forest practices system, background document 3a for the Biodiversity Expert Review Panel. Forest Practices Authority, Hobart
- Koch, A.J. and Munks, S.A. (2008). Research informs the improvement of hollow tree retention measures in Tasmania's production forests. Old Forests, New Management Conference Program and Abstract Book, February, Hobart, Tasmania, pp. 89-89
- Koch, A.J. (2008). Hollows project final report, report to Cradle Coast NRM and the Forest Practices Authority, Forest Practices Authority Scientific Report 6, Forest Practices Authority, Hobart
- Koch, A.J. (2009). Tree hollows in Tasmania: a guide. The CRC for Forestry and the Forest Practices Authority, Hobart
- Koch, A.J., Chuter, A. and Munks, S.A. (2011). Developing a framework for the conservation of habitat of RFA priority species – Background report 1. A review of approaches to the conservation of forest biodiversity across the landscape in Australia and overseas. Report to the Commonwealth Department of Sustainability, Environment, Water, Population and Communities and the Tasmanian Forest Practices Authority, Hobart
- Munks, S.A. and Koch, A.J. (2011). Developing a framework for the conservation of habitat of RFA priorities species – Background report 4. A review of approaches used interstate and overseas to monitor the effectiveness of forest management prescriptions for the conservation of biodiversity. Report to the Commonwealth Department of Sustainability, Environment, Water, Population and Communities and the Tasmanian Forest Practices Authority, Hobart

- Munks, S.A., Kavanagh, R.P. and Loyn, R.H. (2010). Monitoring the effectiveness of forest practices to conserve biodiversity in western North America: lessons for Australian forest management, report to the Max Jacobs Fund, Forest Practices Authority, Tasmania, the Department of Industry and Investment, New South Wales and the Arthur Rylah Institute, Victoria. Forest Practices Authority, Hobart
- Munks, S.A., Spencer, C., Tonelli, P., Wiersma, J. and O'Connor, K. (2007). Platypuses at the Ponds. Report to the Inland Fisheries Service and the lessee of the Salmon Ponds
- Piech, M. (2008). Suburban and bush *Eucalyptus globulus* and *Eucalyptus ovata* in Mount Nelson, Tasmania, as foraging resources for the endangered Swift Parrot *Lathamus discolor*, School of Geography and Environmental Studies Conference Program 2008, October 2008, Hobart, pp. 15
- Pyecroft, S.B. (2007). Tasmanian devil tumour: characteristics and molecular characterisation. The proceedings of the 58th Annual Meeting of the American College of Veterinary Pathologists, November 2007, Savannah, Georgia
- Saunders, D.L. and Tzaros, C.L. (2011). National Recovery Plan for the Swift Parrot *Lathamus discolor*. Birds Australia, Melbourne.
- Sinclair, S.J. (2010). National Recovery Plan for the Hoary Sunray *Leucochrysum albicans* var. *tricolor*. Department of Sustainability and Environment, Melbourne.
- Thauvin, G., Libis, E., Grove, S. and Wardlaw, T. (2010). Comparison of coarse woody debris volumes between mature and silviculturally regenerated eucalypt forest along a disturbance gradient. Division of Forest Research and Development Technical Report 14/2010. Forestry Tasmania, Hobart
- Threatened Species Section (2006). Threatened Tasmanian Eagles Recovery Plan 2006-2010. Department of Primary Industries and Water, Hobart
- Threatened Species Section (2011). *Barbarea australis* flora recovery plan. Department of Primary Industries, Parks, Water and Environment, Hobart
- Threatened Species Section (2011). *Centrolepis pedderensis* flora recovery plan. Department of Primary Industries, Parks, Water and Environment, Hobart
- Threatened Species Section (2011). Flora Recovery Plan: Threatened Tasmanian Ferns. Department of Primary Industries, Parks, Water and Environment, Hobart.
- Threatened Species Section (2011). Flora recovery plan: threatened Tasmanian forest epacrids. Department of Primary Industries, Parks, Water and Environment, Hobart
- Threatened Species Section (2011). *Phebalium daviesii* flora recovery plan. Department of Primary Industries, Parks, Water and Environment, Hobart
- Threatened Species Section (2011). Recovery Plan: *Eucalyptus ovata* – *Callitris oblonga* forest. Department of Primary Industries, Parks, Water and Environment, Hobart.
- Threatened Species Section (2011). *Spyridium obcordatum* flora recovery plan. Department of Primary Industries, Parks, Water and Environment, Hobart
- Threatened Species Section (2011). Tasmanian lowland *Euphrasia* species Flora Recovery Plan. Department of Primary Industries, Parks, Water and

- Environment, Hobart. Unwin, G.L. and Jennings, S. (2007). Environmental Dynamics of Blackwood Regeneration in Regrowth Forest, NW Tasmania. Acacia Utilisation and Management - Adding Value. Proceedings of a Blackwood Industry Group (BIG) Workshop, Victoria, 26-29 April 2006. Project No. WS045-08, April 2006, Eastern Victoria, pp. 64-69. ISBN 1 74151 491 6
- Unwin, G.L. (2010). The challenge of climate change to biodiversity. *Australian Forest Grower* 32 (4): 42-43. ISSN 0156-448X
- Wapstra, M. and Doran, N. (2009). Review of Threatened Fauna Adviser Background Report 1: History of the Threatened Fauna Adviser, Overview of Review Process and Species List. Forest Practices Authority, Hobart
- Wapstra, M. (2007). Processes and planning tools to meet objectives and requirements of the biodiversity provisions of Tasmania's forest practices system, background document 2 for the Biodiversity Expert Review Panel. Forest Practices Authority, Hobart
- Wapstra, M. and Munks, S.A. (2007). A review of Forest Practices Code provisions relating to management of biodiversity at different spatial scales, implementation and relationships between biodiversity provisions and other forest management provisions, background document 3 for the Biodiversity Expert Review Panel. Forest Practices Authority, Hobart.
- Wapstra, M. and Munks, S.A. (2008). Review of research and monitoring activities related to the biodiversity provisions of the forest practices system, background document 4 for the Biodiversity Expert Review Panel. Forest Practices Authority, Hobart
- Wiersma, J. (2010). Eagle Nest Monitoring Project—Year 2 2008–2009. Nest site use and timing of breeding events. Report to Roaring 40s and the Forest Practices Authority. Forest Practices Authority Scientific Report 9. Forest Practices Authority: Hobart
- Wiersma, J., Koch, A.J., Livingston, D., Brown, B., Spence, R.C., Mooney, N. and Munks, S. (2009). Eagle Nest Monitoring Project – Year 1 2007–08. Establishing monitoring sites and investigating the relationship between nesting success of the Tasmanian wedge-tailed eagle and environmental variables. Forest Practices Authority Scientific Report 8. Report to Roaring 40s and the Forest Practices Authority
- Wiersma, J (2010). Eagle Nest Monitoring Project – Year 2 2008–09. Nest site use and timing of breeding events. Forest Practices Authority Scientific Report 9. Forest Practices Authority, Hobart
- Wiersma, J., Koch, A.J., Livingston, D., Brown, B., Spencer, C., Mooney, N., and Munks, S. (2009). Eagle Nest Monitoring Project – Year 1 2007–08. Establishing monitoring sites and investigating the relationship between nesting success of the Tasmanian wedge-tailed eagle and environmental variables. Report to Roaring 40s and the Forest Practices Authority. Forest Practices Authority Scientific Report 8. Forest Practices Authority, Hobart.
- Wise, S. (2008). Marker development for *Eucalyptus nitens* in the Tasmanian landscape. Honours thesis, University of Tasmania
- Yee, M., Richards, K. and Spencer, C. (2008). Monitoring the implementation and effectiveness of conservation measures for the Bornemisszas stag beetle,

Hoplogonus bornemisszai in NE Tasmania. Establishment report, Forestry Tasmania and Forest Practices Authority, Hobart

- Yee, M., Borrer-Closs, L., Grove, S. and Stamm, L. (2006). Giant velvet worms and Tasmanian forestry: can they coexist? New Zealand Ecological Society/Ecological Society of Australia joint conference, 28 August - 2 September 2006, Wellington, New Zealand
- Yee, M., Grove, S.J., Richardson, A. and Mohammed, C. (2006). Brown rot in inner heartwood: why large logs support characteristic saproxylic beetle assemblages of conservation concern. pp. 42-56 in: Grove, S.J. and Hanula, J.L. (Ed.), Insect biodiversity and dead wood. Proceedings of a symposium at the International Congress of Entomology, Brisbane, Australia, August 2004. USDA Forest Service Southern Research Station General Technical Report SRS-93, Asheville, N.C.

## **2. CARBON BUDGETS**

### **Journal Publications**

- Bowman, D.M.J.S., Franklin, D.C., Price, O.F. and Brook, B.W. (2007). Land management affects grass biomass in the *Eucalyptus tetrodonta* savannahs of monsoonal Australia. *Austral Ecology* 32(4): 446-452. ISSN 1442-9985
- Moroni, M.T., Shaw, C.H. and Otahal, P. (2010). Forest carbon stocks in Newfoundland boreal forests of harvest and natural disturbance origin I: Field study. *Canadian Journal of Forest Research*. in press
- Moroni, M.T., Hagemann, U. and Beilmann, D. (2010). Dead wood is buried and preserved in a Labrador boreal forest. *Ecosystems* 13: 452-458
- Moroni, M.T., Kelley, T.H. and McLarin, M.L. (2010). Carbon in trees in Tasmanian State Forest. *International Journal of Forestry Research*
- Risk, D., Kellman, L. and Moroni, M.T. (2009). Characterization of spatial variability and patterns in tree and soil  $\delta^{13}C$  at forested sites in eastern Canada. *Isotopes in Environmental and Health Studies*. 45:220-230
- Sohn, J., McElhinny, C., Grove, S., Hilbig, E. and Bauhus, J. (submitted). Coarse woody debris and its carbon contribution in high-biomass forests subject to periodic catastrophic disturbance – a methodological study in Tasmanian wet *Eucalyptus obliqua* forest. *Canadian Journal of Forest Research*
- Whittock, S.P., Dutkowski, G.W., Greaves, B.L. and Apiolaza, L.A. (2007). Integrating revenues from carbon sequestration into economic breeding objectives for *Eucalyptus globulus* pulpwood production. *Annals of Forest Science* 64(3): 239-246. ISSN 1286-4560

### **Books and Book Chapters**

- Murphy, B., Russell-Smith, J., Watt, F.A. and Cook, G.D. (2009). Fire management and woody biomass carbon stocks in mesic savannahs. *Culture, Ecology and Economy of Fire Management in North Australian Savannas*. CSIRO

Publishing, Jeremy Russell-Smith, Peter Whitehead, Peter Cooke (ed), Australia, pp. 361-378. ISBN 9780643094024

Riley, I. (2010). Temporal and spatial variation of organic carbon in small head water streams. Honours Thesis. University of Tasmania

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

### **3. FIRE**

#### **Journal Publications**

Acuna, M., Palma, C., Cui, Martell, D. and Weintraub, A. (2010). Integrated spatial fire and forest management planning. *Canadian Journal of Forest Research* 40: 2370–2383

Atkinson, D., Chladil, M., Janssen, V. and Lucieer, A. (2010). Implementation of quantitative bushfire risk analysis in a GIS environment. *International Journal of Wildland Fire*. 19(5): 649-658. ISSN 1049-8001

Benyon, R.G., Haydon, S., Vertessy, R.A., Hatton, T., Kuczera, G., Feikema, P.M. and Lane, P.N.J. (2010). Comment on Wood et al. (2008) Impacts of fire on forest age and runoff in mountain ash forests. *Functional Plant Biology* 37: 1187–1191

Bowman, D.M.J.S. and Murphy, B. (2011). Australia - a model system for the development of pyrogeography, *Fire Ecology* 7(1): 5-12. ISSN 1933-9747

Bowman, D.M.J.S. (2007). Fire ecology. *Progress in Physical Geography*. 31(5): 523-532. ISSN 0309-1333

Burrows, G.E., Hornby, SK., Waters, D.A., Bellairs, S.M., Prior, L.D. and Bowman, D.M.J.S. (2010). A wide diversity of epicormic structures is present in Myrtaceae species in the northern Australian savanna biome – implications for adaptation to fire. *Australian Journal of Botany* 58(6): 493-507. ISSN 0067-1924

Close, D.C., Davidson, N.J., Swanborough, P.W. and Corkrey, S.R. (2011). Does Low-intensity fire increase water-and nutrient-availability to overstorey *Eucalyptus gomphocephala*? *Plant and Soil: International Journal on Plant-Soil Relationships* ISSN 0032-079X

Feikema, P.M., Sheridan, G.J., Argent, R.M., Lane, P.N.J. and Grayson, R.B. (2011). Estimating catchment-scale impacts of wildfire on sediment and nutrient loads using the E2 catchment modelling framework. *Environmental Modelling and Software* 26: 913–928

Hagemann, U., Moroni, M.T., Gleißner, J. and Makeschin, F. (2010). Disturbance history influences downed woody debris and soil respiration. *Forest Ecology and Management*. in press

Hagemann, U., Moroni, M.T., Shaw, C.H., Kurz, W.A. and Makeschin, F. (2010). Comparing measured and modelled forest carbon stocks in high-boreal forests of harvest and natural-disturbance origin. *Ecological Modelling* 221: 825-839

- Kirkpatrick, J.B., Marsden-Smedley, J.B. and Leonard S.W.J. (2011). Influence of grazing and vegetation type on post-fire flammability. *Journal of Applied Ecology* 48: 642-649
- Prior, L.D., Williams, R.J. and Bowman, D.M.J.S. (2010). Experimental evidence that fire causes a tree recruitment bottleneck in an Australian tropical savannah. *Journal of Tropical Ecology*. 26(6): 595-603. ISSN 0266-4674
- Turner, P.A. M., Balmer, J. and Kirkpatrick, J.B. (2009). Stand replacing wildfires? The incidence of multi-cohort and single-cohort *Eucalyptus regnans* and *E. obliqua* forests in southern Tasmania. *Forest Ecology and Management* 258: 366-375
- Turner, P.A.M. and Kirkpatrick, J.B. (2009). Do logging, followed by burning, and wildfire differ in their decadal scale effects on tall open-forest bryophytes and vascular plants? *Forest Ecology and Management* 258: 679-686
- Turner, P.A.M., Kirkpatrick, J.B. and Pharo, E. (in press). Dependence of bryophyte species on young, mature and old growth wet eucalypt forest. *Biological Conservation* accepted 29/8/2011
- von Platen, J., Kirkpatrick, J.B. and Allen, K.J. (in press). Variation in decadal fire frequency in southeastern Tasmanian dry eucalypt forest 1740 – 2004. *Australian Forestry*

### **Books and Book Chapters**

- Bowman, D.M.J.S. and Wood, S.W. (2009). Fire driven land cover change in Australia and W.D. Jackson's theory of the fire ecology of Southwest Tasmania', *Tropical Fire Ecology: Climate Change, Land Use and Ecosystem Dynamics*, Springer - Praxis Publishing, Mark A. Cochrane (ed), UK, pp. 87-111. ISBN 978-3-540-77380-1
- Russell-Smith, J., Price, O.F. and Murphy, B.P. (2010). Managing the matrix: decadal responses of eucalypt-dominated savanna to ambient fire regimes. *Ecological Applications*. 20(6): 1615-1632. ISSN 1051-0761
- Vigilante, T., Murphy, B. and Bowman, D.M.J.S. (2009). Aboriginal fire use in Australian tropical savannahs: ecological effects and management lessons. *Tropical Fire Ecology: Climate Change, Land Use and Ecosystem Dynamics*. Springer + Praxis Publishing, Mark A. Cochrane (ed), UK, pp. 143-167. ISBN 978-3-540-77380-1
- Von Platen, J. (2008). A history and interpretation of fire frequency in dry eucalypt forests and woodlands of eastern Tasmania. PhD thesis

### **Technical Reports**

- Chuter, D. (2007). Feasibility of burning debris from wet eucalypt forests harvested to an aggregated retention prescription. Division of Forest Research and Development Technical Report 10/2007. Forestry Tasmania, Hobart
- Garandel, M., Deltombe, M., Baker, S. and Neyland, M. (2008). Observation of vascular plant seedling responses to burning and aggregated retention

silviculture. Division of Forest Research and Development Technical Report 2/2009. Forestry Tasmania, Hobart

McElwee, D. and Baker, S. (2009). Regeneration burn escapes into unharvested forest from aggregated retention and clearfelled coupes 2007–2009. Division of Forest Research and Development Technical Report 15/2009. Forestry Tasmania, Hobart

#### 4. HERITAGE CONSERVATION (NATURAL AND CULTURAL)

##### Journal Publications

Baker, S., Neyland, M. and Grove, S. (2010). Using aggregated retention to maintain and restore mature forest values in managed forest landscapes. Project summary. *Ecological Management and Restoration* 11(1): 82

Beadle, C., Duff, G. and Richardson, A. (Editors) (2009) Old Forests New Management. The conservation and use of old-growth forests in the 21st Century. *Forest Ecology and Management* 258: 339-540

Comfort, M. and Eberhard, R. (2011). The Tasmanian geoconservation database: a tool for promoting the conservation and sustainable management of geodiversity. *Proceedings of the Linnaean Society of New South Wales* 132: 27–36

Field, J. and McIntosh, P.D. (2010). Reply to “The Elusive Meenamatta Petroglyphs, Tasmania: Comment on Jo Field’s and Peter D. McIntosh’s ‘A Re-Evaluation of ‘Petroglyphs’ on Blue Tier, Northeast Tasmania” by R.G. Bednarik, G. Andrews, S. Cameron, P.C. Sims, C. Williams and E. Bednarik. *Australian Archaeology* 70: 86–88

Harris, S., Allen, K., Baker, P., Bird, T., Bowman, D., Connolly, A., d’Arville, L., Harwood, C., Rozefelds, A. and Wardlaw, T. (2010). Guidelines for collecting and conserving dendrochronology samples from Tasmanian public reserves. *Tasforests* 18: 145–157

Keenan, R.J. and Read, S.M. (2012). Assessment and management of old-growth forests in southeastern Australia. *Plant Biosystems*. 146(1): 214-222.

Keith, A.R., Bailey, J.K. and Whitham, T.G. (2010). A genetic basis to community repeatability and stability. *Ecology* 91(11): 3398–3406. ISSN 0012-9658

McIntosh, P.D. and Ware, T. (2008). Taking account of special values during the coupe planning process – an example from the southern forests of Tasmania. *Tasforests* 17: 37–44

Nevill, P., Bossinger, G. and Ades, P. (2010). Phylogeography of the world's tallest angiosperm, I: evidence for multiple isolated Quaternary refugia. *Journal of Biogeography* 37: 179–192

Shearman, P. and Bryan, J.E. (2011). A bioregional analysis of the distribution of rainforest cover, deforestation and degradation in Papua New Guinea. *Austral Ecology* 36(1): 9-24. ISSN 1442-9985

Shearman, P.L., Bryan, J.E., Ash, J., Mackey, B. and Lokes, B. (2010). Deforestation and degradation in Papua New Guinea: a response to Filer and colleagues, 2009. *Annals of Forest Science* 67(3): 301-304. ISSN 1286-4560

Wilkinson, G. (2011). The Maxwell Ralph Jacobs Memorial Oration 2011: The tragedy of the forests. *Australian Forestry* 74: 157–160

## **Books and Book Chapters**

DellaSala, D.A., Alaback, P., Craighead, L., Goward, T., Hakon, H., Kirkpatrick, J.B., Krestov, P.B., Moola, F., Nakamura, Y., Nauman, R.S., Noss, R.E., Paquet, P., Ronneberg, K., Spribille, T., Tecklin, D. and von Wehrden, H. (2011). Crosscutting issues and conservation strategies. In DellaSala, D.A. (ed.) *Temperate and Boreal Rainforests of the World*. Island Press Washington, pp. 243-259

Gilfedder, L. (2010). Conservation Management Principles for Tasmania's Lowland Woodlands. In Lindenmayer, D., Bennett, A. and Hobbs, R. (eds.), *Temperate Woodland Conservation and management* CSIRO Publishing, Canberra

Kirkpatrick, J.B., Gilfedder, L., Mendel, L. and Jenkin, E. (2007). Run country on the run. In Kirkpatrick, J.B. and Bridle, K.L. (eds.) *People, Sheep and Nature Conservation: the Tasmanian Experience*. CSIRO Publishing, Collingwood, pp. 161-182

Kirkpatrick, J.B., Wilson, D., Meiss, A., Mollon, A. and Bridle, K.L. (2007). Trees on the run. In Kirkpatrick, J.B. and Bridle, K.L. (eds.) *People, Sheep and Nature Conservation: the Tasmanian Experience*. CSIRO Publishing, Collingwood, pp. 125-138

Piotrowski, S. (2010). Contested heritage, contested Aboriginality, and the Blue Tier, north east Tasmania. BA (Hons) Thesis, University of Queensland

## **Technical Reports**

Grove, S.J. (2006). The Warra LTER site in southern Tasmania. 6th conference of the East Asia - Pacific regional network of the International Long-Term Ecological Research network, 20-23 March 2006, Kyoto, Japan

Grove, S.J., Jennings, J.T. and Keenan, R.J. (2006). The Australian LTER network. 6th conference of the East Asia - Pacific regional network of the International Long-Term Ecological Research network, 20-23 March 2006, Kyoto, Japan

Jennings, S. and Wardlaw, T. (2006). Monitoring the health of wildlife habitat strips in State forest plantations. Technical Report No. 26/2006. Forestry Tasmania, Hobart

McIntosh, P.D. (2010). Fire, erosion and the end of the megafauna. *Australasian Science* September/October 2010: 27–29

Petherick, L. (2009). Assessing the present land stability in the western Tasmanian forest estate in relation to recent and ancient human impacts. Report to the Forest Practices Authority. 5 p.

Read, S. et al. (2008). Proceedings of 'Old Forests, New Management: Conservation and use of old-growth forests in the 21st Century, 17-21 February 2008, Hobart Tasmania' Sir Mark Oliphant Conference. Hobart, Tasmania. (hardcopy and web version).

Whinam, J., Gilfedder, L. and Faulkner, F. (2010). Natural systems resilient to climate change: current approaches in Tasmania. Ecological Society of Australia 2010 conference, December 6-10, 2011, Canberra

## **5. NON-WOOD VALUES OF FORESTS**

### **Journal Publications**

Grove, S.J., Stamm, L. and Barry, C. (2009). Log decomposition rates in Tasmanian *Eucalyptus obliqua* determined using an indirect chronosequence approach. *Forest Ecology and Management* 258: 389-397

Grove, S.J.; Stamm, L. and Wardlaw, T.J. (2011). How well does a log decay-class system capture the ecology of decomposition? - A case study from Tasmanian *Eucalyptus obliqua* forest. *Forest Ecology and Management* 262: 692-700

Koch A.J., Driscoll D.A. and Kirkpatrick J.B. (2008). Estimating the accuracy of tree ageing methods in mature *Eucalyptus obliqua* forest, Tasmania. *Australian Forestry* 71: 147-159

Verbesselt, J., Hyndman, R., Newnham, G. and Culvenor, D. (2010). Detecting trend and seasonal changes in satellite image time series. *Remote Sensing of Environment* 114: 106–115

### **Books and Book Chapters**

Apipoonyanon, C. (2010). The Environmental Economic Valuation for Forestland and Conservation in Northeast Thailand: A case study of Mong River Basin Forest. Masters Coursework

## **6. PESTS**

### **Journal Publications**

Bashford, R. (2008). The development of static trapping systems to monitor for wood-boring insects in forestry plantations. *Australian Forestry* 71: 236

Bashford, R. and Ramsden, N. (2011). The effect of a new pitfall trap design on the capture and abundance of three arthropod taxa. *Australian Entomologist* 38(2): 49–62

Bashford, R. (2010). Development of an insecticide applicable for the control of exotic *Vespula* (Hymenoptera: Vespidae) wasp species in Tasmanian forestry operation sites. *Australian Entomologist* 37(4): 163-169

Berndt, L.A. and Allen, G.R. (2010). Biology and pest status of *Uraba lugens* Walker (Lepidoptera: Nolidae) in Australia and New Zealand. *Australian Journal of Entomology* 49(3): 268–277

- Collett, N.G. and Elms, S. (2009). The control of siren wood wasp using biological control agents in Victoria, Australia. *Agricultural and Forest Entomology* 11: 283–294
- Collett, N.G. and Fagg, P.C. (2010). Insect defoliation of mixed-species eucalypts in East Gippsland. *Australian Forestry* 73: 81–90
- Crous, P.W., Mohammed, C.L., Glen, M., Verkley, G.J.M. and Groenewald, J.Z. (2007). *Eucalyptus* microfungi known from culture. 3. *Eucasphaeria* and *Symptoventuria* genera nova, and new species of *Furcaspora*, *Harknessia*, *Heteroconium* and *Phacidiella*. *Fungal Diversity* 25 pp. 19-36
- Crous, P.W., Summerell, B.A., Carnegie, A.J., Mohammed, C.L., Himaman, W. and Groenewald, J.Z. (2007). Foliicolous *Mycosphaerella* spp. and their anamorphs on *Corymbia* and *Eucalyptus*. *Fungal Diversity* 26(1) 143-185
- de Little, D., Foster, S. and Hingston, T.L. (2008). Temporal occurrence pattern of insect pests and fungal pathogens in young Tasmanian plantations of *Eucalyptus globulus* Labill. and *E. nitens* Maiden. *Royal Society of Tasmania, Hobart. Papers and Proceedings* 142(2): 61-69
- Deflorio, G., Barry, K.M., Johnson, C.R. and Mohammed, C.L. (2007). The influence of wound location on decay extent in plantation-grown *Eucalyptus globulus* and *Eucalyptus nitens*. *Forest Ecology and Management* 242 (2-3): 353-362
- Eyles, A., Robinson, A.P., Smith, D., Carnegie, A., Smith, I., Stone C., Mohammed, C. (2011). Quantifying the growth loss in *Pinus radiata* plantation trees to repeated aphid attack by *Essigella californica*. *Forest Ecology and Management* 261: 120–127
- Eyles, A., Smith, D., Pinkard, E.A., Smith, I., Corkrey, S.R., Elms, S. and Mohammed, C.L. (2011). Photosynthetic responses of field-grown *Pinus radiata* trees to artificial and aphid-induced defoliation. *Tree Physiology: An International Botanical Journal* pp592-603
- Freeman, J., O'Reilly-Wapstra, J.M., Vaillancourt, R.E., Wiggins, N. and Potts, B.M. (2008). QTL for key defensive chemicals affecting herbivory of eucalypts in Australia. *New Phytologist* 178: 846-851
- Freeman, J., Vaillancourt, R.E. and Potts, B.M. (2008). Few Mendelian genes underlie the quantitative response of a forest tree, *Eucalyptus globulus*, to a natural fungal epidemic. *Genetics* 178: 563-571
- Glen, M., Alfenas, A.C., Zauza, E.A.V., Wingfield, M.J. and Mohammed, C.L. (2007). *Puccinia psidii*: a threat to the Australian environment and economy - a review. *Australasian Plant Pathology*. 36 (1): 1-16
- Glen, M., Smith, A.H., Langrell, S.R.H., and Mohammed, C.L. (2007). Development of nested polymerase chain reaction detection of *Mycosphaerella* spp. and its application to the study of leaf disease in *Eucalyptus* plantations. *Phytopathology* 97(2): 132-144
- Gove, A.D., Bashford, R. and Brumley, C.J. (2007). Pheromone and volatile lures for detecting the European house borer (*Hylotrupes bajulus*) and a manual sampling method. *Australian Forestry* 70(2): 134-136
- Hamilton, M.G., Tilyard, P.A., Williams, D.R., Vaillancourt, R.E., Wardlaw, T.J., Potts, B.M., Glason, G.R., O'Reilly-Wapstra, J.M., Brewer, M.J., Summers, R.W. and Moore, B.D. (2011). Do multiple herbivores maintain chemical diversity of

- Scots pine monoterpenes? *Philosophical Transactions of the Royal Society B: Biological Sciences* 366: 1337–1345
- Jennings, J.T., Austin, A.D. and Bashford, R. (2009). First record of the woodwasp family Xiphydriidae from Tasmania with a description of a new species and host record. *Australian Journal of Entomology* 48: 25–28
- Kriticos, D.J., Watt, M.S., Potter, K.J.B., Manning, L.K., Alexander, N.S. and Tallent-Halsell, N. (2010). Managing invasive weeds under climate change: considering the current and potential future distribution of *Buddleja davidii*. *Weed Research* 51: 85–96
- Miller, A., O'Reilly-Wapstra, J., Potts, B. and McArthur, C. (2009). Non-lethal strategies to reduce browse damage in eucalypt plantations. *Forest Ecology and Management* 259: 45–55
- Miller, A., O'Reilly-Wapstra, J.M., Fitzgerald, H., Paterson, S., Walsh, A., Wardlaw, T. and Potts, B.M. (2008). Effectiveness of repellents for reducing damage by browsing mammals. *Australian Forestry*
- Miller, A.M., McArthur, C. and Smethurst, P.J. (2009). Spatial scale and opportunities for choice influence browsing and associational refuges of focal plants. *Journal of Animal Ecology* 78(6): 1134-1142. ISSN 0021-8790
- O'Reilly-Wapstra, J.M. and Cowan, P. (2010). Native plant/herbivore interactions as determinants of the ecological and evolutionary effects of invasive mammalian herbivores: the case of the common brushtail possum. *Biological Invasions* 12: 373–387
- O'Reilly-Wapstra, J.M., Bailey J.K., McArthur C. and Potts B.M. (2010). Genetic and chemical based resistance to two mammalian herbivores varies across the geographic range of *Eucalyptus globulus*. *Evolutionary Ecology Research* 12: 491–505
- O'Reilly-Wapstra, J.M., Humphreys, J.R. and Potts, B.M. (2007). Stability of genetic based defensive chemistry across life stages in a *Eucalyptus* species. *Journal of Chemical Ecology* 33: 1876-1884
- O'Reilly-Wapstra, J., Hamilton, M., Bailey, J., Williams, D., Wardlaw, T. and Potts, B. (submitted). Plant enemies or just irritants? Testing genetic covariance of resistance at multiple genetic scales. *Science* (submitted for review).
- O'Reilly-Wapstra, J.M., Freeman, J.S., Davies, N.W., Vaillancourt, R.E., Fitzgerald, H. and Potts, B.M. (2011). Quantitative trait loci for foliar terpenes in a global eucalypt species. *Tree Genetics and Genomes* 7: 485–498
- O'Reilly-Wapstra, J.M., Bailey, J.K., McArthur, C. and Potts, B.M. (2010). Genetic- and chemical-based resistance to two mammalian herbivores varies across the geographic range of *Eucalyptus globulus*. *Evolutionary Ecology Research* 12(4): 491-505. ISSN 1522-0613
- O'Reilly-Wapstra, J.M., Freeman, J.S., Davies, N.W., Vaillancourt, R.E., Fitzgerald, H. and Potts, B.M. (2011). Quantitative trait loci for foliar terpenes in a global eucalypt species. *Tree Genetics and Genomes* 7: 485-498. ISSN 1614-2942
- O'Reilly-Wapstra, J.M., Humphreys, J.R. and Potts, B.M. (2007). Stability of genetic-based defensive chemistry across life stages in a *Eucalyptus* species. *Journal of Chemical Ecology* 33(10): 1876-1884. ISSN 0098-0331

- O'Reilly-Wapstra, J.M., Glason, G.R. and Thoss, V. (2007). The role of genetic and chemical variation of *Pinus sylvestris* seedlings in influencing slug herbivory. *Oecologia* 1(152) 82-91. ISSN 1432-1939
- Östrand, F., Wallis, I.R., Davies, N.W., Matsuki, M. and Steinbauer, M.J. (2008). Causes and consequences of host expansion by *Mnesampela privata*. *Journal of Chemical Ecology* 34:153–167
- Östrand, F., Elek, J.A. and Steinbauer, M.J. (2007) Monitoring autumn gum moth (*Mnesampela privata*): relationships between pheromone and light trap catches and oviposition in eucalypt plantations. *Australian Forestry* 70(3): 185-191
- Packham, J.M., Elliott, H.J. and Bashford, R. (2008). Rate of spread of myrtle wilt disease in undisturbed Tasmanian rainforests. *Australian Forestry* 71(1): 64-69
- Pietrzykowski, E., Sims, N., Stone, C., Pinkard, E.A. and Mohammed, C.L. (2007). Predicting *Mycosphaerella* leaf disease severity in a *Eucalyptus globulus* plantation using digital multi-spectral imagery. *Southern Hemisphere Forestry Journal* 69(3): 175-182. ISSN 1991-9328
- Pinkard, E., Kriticos, D.J., Wardlaw, T., Carnegie, A. and Leriche, A. (2010). Estimating the spatio-temporal risk of disease epidemics using a bioclimatic niche model. *Ecological Modelling* 221: 2828–2838
- Quentin, A., Pinkard, E.A., Beadle, C.L., O'Grady, A.P., Paterson, S. and Mohammed, C.L. (2010). Do artificial and natural defoliations have similar effects on physiology of *Eucalyptus globulus* Labill. seedlings? *Annals of Forest Science* 67 203–212
- Quentin, A.G., Beadle, C.L., O'Grady, A.P. and Pinkard, E. (2011). Effects of partial defoliation on closed canopy *Eucalyptus globulus* Labillardiere: Growth, biomass allocation and carbohydrates. *Forest Ecology and Management* 261: 695–702
- Rapley, L., Allen, G.R., Potts, B.M. and Davies, N.W. (2007). Constitutive or induced defences – how does *Eucalyptus globulus* defend itself from autumn gum moth larvae feeding? *Chemoecology* 17(4): 235-243
- Rapley, L.P., Potts, B.M., Battaglia, M., Patel, V.S. and Allen, G.R. (2009). Long-term realised and projected growth impacts caused by autumn gum moth defoliation of 2-year-old *Eucalyptus nitens* plantation trees in Tasmania, Australia. *Forest Ecology and Management* 258: 1896–1903
- Rice, A.D. and Allen, G.R. (2009). Temperature and developmental interactions in a multitrophic parasitoid guild. *Australian Journal of Entomology* 48: 282–286
- Smith, A.H., Gill, W.M., Pinkard, E.A. and Mohammed, C.L. (2007). Anatomical and histochemical defence responses induced in juvenile leaves of *Eucalyptus globulus* and *Eucalyptus nitens* by *Mycosphaerella* infection. *Forest Pathology*, 37(6): 361-372. ISSN 1437-4781
- Stone, C., Chesnut, K., Penman, T. and Nichols, J.D. (2010). Effects of waterlogging on potted *Eucalyptus dunnii* and the pest psyllid *Creiis lituratus*. *Australian Forestry* 73: 98–105
- Stone, C., Turner, R. and Verbesselt, J. (2008). Integrating plantation health surveillance and wood resource inventory systems using remote sensing. *Australian Forestry* 71: 245-253

- Taylor, K., Andjic, V., Barber, P.A., Hardy, G.E.S.J. and Burgess, T.I. (2011). New species of Teratosphaeria associated with leaf diseases on *Corymbia calophylla* (Marri). *Mycological Progress* (in press) DOI: 10.1007/s11557-11011-10738-11551
- Taylor, K.M., Barber, P.A., Hardy, G.E.S. and Burgess, T.I. (2010). Isolation and characterisation of polymorphic microsatellite loci in *Teratosphaeria cryptica*, a destructive foliar pathogen of *Eucalyptus* spp.. *Molecular Ecology Resources Primer Database*: biomath.trinity.edu/manuscripts/11-12/mer-10-0430.pdf.
- Thu, P., Dell, B. and Burgess, T.I. (2009). Susceptibility of 18 eucalypt species to the gall wasp *Leptocybe invasa* in the nursery and young plantations in Vietnam. *Science Asia* 35: 113-117
- Walker P.W. and Allen G.R. (2010). Mating frequency and reproductive success in an income breeding moth: *Mnesampela privata* (Lepidoptera: Geometridae). *Entomologia Experimentalis et Applicata* 136(3): 290–300
- Walker, P.W., Allen, G.R., Davies, N.W., Smith, J.A., Molesworth, P.P., Nilsson, A., Anderson, F. and Hedenstrom, E. (2010). Identification, synthesis and field testing of (3Z, 6Z, 9Z)-3,6,9-henicosatriene, a second bioactive component of the sex pheromone of the autumn gum moth, *Mnesampela privata* (Lepidoptera: Geometridae). *Journal of Chemical Ecology* 35: 1411–1422
- Wallis, C., Eyles, A., Chorbadjian, R., Riedl, K., Schwartz, S., Hansen, R., Cipollini, D., Herms, D. and Bonello, P. (2011). Differential effects of nutrient availability on the secondary metabolism of Austrian pine (*Pinus nigra*) phloem and resistance to *Diplodia pinea*. *Forest Pathology* 41: 52-58. ISSN 1437-4781
- Walsh, A. and Wardlaw, T.J. (2011). Variation in mammal browsing damage between eucalypt plantations in Tasmania, and attempt to associate the variation with environmental features. *Australian Forestry*: 74(3): 197-204.
- Wardlaw, T.J. (2008). A review of the outcomes of a decade of forest health surveillance of state forests in Tasmania. *Australian Forestry* 71: 254
- Wardlaw, T.J. (2008). The evolution of forest health surveillance in Tasmania. *Tasforests* 17: 57-66.
- Wardlaw, T.J., Bashford, R., Wotherspoon, K.P., Wylie, F.R. and Elliott, H.J. (2008). Efficiency of routine forest health surveillance in detecting pest and disease damage in eucalypt plantations. *New Zealand Journal of Forestry Science* 38(2/3): 253-269
- Watt, M., Kriticos, D., Potter, K., Manning, L., Tallent-Halsell, N. and Bourdôt, G. (2010). Using species niche models to inform strategic management of weeds in a changing climate. *Biological Invasions* 12: 3711–3725
- Wotherspoon, K.P. (2008). Forest health surveillance in Tasmania. *Australian Forestry* 71: 182

## Books and Book Chapters

- Carnegie, A.J., Pegg, G.S., White, D. and Burgess, T.I. (2011). Species within Mycosphaerellaceae and Teratosphaeriaceae from eucalypts in eastern

Australia. Australasian Plant Pathology: DOI 10.1007/s13313-13011-10049-13317.

- Jones, N. (2007). Biodiversity, pterophytes, tree ferns and quarantine: Putting the invertebrate associations of *Dicksonia antarctica* in perspective. Honours thesis, University of Tasmania, Hobart
- Loney, P.E. (2007). Links between ontogeny, chemical and physical characteristics of foliage and mammalian herbivory in *Eucalyptus nitens*. PhD thesis
- Parr, R.M. (2010). Host synchrony and development in Tasmania of the proposed New Zealand biological control agent *Cotesia urabae*. BAppSci in Agriculture with Honours, University of Tasmania
- Pietrzykowski, E. (2007). New tools for determining incidence and severity of *Mycosphaerella* leaf disease in eucalypt plantations. PhD thesis
- Pinkard, E., Battaglia, M., Roxburgh, S.H. and Bruce, J. (2010). Estimating forest productivity under future climates: adding pests into the equation. In 'Canopy Processes in a Changing Climate', IUFRO Working Group 2.01.12, Falls Creek, Victoria and Tarraleah, Tasmania, 7–15 October 2010
- Ramsden, N., Wotherspoon, K., Wardlaw, T. and Bashford, D. (2010). Forest pest and disease status report for Tasmania in 2009-10. In Pegg, G. and Lawson, S. (Eds) Forest pest and disease status report for Australia and New Zealand in 2009-10. Unpublished report of Research Working Group 7 (Forest Health) for Forest and Forest Products Sub-committee
- Walsh, A.M. (2006). Spatial analysis of mammal browsing damage in Tasmanian eucalypt plantation forestry. Honours thesis, University of Tasmania

## Technical Reports

- Adams, P.R. (2006). Weed Management and trees. Time to follow up on weed control. Tasmanian Weed Society. Tasweeds Spring 2006 Newsletter. p15
- Adams, P.R. (2010). An evaluation of Basacote<sup>®</sup> fertiliser on the early growth of *P. radiata*. Growth responses at age 16 (SA025G) and 26 months (SA020C). Confidential to Timberlands Pacific. FTS Report 06/2010
- Bashford, R. (2006). Field visit to Fiji and Vanuatu. Entomology report. ACIAR Forest Health Project. 19 pp.
- Bashford, R. and Pompa, Z. (2007). Development of a monitoring protocol for the detection of exotic tramp ants. Urban Surveillance Hazard Site Program. Report to DAFF Ant Working Group, Canberra. 20 pp.
- Bashford, R., U'ren, B. and Ramsden, N. (2009). Securing the Future- National Pest Indicator Species Surveillance Program. Final Report. DPIPW 30pp.
- Borzak, C., O'Reilly-Wapstra, J.M. and Potts, B.M. (2008). Indirect and direct plant-herbivore interactions in a eucalypt system. 33rd ESA Annual Conference Scientific Program, 1-5 Dec, Sydney, pp. 64.
- Burton, D. (2007). Regeneration success and the effect of browsing by native mammals in two aggregated retention coupes in southern Tasmania. Forestry Tasmania Technical Report 03/2007. Forestry Tasmania, Hobart

- Churchill, K. and Beadle, C. (2011). Eucmix': An evaluation of the feasibility of using a selective residual herbicide to control weeds in direct-seeding revegetation trials CRC for Forestry Technical Report 192
- Collett, N.G. (2009). Controlling Autumn gum moth (*Mnesampela privata* Guenee) and *Mycosphaerella* leaf spot (*Mycosphaerella* spp.) in *Eucalyptus globulus* (Labill.) seedlings using insecticide tablets and fungicide application. Report for Department of Primary Industries. The University of Melbourne, Melbourne, Victoria
- Collett, N.G. (2009). Review of key exotic insect pest species, the threats they pose to the plantation industry in Victoria and methods of surveillance and detection. Report for Department of Primary Industries. The University of Melbourne, Melbourne
- Collett, N.G. and Fagg, P. (2009). Insect defoliation of mixed species eucalypts in East Gippsland 2003–2006. Report for Department of Sustainability and Environment. The University of Melbourne: Melbourne, Australia
- Elek, J., Allen, G. and Wardlaw, T. (2009). Establishment Report: Evaluation of lethal trap trees in eucalypt plantations for managing larval and adult chrysomelid leaf beetles. Division of Forest Research and Development Technical Report 01/2009. Forestry Tasmania, Hobart
- Elek, J., Patel, V. and Allen, G. (2008). Lethal trap tree trials 2007-8: Infusion of imidacloprid in *Eucalyptus regnans* and *E. delegatensis* foliage and its effect on adult leaf beetles, *Paropsisterna bimaculata*. Division of Forest Research and Development Technical Report 19/2008. Forestry Tasmania, Hobart
- Elek, J., Patel, V. and Allen, G. (2011). Lethal trap tree trials 2009–10: Treated trap trees attract and kill the target leaf beetle, *Paropsisterna bimaculata*. Confidential report for Forestry Tasmania and CRC for Forestry. Forestry Tasmania Technical Report 02/2011, 37pp. Forestry Tasmania: Hobart
- Elek, J., Patel, V. and Allen, G.R. (2009). Lethal trap tree trials 2008–09: Comparison of concentrate and dilute infusions of imidacloprid into trap trees for controlling the leaf beetle *Paropsisterna bimaculata*. Confidential report for Forestry Tasmania, CRC for Forestry and Bayer CropScience. Forestry Tasmania Technical Report 13/2009. Forestry Tasmania, Hobart
- Elek, J., Patel, V.S. and Allen, G.R. (2009). Lethal trap tree trials 2008–09: Preliminary trial of Pentrabark® plus imidacloprid as a bark spray for controlling the leaf beetle, *Paropsisterna bimaculata*. Confidential report for AgriChem. Technical Report 14. Division of Forest Research and Development, Forestry Tasmania and CRC for Forestry
- Elek, J.A. and Wardlaw, T. (2010). Review and evaluation of options for managing chrysomelid leaf beetles in Australian eucalypt plantations: reducing the chemical footprint. CRC for Forestry Technical Report 204
- Elek, J., Patel, V.S. and Allen, G.R. (2007). Lethal trap tree trials 2006/2007 : Effects of systemic injections of imidacloprid into *Eucalyptus nitens*, *E. regnans* and *E. delegatensis* on foliage uptake and preferences of *Paropsisterna bimaculata* (Coleoptera: Chrysomelidae). Confidential Report for Forestry Tasmania, CRC for Forestry and Bayer CropScience, 08/2007, 22 pp.
- Elek, J. and Patel, V. (2006). Lethal trap tree trials 2005 –06: evaluating systemic applications of imidacloprid for managing *Chrysophtharta bimaculata*

- (Coleoptera: Chrysomelidae) in Eucalyptus nitens plantations. Confidential Report for Bayer Environmental Science. Technical Report 22/2006
- Elek, J. and Patel, V. (2006). Confidential Report for Forestry Tasmania and Sumitomo Chemical Australia. Lethal trap tree trials 2005 –06: evaluating systemic applications of clothianidin for managing Chrysophtharta bimaculata (Coleoptera: Chrysomelidae) in Eucalyptus nitens plantations. Technical Report 21/2006
- Elek, J. and Patel, V. (2006). Confidential Report for Forestry Tasmania. Lethal trap tree trials 2005–06: evaluating systemic applications of imidacloprid and clothianidin for managing Chrysophtharta bimaculata (Coleoptera: Chrysomelidae) in Eucalyptus nitens plantations. Technical Report 20/2006.
- Elek, J. and Trainer, E. (2008). A review of methods and a proposal for managing and reporting environmental impacts of pesticides in forestry management. Oral presentation for IUFRO Recent Advances in Forest Entomology, South Africa, July 2008
- Elek, J. Patel, V. and Allen, G. (2009). Lethal trap tree trials 2008 –09: Comparison of concentrate and dilute infusions of imidacloprid into trap trees for controlling the leaf beetle, Paropsisterna bimaculata. Division of Forest Research and Development Technical Report 13/2009. Forestry Tasmania, Hobart
- Elek, J., Patel, V. and Allen, G. (2009). Lethal trap tree trials 2008 –09: Preliminary trial of Penra-bark® plus imidacloprid as a bark spray for controlling the leaf beetle, Paropsisterna bimaculata. Division of Forest Research and Development Technical Report 13/2009. Forestry Tasmania, Hobart
- Elek, J., Allen, G. and Wardlaw, T. (2009). Establishment Report: Evaluation of lethal trap trees in eucalypt plantations for managing larval and adult chrysomelid leaf beetles. Division of Forest Research and Development Technical Report 01/2009. Forestry Tasmania, Hobart
- Elek, J., Patel, V. and Allen, G. (In preparation). Lethal trap tree trial 2009-10: Treated trap trees attract and kill the target leaf beetle, Paropsisterna bimaculata. Division of Forest Research and Development Technical Report Draft for review XX/2010.
- Elek, J., Patel, V. and Allen, G. (2008). Lethal trap tree trials 2007-08: Infusion of imidacloprid in Eucalyptus regnans and E. delegatensis foliage and its effect on adult leaf beetles, Paropsisterna bimaculata. Division of Forest Research and Development Technical Report 19/2008, Forestry Tasmania, Hobart
- Glancy, N.E., O'Reilly-Wapstra, J.M. and Potts, B.M. (2007). Selecting Eucalyptus nitens for resistance to marsupial herbivory. Australasian Forest Genetics Conference, 11 - 14 April 2007, Hobart, Tasmania
- Miller, A., O'Reilly-Wapstra, J., Potts, B., McArthur, C. (2009). TCFA research into alternatives to the use of 1080: Manipulating seedling palatability for non-lethal browsing management. CRC for Forestry Technical Report 195
- Mohammed, C., Glen, M., Walshe, T., Wardlaw, T, Stone, C., Beadle, C. and Lawson, S. (2011). An audit of forest biosecurity arrangement and preparedness in Australia. Project report PNC159- 09/10 prepared for Forest and Wood Products Australia. 98 pp.
- Mohammed, C.L., Pinkard, E.A., Battaglia, M. and Culvenor, D. (2008). Precision health management in Australian eucalypt plantations; a case study with

Mycosphaerella Leaf Disease. Proceedings of the 9th International Congress of Plant Pathology (ICPP), 24-30 August 2008, Turin, Italy

- Neyland, M.G. and Edwards, L.G. (2011). Monitoring and control of browsing mammal damage to the eucalypt regeneration at the Warra silvicultural systems trial. Division of Forest Research and Development Technical Report 03/2011. Forestry Tasmania, Hobart
- O'Reilly-Wapstra, J., Miller, A., Fitzgerald, H., Paterson, S., Stamm, L., Walsh, A., Wardlaw, T. and Potts B.M. (2008). Effectiveness of repellents for reducing damage by browsing mammals. CRC for Forestry Technical Report 185
- O'Reilly-Wapstra, J.M., Bailey, J., Humphreys, J.R., McArthur, C. and Potts, B.M. (2007). Selection by mammalian herbivores on key eucalypt defences and implications of plant heteroblasty. Gordons Research Conference on Plant Herbivore Interactions, 18th-23rd February 2007. Ventura, California, USA
- O'Reilly-Wapstra, J.M., Hamilton, M.G. and Potts, B.M. (2008). Genetic based multi-species herbivore interactions in a eucalypt system. ICE 2008 Program, 6-12 July, Durban, pp. 1.
- Penfold, C. and Wotherspoon, K. (2009). Forestry due-diligence report: Forest health review. Confidential client report to Forestry Plantations Queensland. Pyöry Forest Industries
- Pinkard, E. and Kriticos, D.J. (2010). Estimating the spatio-temporal risk of disease epidemics using a bioclimatic niche model. In International Pest Risk Workshop, CRC Plant Biosecurity, Port Douglas, Australia, 23–25 August 2010
- Potter, K.J.B. (2008). A survey of the Australian forestry sector on the issue of weeds and weed management. CSIRO Forest Biosciences Client report 1886
- Quarrell, S., Walker, P.W., Davies, N.W. and Allen, G.R. (2009). Preliminary analysis of the volatile compounds associated with *Paropsisterna bimaculata* and two host-plant species, *Eucalyptus regnans* and *E. nitens*. Confidential report for Forestry Tasmania
- Ramsden, N. and Wotherspoon, K. (2008). 2007-2008 Health surveillance of Rayonier Softwood Joint Venture. Technical Report 09/2008. Forestry Tasmania, Hobart
- Rudman, T. et al. (2007). Containment and eradication of *Phytophthora cinnamomi* in native vegetation in south-western Australia and Tasmania. 4th Meeting of the IUFRO Working Party of *Phytophthoras* in Forests and Natural Ecosystems, Monterey, California.
- Somers, B., Verbesselt, J., Ampe, E., Sims, N., Verstraeten, W.W. and Coppin, P. (2010). Spectral Mixture Analysis to monitor defoliation in mixed aged *Eucalyptus globulus* Labill plantations in southern Australia using Landsat 5-TM and EO-1 Hyperion data.
- Stamm, L., Yee, M., Grove, S. and Mohammed, C. (2006). Talking rot! New Zealand Ecological Society/Ecological Society of Australia joint conference, 28 August - 2 September 2006, Wellington, New Zealand
- Wardlaw, T., Jordan, L., and Wotherspoon, K. (2010). Integrated Pest Management of leaf beetles by Forestry Tasmania: costs, benefits, and future improvements. Division of Forest Research and Development Technical Report 18/2010. 30 pp. Forestry Tasmania, Hobart

- Wardlaw, T., Jordan, L. and Wotherspoon, K. (2011). A synthesis of the key issues in the current management of leaf beetles and proposed enhancements to the leaf beetle IPM. Division of Forest Research and Development Technical Report 12/2011.16 pp. Forestry Tasmania, Hobart
- Wardlaw, T. (2009). ACIAR Project FST/2004/053 Establishing Forest Pest Detection Systems in South Pacific Countries and Australia: Vanuatu Trip Report: 26-30 October 2009. 11 pp.
- Wardlaw, T. (2010). An analysis of the biotic and abiotic factors affecting the species-choice decision (*Eucalyptus globulus* - *E. nitens*) on State forest. Division of Forest Research and Development Technical Report 9/2010. Forestry Tasmania, Hobart
- Wardlaw, T. and Williams, D. (2010). A review of wood property, genetic and health issues of relevance to the *E. nitens* – *E. globulus* species choice decision. Prepared for the General Management Team (Forestry Tasmania). 9 pp.
- Wardlaw, T.; Jordan, L. and Wotherspoon, K. (2010). Integrated Pest Management of leaf beetles by Forestry Tasmania: costs, benefits, and future improvements. Division of Forest Research and Development Technical Report 18/2010. 24 pp.
- Williams, D. (2007). Field testing for *Mycosphaerella* resistance in *Eucalyptus globulus*. CRC Forestry Workshop: Management of *Mycosphaerella* Leaf Disease: A synthesis of recent research– 16th April 2007
- Wotherspoon, K. (2006). 2005-2006 Health and performance of Gunns/FT JV plantations on State Forest. Technical Report 015/2006. Forestry Tasmania, Hobart
- Wotherspoon, K. (2006). 2005-2006 Health and Performance of ITC Plantations on State Forest. Technical Report 017/2006. Forestry Tasmania, Hobart
- Wotherspoon, K. (2006). 2005-2006 Health surveillance of GLP plantations on State Forest. Technical Report No. 011/2006, Forestry Tasmania, Hobart
- Wotherspoon, K. (2006). 2005-2006 Health surveillance of Rayonier Softwood Joint Venture. Technical Report No. 010/2006. Forestry Tasmania, Hobart
- Wotherspoon, K. (2008). 2007-2008 Health surveillance of eucalypt plantations on State Forest. Division of Forest Research and Development Technical Report 14/2008. Forestry Tasmania, Hobart
- Wotherspoon, K. (2008). 2007-2008 Health surveillance of GLP plantations on State Forest. Division of Forest Research and Development Technical Report 11/2008. Forestry Tasmania, Hobart
- Wotherspoon, K. (2008). 2007-2008 Health surveillance of Gunns/FT JV plantations on State Forest. Division of Forest Research and Development Technical Report 12/2008. Forestry Tasmania, Hobart
- Wotherspoon, K. (2008). 2007-2008 Health Surveillance of ITC Plantations on State Forest. Division of Forest Research and Development Technical Report 13/2008, Forestry Tasmania, Hobart.
- Wotherspoon, K. (2009). 2008-2009 Health Surveillance of Gunns/FT JV plantations on State Forest. Division of Forest Research and Development Technical Report 11/2009. Forestry Tasmania, Hobart.

- Wotherspoon, K. (2009). 2008-2009 Health surveillance of ITC plantations on State Forest. Division of Forest Research and Development Technical Report 12/2009. Forestry Tasmania, Hobart
- Wotherspoon, K. (2009). 2008-2009 Surveillance of Timberlands Joint Venture. Division of Forest Research and Development Technical Report 08/2009. Forestry Tasmania, Hobart
- Wotherspoon, K. (2010). 2009-2010 Surveillance of Timberlands Joint Venture. Division of Forest Research and Development Technical Report 1/2010. Forestry Tasmania, Hobart
- Wotherspoon, K. and Jennings, S. (2009). 2008-2009 Health surveillance of eucalypt plantations on State Forest. Division of Forest Research and Development Technical Report 10/2009. Forestry Tasmania, Hobart
- Wotherspoon, K., Jennings, S. and Ramsden, N. (2006). 2005-2006 Health and Performance of eucalypt plantations on State Forest. Technical Report No. 013/2006, Forestry Tasmania, Hobart

## 7. SILVICULTURE TECHNIQUES

### Journal Publications

- Alcorn, P.J., Bauhus J., Smith, G.B., Thomas, D.S., James, R.N., and Nicotra, A. (2008). Growth response following green crown pruning in plantation-grown *Eucalyptus pilularis* and *E. cloeziana*. *Canadian Journal of Forest Research* 38:770-781
- Alcorn, P.J., Bauhus J., Thomas, D.S. James, R.N., Smith, G.B. and Nicotra, A. (2008). Photosynthetic response to green crown pruning in young plantation-grown *Eucalyptus pilularis* and *E. cloeziana*. *Forest Ecology and Management* 255: 3827-3838
- Alcorn, P.J., Pyttel, P., Bauhus J., Smith, G.B., Thomas, D.S. James, R. and Nicotra, A. (2007). Effects of initial planting density on branch development in 4-year-old plantation grown *Eucalyptus pilularis* and *Eucalyptus cloeziana* trees. *Forest Ecology and Management* 252: 41-51
- Almeida, A.C., Siggins, A., Batista, T.R., Beadle, C.L., Sebastião Fonseca, S. and Loos, R. (2010). Mapping the effect of spatial and temporal variation in climate and soils on *Eucalyptus* plantation production with 3-PG, a process-based growth model. *Forest Ecology and Management* 259: 1730–1740
- Baker, T.G. and Volker, P.W. (2007). Silviculture of eucalypt plantations in Southern Australia for high-value solid wood products. *Ciencia E Investigacion Forestal* 13: 43-57
- Battaglia, M. and Mohammed, C.A. (2009). Forest Health: Building resilient systems that can adapt to change. *Australian Forest Grower* 32: 38-39
- Beadle, C., Duff, G. and Richardson, A. (2009). Preface. *Forest Ecology and Management* 258: 339-340.
- Beadle, C., Volker, P., Bird, T., Mohammed, C., Barry, K., Pinkard, L., Wiseman, D., Harwood, C., Washusen, R., Wardlaw, T. and Nolan, G. (2008). Solid-wood

production from temperate eucalypt plantations: a Tasmanian case study. *Southern Forests* 70: 45-57

- Beadle, C.L., Barry, K.M., Hardiyanto, E., Irianto, R., Junarto, A., Mohammed, C.L. and Rimbawanto, A. (2007). Effect of pruning *Acacia mangium* on growth, form and heart rot. *Forest Ecology and Management* 238(1-3): 261-267. ISSN 0378-1127
- Blackman, C.J., Brodribb, T.J. and Jordan, G.J. (2010). Leaf hydraulic vulnerability is related to conduit dimensions and drought resistance across a diverse range of woody angiosperms. *New Phytologist* 188(4): 1113-1123. ISSN 0028-646X
- Bradbury, G.J., Beadle, C.L. and Potts, B.M. (2010). Genetic control of survival, growth and form of Australian blackwood. *New Forests* 39: 139–156
- Bradbury, G.J., Beadle, C.L. and Potts, B.M. (2009). Genetic control in the survival, growth and form of *Acacia melanoxylon*. *New Forests* 39(2): 139-156. ISSN 0169-4286
- Bundock, P.C., Potts, B.M. and Vaillancourt, R.E. (2008). Detection and stability of quantitative trait loci in *Eucalyptus globulus*. *Tree Genetics and Genomes* 4: 85-95.
- Burkitt, L.L., Donaghy, D.J. and Smethurst, P.J. (2010). Low rates of phosphorus fertiliser applied strategically throughout the growing season under rain-fed conditions did not affect dry matter production of perennial ryegrass (*Lolium perenne* L.). *Crop and Pasture Science* 61: 353–362
- Close, D.C., Davidson, N.J., Churchill, K.C. and Corkrey, R. (2010). Establishment of native *Eucalyptus pauciflora* and exotic *Eucalyptus nitens* on former grazing land. *New Forests* 40: 143–152
- Close, D.C., Davidson, N.J., Corkrey, S.R. and Churchill, K.C. (2010). Can climate at the seed-source predict the success of eucalypts planted on sites that have been grazed for over 100 years? *Forest Ecology and Management* 259: 1025–1032
- Close, D.C., Davidson, N.J., Johnson, D.W., Abrams, M.D., Hart, S.C., Lunt, I.D., Archibald, R.D., Horton, B. and Adams, M.A. (2009). Premature decline of *Eucalyptus* and altered ecosystem processes in the absence of fire in some Australian forests. *The Botanical Review* 75(2): 191-203
- Close, D.C., Davidson, N.J., Shields, C. and Wiltshire, J. (2007). Reflectance and phenolics of green and glaucous leaves of *Eucalyptus urnigera*. *Australian Journal of Botany* 55: 561-567
- Close, D.C., Davidson, N.J. and Swanborough, P. (2011). Fire history and understorey vegetation: Water and nutrient relations of *Eucalyptus gomphocephala* and *E. delegatensis* overstorey trees. *Forest Ecology and Management* 262(2): 208-214. ISSN 0378-1127
- Close, D.C., McArthur, C., Hagerman, A.E., Davies, N.W. and Beadle, C.L. (2007). Phenolic acclimation to ultraviolet-A irradiation in *Eucalyptus nitens* seedlings raised across a nutrient environment gradient. *Photosynthetica* 45(1): 36-42. ISSN 0300-3604
- Close, D.C., Paterson, S.C., Corkrey, S.R. and McArthur, C. (2010). Influences of seedling size, container type and mammal browsing on the establishment of *Eucalyptus globulus* in plantation forestry. *New Forests: Journal of Biology,*

Biotechnology, and Management of Afforestation and Reforestation 39(1): 105-115. ISSN 0169-4286

- Close, D.C., Ruthof, K.X., Turner, S., Rokich, D.P. and Dixon, K.W. (2009). Ecophysiology of species with distinct leaf morphologies: effects of plastic and shade cloth tree guards. *Restoration Ecology* 17(1): 33-41. ISSN 1061-2971
- Costa e Silva, J., Borralho, N.M.G., Araújo, J.A., Vaillancourt, R.E. and Potts, B.M. (2009). Genetic parameters for growth, wood density and pulp yield in *Eucalyptus globulus* across a range of sites in Portugal. *Tree Genetics and Genomes* 5: 291–305
- Costa e Silva, J., Hardner, C. and Potts, B.M. (2010). Genetic variation and parental performance under inbreeding for growth in *Eucalyptus globulus*. *Annals of Forest Science* 67: 605p1–605p9
- Costa e Silva, J., Hardner, C., Tilyard, P., Pires, A. and Potts, B.M. (2010). Effects of inbreeding on population mean performance and observational variances in *Eucalyptus globulus*. *Annals of Forest Science* 67: 606p1–606p8
- Costa e Silva, J., Hardner, C. and Potts, B.M.. (2010). Genetic variation and parental performance under inbreeding for growth in *Eucalyptus globulus*. *Annals of Forest Science* 67(6): 606p1-606p8. ISSN 1286-4560
- Costa e Silva, J., Hardner, C., Tilyard, P.A., Pires, A.M. and Potts, B.M. (2010). Effects of inbreeding on population mean performance and observational variances in *Eucalyptus globulus*. *Annals of Forest Science* 67(6): 605p1-605p9. ISSN 1286-4560
- Drake, P.L., Mendham, D.S., White, D.A. and Ogden, G.N. (2009). A comparison of growth, photosynthetic capacity and water stress in *Eucalyptus globulus* coppice regrowth and seedlings during early development. *Tree Physiology* 29: 663-674
- Drake, P.L., Mendham, D.S., White, D.A., Ogden, G.N. and Dell, B. (2011). Water use and water-use efficiency of coppice and seedling *Eucalyptus globulus* Labill.: a comparison of stand-scale water balance components. *Plant and Soil* (in press)
- Drew, D., O'Grady, A.P., Downes, G., Read, J. and Worledge, D. (2008). Daily stem growth patterns in irrigated and non-irrigated *Eucalyptus globulus*. *Tree Physiology* 28 1573-1581
- Drew, D.M., Downes, G.M. and Battaglia, M. (2010). CAMBIUM, a process-based model of daily xylem development in *Eucalyptus*. *Journal of Theoretical Biology* 264: 395–406
- Drew, D.M., Downes, G.M. and Evans, R. (2011). Short-term growth responses and wood density variation in variously irrigated *Eucalyptus globulus*. *Trees: Structure and Function* 25: 153–16
- Drew, D.M., Downes, G.M., Grzeskowiak, V. and Naidoo, T. (2009). Differences in daily stem size variation and growth in two hybrid eucalypt clones. *Trees: Structure and Function* 23 585-595
- Drew, D.M., Downes, G.M., O'Grady, A.P. and Read, J. (2009). Drought and temperature induced wood property variation in irrigated and non-irrigated *Eucalyptus globulus*. *Annals of Forest Science* 66(4): 1-406

- Drew, D.M., Downes, G.M., O'Grady, A.P. and Read, J. (2009). High resolution temporal variation in wood density, microfibril angle and wood anatomical properties in irrigated and non-irrigated *Eucalyptus globulus*. *Annals of Forest Science* 66: 406–415
- Drew, D.M., Schulze, E.D. and Downes, G.M. (2008). Temporal variation in  $\delta^{13}C$ , wood density and microfibril angle in variously irrigated *Eucalyptus nitens*. *Functional Plant Biology* 36 1-10
- Drew, D.M., O'Grady, A.P., Downes, G.M., Read, J. and Worledge, D. (2008). Daily patterns of stem size variation in irrigated and unirrigated *Eucalyptus globulus*. *Tree Physiology* 28(10): 1573-1581. ISSN 0829-318X
- Eyles, A., Pinkard, E., O'Grady, A.P., Worledge, D., Warren, D., Battaglia, M. and Mohammed, C.L. (2009). Role of corticular photosynthesis in recovery following defoliation in *Eucalyptus globulus*? *Plant Cell and Environment* 32: 1004–1014.
- Eyles, A., Pinkard, E.A. and Mohammed, C.L. (2009). Shifts in biomass and resource allocation patterns following defoliation in *Eucalyptus globulus* growing with varying water and nutrient supplies. *Tree Physiology* 29: 753-764
- Eyles, A., Pinkard, E.A. and Mohammed, C.L. (2009). Shifts in biomass and resource allocation patterns following defoliation in *Eucalyptus globulus* growing with varying water and nutrient supplies. *Tree Physiology* 29: 753-764. ISSN 0829-318X
- Forrester, D.I., Medhurst, J.L., Wood, M., Beadle, C.L. and Valencia, J.C. (2010). Growth and physiological responses to silviculture for producing solid-wood products from *Eucalyptus* plantations: An Australian perspective. *Forest Ecology and Management* 259: 1819–1835
- Forrester, D.I., Theiveyanathan, S., Collopy, J.J. and Marcar, N.E. (2010). Enhanced water use efficiency in a mixed *Eucalyptus globulus* and *Acacia mearnsii* plantation. *Forest Ecology and Management* 259: 1761–1770
- Franklin, D.C., Brocklehurst, P.S., Lynch, D. and Bowman, D.M.J.S. (2007). Niche differentiation and regeneration in the seasonally flooded *Melaleuca* forests of northern Australia. *Journal of Tropical Ecology* 23(4): 457-467. ISSN 0266-4674
- Franks, P.J., Drake, P.L. and Beerling, D.J. (2009). Plasticity in maximum stomatal conductance constrained by negative correlation between stomatal size and density: An analysis using *Eucalyptus globulus*. *Plant, Cell and Environment* 32: 1737–1748
- Freeman, J.S., Marques, C.P., Caroch, A.V., Borralho, N.M.G., Potts, B.M. and Vaillancourt, R.E. (2007). Origins and diversity of the Portuguese landrace of *Eucalyptus globulus*. *Annals of Forest Science* 64: 639-647
- Freeman, J.S., Whittock, S.P., Potts, B.M. and Vaillancourt, R.E. (2009). QTL influencing growth and wood properties in *Eucalyptus globulus*. *Tree Genetics and Genomes* 5: 713–722
- Griffin, A.R., Vuong, T.D., Harbard, J.L., Wong, C.Y., Brooker, C. and Vaillancourt, R.E. (2010). Improving controlled pollination methodology for breeding *Acacia mangium* Willd. *New Forests: Journal of Biology, Biotechnology, and*

Management of Afforestation and Reforestation 40(2): 131-142. ISSN 0169-4286

- Grosser, C., Vaillancourt, R.E., and Potts, B.M. (2010). Microsatellite based paternity analysis in a clonal *Eucalyptus nitens* seed orchard. *Silvae Genetica* 59: 57–62
- Hamilton, M., Joyce, K., Williams, D., Dutkowski, G. and Potts, B.M. (2008). Achievements in forest tree improvement in Australian and New Zealand. 9. Genetic improvement of *Eucalyptus nitens* in Australia. *Australian Forestry* 71: 82-93
- Hamilton, M.G., Tilyard, P.A., Williams, D.R., Vaillancourt, R.E., Wardlaw, T.J. and Potts, B.M. (2011). The genetic variation in the timing of heteroblastic transition in *Eucalyptus globulus* is stable across environments. *Australian Journal of Botany* 59: 170–175
- Hamilton, M., Joyce, K., Williams, D., Dutkowski, G. and Potts, B.M. (2008). Achievements in forest tree improvement in Australian and New Zealand 9. Genetic Improvement of *Eucalyptus nitens* in Australia. *Australian Forestry* 71(2): 82-93
- Hamilton, M.G. and Potts, B.M. (2008). *Eucalyptus nitens* genetic parameters. *New Zealand Journal of Forestry Science* 38(1): 101–118
- Hickey, J.E., Neyland, M.G., Grove, S.J. and Edwards, L.E. (2006). From little things big things grow: The Warra Silvicultural Systems Trial in Tasmanian wet *Eucalyptus obliqua* forest. *Allgemeine Forst und Jagdzeitung* 177: Jg., 6/7 113-119
- Horton, B.M.; Close, D.C.; Wardlaw, T.J. and Davidson, N.J. (2010). Crown condition assessment: An accurate, precise and efficient method with broad applicability to *Eucalyptus*. *Austral Ecology* doi:10.1111/j.1442-9993.2010.02206.x
- Humphreys, J.R., O'Reilly-Wapstra, J.M., Harbard, J.L., Davies, N.W., Griffin, A.R., Jordan, G.J. and Potts, B.M. (2008). Discrimination between *Eucalyptus globulus*, *E. nitens* and their F1 hybrid using near-infrared reflectance spectroscopy. *Silvae Genetica* 57: 262-269
- Janos, D.P., Scott, J. and Bowman, D.M.J.S. (2008). Temporal and spatial variation of fine roots in a northern Australian *Eucalyptus tetrodonta* savannah. *Journal of Tropical Ecology* 24(2): 177-188. ISSN 0266-4674
- Jaskierniak, D., Lane, P.N.J., Robinson, A. and Lucieer, A. (2011). Extracting LiDAR indices to characterize multilayered forest structure using mixture distributions. *Remote Sensing of the Environment* 115: 573–585
- Kelly, J., Jose, S., Nichols, J.D. and Bristow, M. (2009). Growth and physiological response of six Australian rainforest tree species to a light gradient. *Forest Ecology and Management* 257: 287-293
- Lane, S.E., Robinson, A.P. and Baker, T.G. (2010). The functional regression tree method for diameter distribution modelling. *Canadian Journal of Forest Research* 40: 1870–1877
- Lane, S.E. and Robinson, A. (2011). An alternative objective function for fitting regression trees to functional response variables. *Computational Statistics and Data Analysis* 55: 2557–2567

- LaSala, A.V. (2007). Long-term response of *Eucalyptus regnans* F. Muell. to commercial thinning in a regrowth eucalypt forest in Tasmania. *Australian Forestry* 70: 167-172
- LaSala, A.V. and Jennings, S. M. (2008). Pre-commercial thinning of fenced *Eucalyptus obliqua* regeneration enhances growth of both *Acacia melanoxylon* and *Eucalyptus obliqua*. *Tasforests* 17: 15-27
- Lazaridis, D.C., Verbesselt J. and Robinson A.P. (2011). Penalized regression techniques for prediction: a case study for predicting tree mortality using remotely sensed vegetation indices. *Canadian Journal of Forest Research* 41(1): 24–34
- Le, S., Nock, C., Henson, M. and Shepherd, M. (2009). Genetic differentiation among and within three red mahoganies (*Series Annulares*), *Eucalyptus pellita*, *E. resinifera* and *E. scias* (Myrtaceae). *Australian Journal of Sys. Botany* 22: 1–12
- Listyanto, T., Glencross, K., Nichols, J.D., Schoer, L. and Harwood, C. (2010). Performance of eight eucalypt species and interspecific hybrid combinations at three sites in northern New South Wales, Australia. *Australian Forestry* 73: 48–52
- Macfarlane, C., Bond, C., White, D.A., Grigg, A.H., Ogden, G.N. and Silberstein, R. (2010). Transpiration and hydraulic traits of old and regrowth eucalypt forest in southwestern Australia. *Forest Ecology and Management* 260: 96–105
- McArthur, C., Bradshaw, O.S., Jordan, G.J., Clissold, F.J. and Pile, A.J. (2010). Wind affects morphology, function, and chemistry of eucalypt tree seedlings. *International Journal of Plant Sciences* 171(1): 73-80. ISSN 1058-5893
- McArthur, C., Loney, P.E., Davies, N.W. and Jordan, G.J. (2010). Early ontogenetic trajectories vary among defence chemicals in seedlings of a fast-growing eucalypt. *Austral Ecology* 35(2) 157-166. ISSN 1442-9985
- McGowen, M.H., Vaillancourt, R.E., Pilbeam, D.J. and Potts, B.M. (2010). Sources of variation in self-incompatibility in the Australian forest tree, *Eucalyptus globulus*. *Annals of Botany* 105: 737–745
- McKinnon G., Smith J. and Potts B.M. (2010). Recurrent nuclear DNA introgression accompanies chloroplast DNA exchange between two eucalypt species. *Molecular Ecology* 19: 1367– 1380
- McKinnon, G.E., Vaillancourt, R.E., Steane, D.A. and Potts, B.M. (2008). An AFLP marker approach to lower-level systematics in *Eucalyptus* (Myrtaceae). *American Journal of Botany* 95: 368-380
- Mendham, D.S., Kumaraswamy, S., Sankaran, K.V., Smitha John, K., Grove, T.S., O'Connell, A.M., Rance, S.J. and Sujatha, M.P. (2009). An assessment of response of soil-based indicators to nitrogen fertilizer across four tropical eucalyptus plantations. *Journal of Forestry Research* 20: 237–242
- Miehle, P., Battaglia, M., Sands, P.J., Forrester, D.I., Feikema, P.M., Livesley, S.J., Morris, J.D. and Arndt, S.K.I. (2009). A comparison of four process-based models and a statistical regression model to predict growth of *Eucalyptus globulus* plantations. *Ecological Modelling* 220: 734–746
- Murphy, G., Acuna, M. and Dumbrell, I. (2010). Tree value and log product yield determination in *Radiata* pine plantations in Australia: Comparisons of

- terrestrial laser scanning with a forest inventory system and manual measurements. *The Canadian Journal of Forest Research* 40: 2223–2233
- Nair, T.S., Wilson, S.J. and Spurr, C. (2009). Light sensitivity and germination of *Eucalyptus globulus* seeds. *Seed Science and Technology* 37(2): 329-336(8). ISSN 0251-0952
- Nevill, P., Reed, A., Bossinger, G., Vaillancourt, R., Larcombe, M. and Ades, P. (2008). Interspecific amplification of Eucalypt microsatellite loci for members of the subgenus *Eucalyptus*. *Molecular Ecology Resources* 8: 1277-1280
- Nevill, P., Reed, A., Bossinger, G., Vaillancourt, R., Larcombe, M. and Ades, P. (2008). Cross species amplification of *Eucalyptus* microsatellite loci. *Molecular Ecology Resources*
- Neyland, M.G., Hickey, J., Beadle, C., Bauhus, J., Davidson, N. and Edwards, L.G. (2009). An examination of stocking and early growth in the Warra silvicultural systems trial confirms the importance of a burnt seedbed for vigorous regeneration in *Eucalyptus obliqua* forest. *Forest Ecology and Management* 258: 481-494
- Nichols, J.D., Smith, G.B., Grant, J. and Glencross, K. (2010). Subtropical eucalypt plantations in eastern Australia. *Australian Forestry* 73: 53–62
- Ochieng, J., Steane, D.A., Ladiges, P.Y., Baverstock, P.R., Henry, R.J. and Shepherd, M. (2007). Microsatellites retain phylogenetic signals across genera in eucalypts (Myrtaceae). *General and Molecular Biology* 30: 1125-1134
- Ochieng, J.W., Shepherd, M., Baverstock, P., Nikles, G., Lee, D.J. and Henry, R.J. (2008). Genetic variation within two sympatric spotted gum eucalypts exceeds between taxa variation. *Silvae Genetica* 57: 249-256
- Ochieng, J.W., Steane, D.A., Baverstock, P., Henry, R.J. and Shepherd, M. (2007). Nuclear ribosomal pseudogenes resolve a corroborated monophyly of the eucalypt genus *Corymbia* despite misleading hypotheses at functional ITS paralogs. *Molecular Phylogenetics and Evolution* 44: 752-764
- O'Grady, A.P., Eyles, A., Worledge, D. and Battaglia, M. (2010). Seasonal patterns of foliage respiration in dominant and suppressed *E. globulus* canopies. *Tree Physiology* 30: 957–968
- O'Grady, A.P., Worledge, D. and Battaglia, M. (2008). Constraints on transpiration in *Eucalyptus globulus* in southern Tasmania. *Agricultural and Forest Meteorology* 148: 453-465
- O'Grady, A.P., Worledge, D., Wilkinson, A., Battaglia, M. (2008). Gradients in photosynthesis and respiration within dominant and suppressed *Eucalyptus globulus* trees. *Functional Plant Biology* 35: 439-447
- O'Grady, A.P., Worledge, D., Wilkinson, A. and Battaglia, M. (2008). Photosynthesis and respiration decline with light intensity in dominant and suppressed *Eucalyptus globulus* canopies. *Functional Plant Biology* 35(6): 439-447. ISSN 1445-4408
- Othman, R.J.A., Jordan, G.J., Worth, J.R.P., Steane, D.A. and Duretto, M.F. (2010). Phylogeny and infrageneric classification of *Correa* Andrews (Rutaceae) based on nuclear and chloroplast DNA. *Plant Systematics and Evolution* 288: 127–138

- Pinkard, E.A., Battaglia, M. and Mohammed, C.L. (2007). Defoliation and nitrogen effects on photosynthesis and growth of *Eucalyptus globulus*. *Tree Physiology* 27(7): 1053-1063. ISSN 0829-318X
- Potts, B.M., McGowen, M.H., Williams, D.R., Suitor, S., Jones, T.H., Gore, P.L. and Vaillancourt, R.E. (2008). Advances in reproductive biology and seed production systems of *Eucalyptus*: The case of *Eucalyptus globulus*. *Southern Hemisphere Forestry Journal* (in press)
- Quentin, A.G., O'Grady, A.P., Beadle, C., Worledge, D. and Pinkard, E. (2011). Responses of transpiration and canopy conductance to partial defoliation of *Eucalyptus globulus* trees. *Agricultural and Forest Meteorology* 151: 356–364
- Rao, H., Patterson, B., Potts, B. and Vaillancourt, R. (2008). A microsatellite study of outcrossing rates and contamination in a *Eucalyptus globulus* breeding arboretum. *Journal of Forestry Research* 19 136-140
- Richards, A.E., Forrester, D.I., Bauhus, J. and Scherer-Lorenzen, M. (2010). The influence of mixed tree plantations on the nutrition of individual species: a review. *Tree Physiology* 30: 1192–1208
- Rothe, A., Hickey, J.E. and Clark, S.B. (2008). Effects of intraspecific competition on *Eucalyptus obliqua* sapling architecture in a clearfell and a dispersed retention coupe. *Tasforests* 17: 45-56
- Rothe, A., Hickey, J.E. and Clark, S.B. (2008). Effects of intraspecific competition on *Eucalyptus obliqua* sapling architecture in a clearfell and a dispersed retention coupe. *Tasforests* 17: 45-56
- Sansaloni, C.P., Petroli, C.D., Carling, J., Hudson, C.J., Steane, D.A., Myburg, A.A., Grattapaglia, D., Vaillancourt, R.E. and Kilian, A. (2010). A high-density Diversity Arrays Technology (DArT) microarray for genomewide genotyping in *Eucalyptus*. *Plant Methods* 6: 16
- Sansaloni, C.P., Petroli, C.D., Carling, J., Hudson, C.J., Steane, D.A., Myburg, A.A., Grattapaglia, D., Vaillancourt, R.E. and Kilian, A. (2010). A high-density Diversity Arrays Technology (DArT) microarray for genome-wide genotyping in *Eucalyptus*. *Plant Methods* 6(16): EJ ISSN 1746-4811
- Scott, R. and Baker, S. (2008). Update on variable retention research. *Forest Practices News* 8:10-11
- Sexton, T. (2010). Genetic association studies in *Eucalyptus pilularis* Smith (Blackbutt). *Australian Forestry Journal* 73(4): 254–258
- Sexton, T., Henry, R., McManus, L., Bowen, S., and Shepherd, M. (2010). Capture of assay template by multiplex PCR of long amplicons for genotyping SNPs and InDels with MALDI-TOF mass spectrometry. *Molecular Breeding* 25: 471–480
- Shepherd, M.S., Kasam, S., Ablett, G., Ochieng, J.W. and Crawford, A. (2008). Genetic structuring of the spotted gum complex (Genus *Corymbia* Section *Politaria*). *Australian Systematic Botany* 21:15-25
- Shepherd, M., Henson, M. and Lee, D.J. (2011). Revisiting genetic structuring in spotted gums (Genus *Corymbia* Section *Politaria*) focusing on *C. maculata*, an early diverged, insular lineage. *Tree Genetics and Genomes* (in press)

- Shepherd, M., Sexton, T.R., Thomas, D., Henson, M. and Henry, R.J. (2010). Geographical and historical determinants of microsatellite variation in *Eucalyptus pilularis*. *Canadian Journal of Forest Research* 40: 1051–1063.
- Southerton, S.G., Macmillan, C.P., Bell, J.C., Bhuiyan, N., Downes, G., Ravenwood, I.C., Joyce, K.R., Williams, D. and Thumma, B.R. (2011). Association of allelic variation in xylem genes with wood properties in *Eucalyptus globulus*. *Australian Forestry* 73(4): 259–264
- Stackpole, D.J., Vaillancourt, R.E., Alves, A., Rodruigez, J. and Potts, B.M. (2011). Genetic variation in the chemical components of *Eucalyptus globulus* wood. *Genes, Genomes, Genetics* 1(2): 151–159
- Stackpole, D.J., Joyce, K., Potts, B.M. and Harwood, C.E. (2010). Correlated response of pulpwood profit traits following differential fertilisation of a *Eucalyptus nitens* clonal trial. *New Zealand Journal of Forestry Science* 40: 163–173
- Stackpole, D.J., Vaillancourt, R.E., de Aguiar, M. and Potts, B.M. (2010). Age trends in genetic parameters for growth and wood density in *Eucalyptus globulus*. *Tree Genetics and Genomes* 6: 179–193
- Stackpole, D.J., Vaillancourt, R.E., Downes, G.M., Harwood, C.E. and Potts, B.M. (2010). Genetic control of kraft pulp yield in *Eucalyptus globulus*. *Canadian Journal of Forest Research* 40: 917– 927
- Stackpole, D.J., Joyce, K., Potts, B.M. and Harwood, C.E. (2010). Correlated response of pulpwood profit traits following differential fertilisation of a *Eucalyptus nitens* clonal trial. *New Zealand Journal of Forestry Science* 40: 173-183. ISSN 0048-0134
- Stackpole, D.J., Vaillancourt, R.E., Alves, A., Rodrigues, J. and Potts, B.M. (2011). Genetic variation in the chemical components of *Eucalyptus globulus* wood. *G3: Genes, Genomes, Genetics* 1: 151-159. ISSN 2160-1836
- Stackpole, D.J., Vaillancourt, R.E., de Aguiar, M. and Potts, B.M. (2010). Age trends in genetic parameters for growth and wood density in *Eucalyptus globulus*. *Tree Genetics and Genomes* 6(2): 179-193. ISSN 1614-2942
- Steane, D.A., Myburg, A.A., Sansaloni, C., Petrolì, C.D., Grattapaglia, D., Kilian, A. and Vaillancourt, R.E. (2011). DArT arrays for genetic mapping and diversity analysis of *Eucalyptus*. *Molecular Phylogenetics and Evolution* 59: 206–224
- Steane, D.A., Nicolle, D., Sansaloni, C.P., Petrolì, C.D., Carling, J., Kilian, A., Myburg, A.A., Grattapaglia, D. and Vaillancourt, R.E. (2011). Population genetic analysis and phylogeny reconstruction in *Eucalyptus* (Myrtaceae) using high-throughput, genome-wide genotyping. *Molecular Phylogenetics and Evolution* 59: 206–224
- Steane, D.A., Nicolle, D.B. and Potts, B.M. (2007). Phylogenetic positioning of anomalous eucalypts using ITS sequence data. *Australian Systematic Botany* 20(5): 402-408
- Suitor, S., Brown, P.H., Gracie, A.J., Potts, B.M., Rix, K.D. and Gore, P.L. (2010). The impact of resource competition on capsule set in *Eucalyptus globulus* seed orchards and its manipulation through irrigation management. *New Forests* 39: 117–127

- Suitor, S., Potts, B.M., Brown, P.H., Gracie, A.J. and Gore, P.L. (2008). Post pollination capsule development in *Eucalyptus globulus* seed orchards. *Australian Journal of Botany* 56: 51–58
- Suitor, S., Potts, B.M., Brown, P.H., Gracie, A.J. and Gore, P.L. (2009). The relationship of *Eucalyptus globulus* female reproductive success to endogenous properties of the flower. *Sexual Plant Reproduction* 22: 37–44
- Suitor, S., Potts, B.M., McGowen, M.H., Pilbeam, D.J., Brown, P.H., Gracie, A.J. and Gore, P.L. (2009). The relative contribution of the male and female to the variation in reproductive success in *Eucalyptus globulus*. *Silvae Genetica* 58: 129–138
- Suitor, S., Potts, B.M., Brown, P.H., Gracie, A.J. and Gore, P.L. (2008). Post-pollination capsule development in *Eucalyptus globulus* seed orchards. *Australian Journal of Botany* 56(1): 51-58. ISSN 0067-1924
- Suitor, S., Potts, B.M., Brown, P.H., Gracie, A.J. and Gore, P.L. (2009). The relationship of the female reproductive success of *Eucalyptus globulus* to the endogenous properties of the flower. *Sexual Plant Reproduction* 22: 37-44. ISSN 0934-0882
- Suitor, S., Potts, B.M., Brown, P.H., Gracie, A.J., Rix, K.D. and Gore, P.L. (2010). The impact of flower density and irrigation on capsule and seed set in *Eucalyptus globulus* seed orchards. *New Forests* 39(1): 117-127. ISSN 0169-4286
- Tabor, J., McElhinny, C., Hickey, J. and Wood, J. (2007). Colonisation of clearfelled coupes by rainforest tree species from mature mixed forest edges, Tasmania, Australia. *Forest Ecology and Management* 240: 13–23
- Thavamanikumar, S., McManus, L.J., Tibbits, J. and Bossinger, G. (2011). The significance of Single Nucleotide Polymorphisms (SNPs) in *Eucalyptus globulus* breeding programs. *Australian Forestry* 74(1): 23–29
- Thiffault, N., Titus, B.D. and Moroni, M.T. (2010). Silviculture and planted species interact to influence reforestation success on a *Kalmia*-dominated site – a 15-y study. *Forestry Chronicle* 86: 234-242
- Thoss, V., O'Reilly-Wapstra, J.M. and Glason, G.R. (2007). Assessment and implications of intra-specific and phenological variability in monoterpenes of Scots pine (*Pinus sylvestris*) foliage. *Journal of Chemical Ecology* 33: 477-491
- Thumma, B., Matheson, B.A., Zhang, D., Meeske, C., Meder, R., Downes, G.M. and Southerton S.G. (2009). Identification of a Cis-acting regulatory polymorphism in eucalypt cobra-like gene affecting cellulose content. *Genetics* 183: 1153–1164
- Valencia, J., Harwood, C., Washusen, R., Morrow, A., Wood, M. and Volker, P. (2011). Longitudinal growth strain as a log and wood quality predictor for plantation-grown *Eucalyptus nitens* sawlogs. *Wood Science and Technology* 45: 15–34
- Valencia, J., Harwood, C., Washusen, R., Morrow, A., Wood, M. and Volker P. (2010). IN PRESS. Longitudinal growth strain as a log and wood quality predictor for plantation-grown *Eucalyptus nitens* sawlogs. *Wood Science and Technology*

- Verbesselt J., Robinson A., Stone C. and Culvenor D. (2009). Forecasting tree mortality using change metrics derived from MODIS satellite data. *Forest Ecology and Management* 258: 1166–1173
- Volker, P.W., Potts, B.M. and Borralho, N.M.G. (2008). Genetic parameters of intra- and inter-specific hybrids of *Eucalyptus globulus* and *E. nitens*. *Tree Genetics and Genomes* 4: 445-460
- Volker, P.W. (2008). Management of hardwood sawlog species. Pp 69-80 in *Plantation Eucalypts for High-Value Timber: Enhancing investment through research and development*. A.G. Brown and C.L. Beadle (Eds). RIRDC Publication No 08/113 Rural Industries Research and Development Corporation, Canberra
- Volker, P.W., Potts, B.M. and Borralho, N.M.G. (2008). Genetic parameters of intra- and inter-specific hybrids of *Eucalyptus globulus* and *E. nitens*. *Tree Genetics and Genomes* 4(3): 445-460
- Wang, Y., LeMay, V.M. and Baker, T.G. (2011). Modelling growth responses of individual trees to early-age thinning *Eucalyptus globulus*, *E. nitens* and *E. grandis* plantations in Victoria. *Australian Forestry* 74(1): 62–72
- Wang, Y., LeMay, V.M. and Baker, T.G. (2008). Modelling growth responses of individual trees to early-age thinning in *Eucalyptus globulus*, *E. nitens* and *E. grandis* plantations in northern Victoria, Australia. CRC for Forestry Technical Report 186
- Wang, Y., LeMay, V. and Baker, T.G. (2007). Modelling and prediction of dominant height and site index of *Eucalyptus globulus* plantations using a nonlinear mixed-effect model approach. *Canadian Journal of Forest Research* 37: 1390 - 1403
- White, D., Battaglia, M., Mendham, D., Crombie, D., Kinal, J. and McGrath, J. (2010). Observed and modelled leaf area index in *Eucalyptus globulus* plantations: tests of optimality and equilibrium hypotheses. *Tree Physiology* 30: 831–844
- White, D., Crombie, D., Kinal, J., Battaglia, M., McGrath, J., Mendham, D. and Walker, S. (2009). Managing productivity and drought risk in *Eucalyptus globulus* plantations in south-western Australia. *Forest Ecology and Management* 259: 33–44
- Wijanarto, A.B. and Osborn, J.E. (2007). Mapping canopy height of radiata pine plantation in Tasmania, Australia, using Softcopy Photogrammetry. *International Journal of Geoinformatics* 3(2): 61-71. ISSN 1686-6576
- Wilkinson, G.R. (2008). Population differentiation within *Eucalyptus obliqua*: implications for regeneration success and genetic conservation in production forests. *Australian Forestry* 71, 4-15
- Williams, D.R., Potts, B.M., Neilsen, W.A. and Joyce, K.R. (2006). The effect of tree spacing on the production of flowers in *Eucalyptus nitens*. *Australian Forestry* 69: 299-304
- Wiseman, D., Pinkard, E.A., Wardlaw, T.J., Mohammed, C.L., Hall, M. and Beadle, C.L. (2009). Growth responses of *Eucalyptus globulus* and *E. nitens* to pruning and fertiliser treatments in a plantation managed for solid-wood products. *Southern Forests* 71(1): 21-29

- Wood, M.J., McLarin, M.W., Volker, P.W. and Syme, M. (2009). Management of eucalypt plantations for profitable sawlog production in Tasmania, Australia. *Tasforests* 18: 117–130
- Wood, M.J., McLarin, M.W., Syme, M. and Volker, P.W. (2009). Eucalyptus plantations for sawlog production in Tasmania, Australia – strategic and operational challenges. *Tasforests*. 18, 117-130
- Wood, M.J., Scott, R., Volker, P.W. and Mannes, D. (2008). Windthrow in Tasmania, Australia: monitoring, prediction and management. *Forestry: An International Journal of Forest Research*
- Wright, T.E., Kasel, S., Tausz, M. and Bennett, L.T. (2010). Edge microclimate of temperate woodlands as affected by adjoining land use. *Agricultural and Forest Meteorology* 150: 1138–1146
- Yong, S.Y.C., Choong, C.Y., Cheong, P.L., Pang, S.L., Amalina, R.N., Harikrishna, J.A., Mat-Isa, M.N., Hedley, P., Milne, L., Vaillancourt, R.E. and Wickneswari, R. (2011). Analysis of ESTs generated from inner bark tissue of an *Acacia auriculiformis* x *Acacia mangium* hybrid. *Tree Genetics and Genomes*. 7: 143-152. ISSN 1614-2942

### **Books and Book Chapters**

- Borrhalho, N.M.G., Almeida, M.H. and Potts, B.M. (2007). O melhoramento do eucalipto. *Eucalipto em Portugal: Impactes Ambientais e Investigação Científica*. ISAPress, Alves AM, Pereira JS, Silva JMN (ed), Lisboa, pp. 61-110. ISBN 978-972-8669-25-6
- Bossinger, G., Tibbits, J.F.G., McManus, L.J. and Spokevicius, A.V. (2007). Molecular tree domestication and the xylogenesis candidate gene cascade. pp. 69-84, In: *The Compromised Wood Workshop 2007* (Entwistle, K., Harris, P. and Walker, J. eds), The Wood Technology Research Centre, University of Canterbury, New Zealand
- Bradbury, G.J. (2010). Environmental and genetic variation in blackwood (*Acacia melanoxylon* R.Br) survival, growth, form & wood properties. PhD Thesis. University of Tasmania.
- Costa e Silva, J., Hardner, C., Tilyard, P. and Potts, B.M. (2011). The effects of age and environment on the expression of inbreeding depression in an Australian forest tree. *Heredity* doi:10.1038/hdy.2010.154
- Costa e Silva, J., Borrhalho, N.M.G., Araujo, J.A., Vaillancourt, R.E. and Potts, B.M. (2009). Genetic parameters for growth, wood density and pulp yield in *Eucalyptus globulus*. *Tree Genetics and Genomes*. 5(2): 291-305. ISSN 1614-2942
- Costa e Silva, J., Hardner, C., Tilyard, P. and Potts, B.M. (2011). The effects of age and environment on the expression of inbreeding depression in *Eucalyptus globulus*. *Heredity* 107: 50-60. ISSN 0018-067X
- Davidson, N., Volker, P., Leech, M., Lyons, A. and Beadle, C. (eds) (2007). *Farm Forestry. A technical and business handbook*. UTAS 260pp. (6 chapters by P. Volker, 1 by T. Wardlaw, 1 by J. Elek)

- Forrester, D.I. and Baker, T.G. (2008). Value-adding silvicultural regimes for high quality timber production from intensively managed *Eucalyptus globulus* and *Pinus radiata* plantations at Rennick and Bradvale. School of Forest and Ecosystem Science, The University of Melbourne
- Hamilton, M., Joyce, K., Williams, D., Dutkowski, G. and Potts, B. (2008). Genetic improvement of *Eucalyptus nitens* in Australia. In press
- Hamilton, M.G. (2007). The genetic improvement of *Eucalyptus globulus* and *E. nitens* for solidwood production. PhD thesis
- Jones, R.C. (2009). Molecular evolution and genetic control of flowering in *Eucalyptus globulus* species complex. PhD, University of Tasmania
- Jones, R.C. (2009). Molecular evolution and genetic control of flowering in the *Eucalyptus globulus* species complex. PhD thesis
- McGowen, M.H. (2007). Genetic control of reproductive traits in *Eucalyptus globulus*. PhD thesis
- Myburg, Z., Potts, B.M., Marques, C.M.P., Kirst, M., Gion, J-M., Grattapaglia, D. and Grima-Pettenati, J. (2007). Genome mapping and molecular breeding in *Eucalyptus*: Molecular domestication of a major fiber crop. In: Kole CR (ed). *Genome Mapping & Molecular Breeding in Plants. Vol. 7: Forest Trees.* pp.115-160. Springer, Heidelberg
- Neyland, M.G. (2010). Regeneration and growth of *Eucalyptus obliqua* and major rainforest species after a range of silvicultural treatments. PhD thesis University of Tasmania
- Neyland, M.G. (2010). 'The response of the vegetation to a range of alternatives to clearfelling of tall wet eucalypt forests at the Warra silvicultural systems trial, Tasmania, Australia' [PhD]
- Quentin, A. (2010). Growth and physiological responses of *Eucalyptus globulus* Labillardière following defoliation. [PhD]
- Reed, A. (2008). Genetic variation in *Eucalyptus delegatensis* R.T.Baker along a natural temperature gradients. PhD thesis University of Melbourne
- Stackpole, D.J. (2010). Genetic parameters of the physical and chemical wood properties of cool temperate eucalypts. PhD thesis
- Thavamanikumar, S. (2009). Using genetic association studies for the improvement of wood and fibre properties in *Eucalyptus globulus* ssp. *globulus* Labill. PhD thesis University of Melbourne
- Ugalde, S.C. (2008). Foliar properties of stressed eucalypts. Honours thesis, University of Tasmania
- Wilkinson, G.R. (2007). Forest management planning: basis for operations and control. In Magrath William B, Grandalski, Richard L, Stuckey Gerald L, Vikanes Garry B, and Wilkinson, Graham R (Eds). *Timber theft prevention: introduction to security for forest managers*, pp. 13-28, East Asia and Pacific Region Sustainable Development Discussion Paper. East Asia and Pacific Region Sustainable Development Department, World Bank, Washington, DC
- Wilkinson, G.R. (2007). 'The forest practices system', In: Davidson, N, Volker, P, Leech, M, Lyons, A. and Beadle, C. (Eds) *Farm Forestry – a technical and business handbook*, pp. 22-26. University of Tasmania, Hobart

- Wiseman, D. (2010). The physiological and pathological implications of pruning eucalypts. PhD thesis
- Wood, M.J., Volker, P.W. and Syme, M. (2007). Eucalypt plantations for sawlog production in Tasmania: optimising thinning regimes. Australian and New Zealand Institute of Foresters Conference, "Growing Forest Values", 3rd-7th June 2007, Coffs Harbour, New South Wales
- Wood, S.W., Hua, Q., Allen, K.J. and Bowman, D.M.J.S. (2010). Age and growth of a fire prone Tasmanian temperate old-growth forest stand dominated by *Eucalyptus regnans*, the world's tallest angiosperm. *Forest Ecology and Management* 260(4): 438-447. ISSN 0378-1127
- Wright, T.E. (2010). Comparative effects of agricultural land and plantations on woodland edge processes. PhD thesis, the University of Melbourne

## Technical Reports

- Abasolo M., Lee D.J. and Shepherd M. (2010). Genetic control of flowering season in *Corymbia citriodora* subsp. *variegata*. Interim report to partners from CRC Forestry PhD student
- Adams, P.R. (2011). Measurement and assessment protocols for progeny trials and silviculture demonstration sites in June 2011. Genetic Improvement Program. Yong'an Forestry Group. FTS Technical Communication 05/2011
- Adams, P.R. (2008). Guidelines for field trials in nurseries and plantations. Yong'an Forestry Company Forestry Tasmania. DFRD Technical Report 18/2008. Confidential for the Yong'an Forestry Group. Nov-08
- Adams, P.R. (2010). Yong'an Forestry Group Genetic Improvement Program. First Annual Report January – December 2009. FTS Technical Report 01/2009. FTS Report 01/2009. FTS Project CR0002. January 2010. Division of Forest Research and Development, Forestry Tasmania
- Adams, P.R., McKenzie, D.J. and Lindley, R. (2010). Basacote starter fertiliser - *P. radiata* growth results (age 14 months). Division of Forest Research and Development Technical Report 04/2010, Forestry Tasmania, Hobart
- Adams, P.R. and Wotherspoon, K. (2006). Crown symptoms and foliar analysis can guide nutrition management of *E. globulus* and *E. nitens* plantations in Tasmania. Sustainable forestry – Everybody benefits. Conference papers of the Australian Forest Growers International Biennial Conference, Launceston, 22 – 25 October 2006. pp 227 – 233
- Adams, P.R., Osborn, T. and Volker, P. (2007). EucFERT - a fertiliser decision tool for plantation eucalypts in Tasmania. In: Proceedings of the 2007 Australian and New Zealand Institutes of Foresters Conference - Growing Forest Values. Coffs Harbour, 3rd - 7th June 2007. pp 17 – 26
- Adams, P.R and Cannon, L. (2009). Primary fertilising with Basacote. Results to age 18 months (April 09). Research Note. Forestry Tasmania. May 2009
- Adams, P.R. (2010). *P. radiata* magnesium nutrition research. Results from 2009 tree measurement at three sites: SF117C, CA128C, CA128H. Confidential to Timberlands Pacific. FTS Technical Report 07/2010

- Adams, P.R. and McKenzie, D. (2010). Aerial fertiliser check plots: Branches Creek and Long Hill plantations. Establishment Report. DFRD Technical Report 7/2010
- Adams, P.R. and McKenzie, D.J. (2009). Design and management of field trials in plantations. DFRD Technical Report 06/2009
- Adams, P.R. and Wood, M.J. (2009). Improving eucalypt plantation silviculture in Yong'an: guidelines for the Yong'an Forestry Group. DFRD Technical Report 07/2009. Confidential for the Yong'an Forestry Group.
- Adams, P.R. and Wood, M.J. (2008). Research Working Group 5 – Plantation Management meeting. Minutes and recommendations to RPCC. Tuesday 9th October 2007, Hemisphere Conference Centre and Hotel, Moorabbin, Victoria, 3189, Australia
- Adams, P.R., Smethurst, P.J. and Mendham, D.M. (2007). Modelling multiple rotations in Tasmania: an appraisal of CABALA. CRC Forestry workshop: Sustaining plantation production. Perth, December 5th 2007
- Adams, P.R., Smethurst, P.J. and Mendham, D.M. (2007). An appraisal of CABALA for modelling eucalypt plantation productivity over multiple rotations in Tasmania. International Symposium on Forest Soils and Ecosystem Health: Linking Local Management to Global Challenges. 19-23 August 2007, Noosa, Australia
- Adams, P.R., Wood, M.J., McKenzie, D.J. and Evans, M. (2009). EucPOD v1.0 - a simple operations database for managing plantation eucalypts in Yong'an: User Manual. DFRD Technical Report 09/2009. Confidential for the Yong'an Forestry Group
- Adams, P.R. (2010). Management of progeny and silviculture demonstration trials. Technical Communication TC 02/2010
- Baker, S. (2010). The evolution of variable retention: western Canada, the USA and Tasmania. BC Forest Professional 17, 12–13
- Baker, T., Wiedemann, J., Dumbrell, I., McGuire, D., Acuna, M. and Knott, J. (2009). Effect of stocking on growth, yield, tree diameter class distribution, harvesting cost and financial return in Eucalyptus globulus pulpwood plantations in Western Australia. CRC Forestry Technical Report 197
- Baker, T.G. and Volker, P.W. (2006). Silviculture of eucalypt plantations in south-eastern Australia for high-value solid wood products. In Proceedings of 2nd Latin American IUFRO Congress. La Serena, Chile, 23-27 October, 2006. (INFOR). 13pp.
- Barry, K., Smith, D., Smith, I., Ratkowsky, D. and Mohammed, C. (2009). Assessing defoliation and discolouration for Eucalyptus globulus plantations: variance of tree, plot and age-class components in a pilot study at Wattle Range, South Australia. CRC Technical Report 196
- Beadle, C., Forrester, D., Wood, M.J., Valencia, J.C. and Medhurst, J. (2008). Effects of silviculture and environment on solid-wood production from planted eucalypts: a physiological perspective. Paper, International Conference on Processes Controlling Productivity in Tropical Plantations, November 10th-14th, 2008, Porto Seguro, Bahia, Brazil
- Beadle, C.L., Rimbawanto, A., Francis, A.A., Glen, M., Page, D.E. and Mohammed, C.L. (2009). Disease-management strategies for the rural sector that help

- deliver sustainable wood production from exotic plantations. Proceedings of the 17th Australasian Plant Pathology Conference, Plant Health Management. 29 September-1 October 2009, Newcastle, NSW
- Carney, C., Worsley, P., Stone, C. (2009). Investigation of object-based image analysis software packages for the delineation of individual tree crowns. NSW Science & Research Internal Report
- Department of Primary Industries, Parks, Water and Environment (2010). Draft Recovery plan for the Tasmanian devil (*Sarcophilus harrisi*). Department of Primary Industries, Parks, Water and Environment, Hobart
- Forestry Tasmania (2007). Eucalypt seed and sowing, Native Forest Silviculture Technical Bulletin No 1, Forestry Tasmania
- Forestry Tasmania (2009). A New Silviculture for Tasmania's Public Forests: a review of the retention program. Forestry Tasmania, Hobart
- Forestry Tasmania (2010). Silvicultural systems for native eucalypt forests. Native Forest Silviculture Technical Bulletin No. 5, Forestry Tasmania, Hobart
- Forrester, D.I. and Baker, T.G. (2007). Growth response to thinning in a productive Eucalyptus globulus plantation in Victoria, Australia. Pp. 30-37 in Jiang Xiaomei, Ye Kelin, Lu Jianxiong, Yin Yafang and Zhao Youke (eds), Plantation Eucalyptus: Challenge in Product Development, Proceedings of the International Conference on Plantation Eucalyptus, 28 November - 1 December 2005, Zhanjiang, Guangdong, China. Science Press. Beijing
- Forrester, D.I. (2009). Improving the sustainability, productivity and value of Victorian Eucalyptus plantations. February 2009. Victoria Fellowship Report
- Hamilton, M.G. and Potts, B.M. (2007). Review of Eucalyptus nitens genetic parameters. Breeding for Wood Quality, 11 - 14 April 2007, The Old Woolstore, Hobart, Tasmania, Australia, pp. 1-25
- Harding, K., Zbonak, A., Lee, D., Brown, T., Innes, T., Davies, M., Copley, T. (2011). Producing elite trees for high value sawlogs from the tropics. Australian Forest Grower Summer 2011: 30–31
- Harper, R.J., Robinson, N., Sochacki, S.J., Smettem, K.R.J. and Pitman, L. (2008). Phase Farming With Trees: Field validation of the tree phase. RIRDC Publication No 08/002. RIRDC Project No CAL-6A. Rural Industries Research and Development Corporation, Barton ACT
- Horton, B.M. (2008). Report of inaugural winner of the Jill Landsberg Scholarship. (2008). ESA Bulletin 38, 15–16
- Jones, R.C., Hecht, V.F.G., Gore, P.L., Potts, B.M., Steane, D.A., Vaillancourt, R.E. and Weller, J.L. (2008). Expression of FLOWERING LOCUS T and LEAFY homologues are temporally associated with annual flower bud initiation in Eucalyptus globulus, IUFRO-CTIA Joint Conference: Adaptation Breeding and Conservation in the Era of Forest Tree Genomics and Environmental Change, 25-28 August 2008, Quebec, Canada, pp. 82
- Jones, R.C., McKinnon, G.E., Vaillancourt, R.E. and Potts, B.M. (2011). The role of hybridisation in the evolution of eucalypts in south-eastern Australia, XVIII International Botanical Congress, 17-22 July 2011, Melbourne, Australia, pp. 318

- Jones, R.C., Vaillancourt, R.E., Gore, P.L. and Potts, B.M. (2011). Genetic control of flowering time in *Eucalyptus globulus* ssp. *Globulus*. *Tree Genetics & Genomes* pp. Online. ISSN 1614-2942
- Kerr, R.J., Thumma, B., Southerton, S., Tier, B., Dutkowski, G.W., McRae, T.A. and Harwood, C. (2011). Operational testing of molecular breeding to improve pulpwood value in *Eucalyptus nitens*. CRC for Forestry Technical Report #210
- Lindley, R. 2009. *Eucalyptus nitens* Fertilising monitoring trial. Forestry Tasmania. DFRD Technical Report 04/2009
- May, B., Smethurst, P., Carlyle, C., Mendham, D., Bruce, J. and Baillie, C. (2009). Review of fertiliser use in Australian forestry. Forest and Wood Products Australia Report PRC072-0708
- McKenzie, D.J. (2009). DFRD Plantations Trial Status. Forestry Tasmania. Division of Forest Research and Development Technical Report 05/2009. Forestry Tasmania, Hobart
- McKinnon, G.E. and Potts, B.M. (2007). Fine-scale structure of gene introgression in a mixed eucalypt population. *Australian Systematic Botany* 24-28 September, Darwin, pp. 32
- McKinnon, G.E. and Potts, B.M. (2008). Genetic diversity in *Eucalyptus globulus* is affected by hybridisation with the rare species, *Eucalyptus cordata*. Proceedings of 'Old Forest, New Management', 17-21 February, Hobart, Australia, pp. 66
- Moroni, M.T. and Harriss, D.D. (2010). Newfoundland balsam fir and black spruce forests described by the Newfoundland Forest Service Permanent Sample Plot and Temporary Sample Plot data sets. Canadian Forest Service Information Report M-X-224
- Musk, R. (in press) Calibrating a growth and yield model for *Eucalyptus nitens* and *E. globulus* plantations in southern Australia. CRC for Forestry Technical Report 213
- O'Grady, A.P. and Paterson, S. (2009). Data report, Paired Plots Tasmania. CRC report to Forestry Tasmania
- O'Grady, A.P. and Paterson, S. (2009). Data report, Paired Plots Tasmania. CRC report to Great Southern Plantations Mar 09
- Potts, B.M. and Brooker, C. (2010). Seed germination on filtrates from soil sampled beneath trees of *Eucalyptus globulus*, *E. nitens* and their F1 hybrid. CRC for Forestry Technical Report No. 203. CRC for Forestry: Hobart, Tasmania
- Potts, B.M., Barbour, R.C., O'Reilly-Wapstra, J.M., Baker, S., Schweitzer, J., Bailey, J., Whitham, T., Humphreys, J.R., Freeman, J.S. and Vaillancourt, R.E. (2007). The extended phenotype of *Eucalyptus globulus*. Proceedings Australasian Forest Genetics Conference, Breeding for Wood Quality, 11-14 April, Hobart, Tasmania, Australia, pp. 33
- Potts, B.M., O'Reilly-Wapstra, J.M., Barbour, R.C., Humphreys, J.R., Wallis, I., Lawrence, R., Minchin, P. and Whitham, T. (2007). A genetic framework for studying plant-herbivore interactions and community genetics: the case of *Eucalyptus globulus*. Gordon Research Conference on Plant Herbivore Interactions, 19th-23rd February, Ventura, California, USA

- Quentin, A., Pinkard, E.A., O'Grady, A.P., Beadle, C.L. and Mohammed, C.L. (2007). Physiological capacity of *Eucalyptus globulus* to recover following moderate defoliation. Proceedings of the IUFRO Conference , 9-14 September 2007, Vienna, Austria
- Saint-Andre, L., Laclau, J.P., Deleporte, P., Gava, J.L., Goncalves, J.L.M., Mendham, D., Nzila, J.D., Smith, C., duToit, B., Xu, D.P., Sankaran, K.V., Marien, J.N., Nouvellon, Y., Bouillet, J.P. and Ranger, J. (2008). Slash and litter management effects on *Eucalyptus* productivity: a synthesis using a growth and yield modelling approach. In 'Site management and productivity in tropical plantation forests: Proceedings of workshops in Piracicaba (Brazil), 22-26 November 2004 and Bogor (Indonesia), 6-9 November 2006' (Ed. EKS Nambiar) pp 173-189 (Centre for International Forestry Research: Bogor, Indonesia)
- Scott, R.E. (2007). Calculating retention and influence levels for variable retention coupes in tall wet eucalypt forests, Division of Forest Research and Development Technical Report 09/2007. Forestry Tasmania, Hobart
- Scott, R.E., Neyland, M.G. and Baker, S.C. (2011). Variable Retention Manual. Division of Forest Research and Development Technical Report 5/2011, Forestry Tasmania, Hobart
- Southerton, S., Williams, D., Joyce, K., Ravenwood, I., Meder, R. Blackburn, D., MacMillan C., Zhang D., Bell, J., Bhuiyan, N., Potter, S., and Thumma, B. (2009). Association of allelic variation in xylem genes with wood properties in *Eucalyptus nitens* (Deane & Maiden). Paper presented at the 2nd Australasian Forest Genetics Conference, Freemantle, Western Australia, 20th – 22nd April 2009
- Suitor, S., Brown, P.H., Gracie, A.J., Gore, P.L. and Potts, B.M. (2007). Post pollination capsule development in *Eucalyptus globulus* seed orchard. Proceedings of the Australasian Forest Genetics Conference - Breeding for Wood Quality, 11-14 April 2007, Hobart, Tasmania
- Syme, M. (2009). Report on the 2009 Secondary aerial fertilising of eucalypt plantations. Forestry Tasmania
- Syme, M., Wood, M.J. and McKenzie, D. (2009). Focus on improving plantation productivity. Division of Forest Research and Development Extension Report 01/2009. Forestry Tasmania, Hobart
- Syme, M.J. (2011). District plantation quality standards report and audit results 2010. Forestry Tasmania pp11
- Syme, M.J. (2011). Secondary aerial fertilising of eucalypt plantations - report on the 2010 aerial program. Forestry Tasmania pp 9
- Unwin, G.L., Lord, J. and Lyons, A. (2008). 'Integrated farm forestry: stand structure and diversity in five silvicultural regimes including old-growth *Eucalyptus obliqua* forest, northern Tasmania', Old Forests, New Management Conference Program and Abstract Book. Hobart, Tasmania, pp. 110-110
- Unwin, G.L. (2010). Australian Forest Growers Policy Statements 2010. Australian Forest Growers pp. 1-60. ISSN 0156-448X
- Unwin, G.L. (2010). Australian Forest Growers State Policy Priorities – Tasmania. Australian Forest Grower pp. 1-8. ISSN 0156-448X

- Valencia, J.C., Harwood, C., Washusen, R., Morrow, A., Wood, M. and Volker, P. (2008). Longitudinal growth strain as a log and wood quality predictor for plantation-grown *Eucalyptus nitens* sawlogs. CRC for Forestry Technical Report 179
- Volker, P.W. (2007). Management of hardwood sawlog species. In Proceedings of Plantation Eucalypts for High Value Timber 2007. Moorabin, Victoria, 9-12 October 2007
- Volker, P.W. (2008). The changing landscape of Australian forestry. Keynote address. In Proceedings of ForestTECH 2008. Tools and technologies to improve forest planning and operations. 21-23 April, 2008, Albury, NSW
- Wang, Y., Baker, T., Volker, P.W. and Wood, M. (2007). Effects of thinning intensity on stem form, taper, volume and profile in a 22-year-old *Eucalyptus nitens* plantation at Goulds Country, Tasmania. Technical Report 170. CRC for Forestry, Hobart, Tasmania
- Washusen, R., Harwood, C., Morrow, A., Valencia, J.C., Volker, P.W., Wood, M., Innes, T., Ngo, D., Northway, R. and Bojadzik, M. (2007). Gould's Country *Eucalyptus nitens* thinning trial: solid wood quality and processing performance. Technical Report 168. CRC for Forestry, Hobart, Tasmania
- Washusen, R., Morrow, A., Wardlaw, T. and Ngo, D. (2009). The effect of thinning on wood quality and solid wood product recovery of regrowth forests: *E. diversicolor* from South West Western Australia. Project PN06-315. Report to Forest and Wood Products Australia. 28pp
- Washusen, R., Morrow, A., Wardlaw, T. and Ngo, D. (2009). The effect of thinning on wood quality and solid wood product recovery of regrowth forests: *E. fastigata* from Southern New South Wales. Project PN06-315. Report to Forest and Wood Products Australia. 36pp
- Washusen, R., Morrow, A., Wardlaw, T. and Ngo, D. (2009). The effect of thinning on wood quality and solid wood product recovery of regrowth forests: *E. regnans* from Central Highlands. Project PN06-315. Report to Forest and Wood Products Australia. 31pp
- Washusen, R., Morrow, A., Wardlaw, T. and Ngo, D. (2009). The effect of thinning on wood quality and solid wood product recovery of regrowth forests: *E. regnans* from Southern Tasmania. Project PN06-315. Report to Forest and Wood Products Australia. 35pp
- Washusen, R., Morrow, A., Wardlaw, T. and Ngo, D. (2009) The effect of thinning on wood quality and solid wood product recovery of regrowth forests: *E. sieberi* from Eastern Victoria. Project PN06-315. Report to Forest and Wood Products Australia. 31pp
- White, D., Mendham, D., Battaglia, M., Crombie, S., Kinal, J. and McGrath, J. (in press). Estimating the optimum leaf area index of *E. globulus* plantations in southern Australia. CRC for Forestry Technical Report 205
- Wilkinson, G.R. (2007). Report on the Proceedings of the Asia Pacific Regional Workshop- Progress with the Implementation of Codes of Forest Harvesting Practices and Actions for the Future. Sandakan, Malaysia, 29 pp.
- Wilkinson, G.R. (2007). Review of the Fiji National Code of Harvesting Practice (NCOHP) – Mission Report for the Pacific-German Regional Forestry Project, Secretariat of the Pacific Community and GTZ. 45 pp.

- Wilkinson, G.R. (2008). FAO briefing notes on sustaining the implementation of reduced impact logging in Vietnam, Lao PDR and Myanmar, FAO Bangkok, 12 pp.
- Wilkinson, G.R. (2009). Final Report to the Coordinator of Forests and Trees Group of the SPC Land Resource Division and the Head of Forestry, Tonga - Preparation of the Code of Harvesting Practice for the 'Eua Forestry Plantations, 29 pp. plus draft Code (23 pp.).
- Wilkinson, G.R. (2009). Report on FAO Norway Project Cooperation Agreement 2008–09, forestry component activities to support implementation of codes of forest harvesting practices (Laos, Viet Nam, Cambodia and China), 25 pp.
- Wilkinson, G.R. (2009). Report on the proceedings of the regional workshop Asia-Pacific Forestry Skills and Capacity Building Programme (APFSCBP) – Strengthening implementation of codes of practice for forest harvesting through effective systems of monitoring and evaluation and draft M&E Protocol for PNG, Papua New Guinea, 1–4 June 2009, 32 pp.
- Wilkinson, G.R. (2010). Final report to the Coordinator of Forests and Trees Group of the SPC Land Resource Division and the Head of Forestry, Tonga – Preparation of a national code of practice for the sustainable management of the forests and tree resources in Tonga (36 pp.) plus Draft national code of practice (18 pp.).
- Wilkinson, G.R. (2011). Draft forest management plan for the indigenous forests of Niue, Government of Niue and the Secretariat of the Pacific Community
- Wilkinson, G.R. and Prescott, M. (2009). Report on the proceedings of the regional workshop Asia-Pacific Forestry Skills and Capacity Building Programme (APFSCBP) – Strengthening implementation of codes of practice for forest harvesting through effective systems of monitoring and evaluation, Beijing/Yanji, Peoples' Republic of China, June 2009, 25 pp.
- Williams, D. (2011). Establishment report on the Tasmanian *E. dunnii* trials. Genetic Improvement Program. Yong'an Forestry Group. FTS Technical Communication 04/2011
- Williams, D. (2011). Using paclobutrazol to stunt the growth of *E. dunnii* seedlings used for rootstock in grafting. Genetic Improvement Program. Yong'an Forestry Group. FTS Technical Communication 03/2011
- Williams, D., Potts, B. and Beadle, C. (2007). Weight and germination of *Eucalyptus nitens* seed is affected by the maternal environment. In Proceedings IUFRO Working Group 2.08.03 'Eucalypts and Diversity: Balancing Productivity and Sustainability', 22-26 October 2007. Durban, South Africa
- Williams, D., Volker, P., MacNeil, A., McRae, T., Cunningham, P. and Hutchinson, C. (2007). The Eucalypt Sources for Timber Research (ESTR) Database: An on-line tool to help facilitate research in plantation eucalypt timber production. In Proceedings IUFRO Working Group 2.08.03 'Eucalypts and Diversity: Balancing Productivity and Sustainability', 22-26 October 2007. Durban, South Africa
- Williams, D.R. (2006). History and status of the Ben Nevis *Eucalyptus nitens* grafted clonal seed orchard. Division of Forest Research and Development Technical Report 07/2006. Forestry Tasmania, Hobart

- Williams, D.R. (2006). Proposal to secure the future supply of high quality *Eucalyptus nitens* seed. Division of Forest Research and Development Technical Report, 02/2007. Forestry Tasmania, Hobart
- Willis, E., Wood, M.J. and Adams, P.R. (2011). Eucalypt plantations in the Derwent District: revision of productivity estimates and regime allocation. Confidential Report, Forestry Tasmania. 27 pp.
- Wood M.J. and Adams, P.R. (2011). Silviculture demonstration trials – preliminary height and survival results (age 6 – 8 months). Genetic Improvement Program. Yong'an Forestry Group. Forest Technical Services, Technical Communication 01/2011
- Wood M.J., Volker, P.W., Beadle, C., Harwood, C. and Medhurst, J. (2008). Plantation-grown eucalypts for high-value solid-wood products: a decision support framework. Technical Report 188, Cooperative Research Centre for Forestry, 7 pp.
- Wood, M.J. (2007). WindRISK v.2.2 – user guide. Technical Report May 2007, Forestry Tasmania
- Wood, M.J. (2008). Cultivation trial (BG002C) – Year 3 report. Interim report to Rayonier. Forestry Tasmania. 3 pp.
- Wood, M.J. (2009). Windthrow risk associated with NF thinning – MI014A. Extension Note 20091208, Forestry Tasmania. 3 pp.
- Wood, M.J. (2010). Cultivation trial (BG002C) - year five summary. Confidential to Timberlands Pacific. FTS Report 05/2010.
- Wood, M.J. (2010). Cultivation trial (NI166B): year 5 report. Interim report to Timberlands Pacific. Forestry Tasmania. 7 pp.
- Wood, M.J. (2010). Cultivation trial (SF102A): year 10 report. Interim report to Timberlands Pacific. Forestry Tasmania. 6 pp.
- Wood, M.J. (2010). Windthrow hazard assessment – TG008B. Extension Note 20101220, Division of Forest Research and Development, Forestry Tasmania. 4 pp.
- Wood, M.J. (2010). Windthrow risk associated with ARN coupe BY003A. Extension Note 20100310, Forestry Tasmania. 4 pp.
- Wood, M.J. and Adams, P.R. (2010). Management of hardwood plantations for high-quality (pruned) sawlogs: scoping the application of multiple thinning regimes. Prepared for the General Management Team (Forestry Tasmania). 20 pp.
- Wood, M.J. and Adams, P.R. (2011). Scoping the application of multiple thinning (alternative silvicultural) regimes to the management of hardwood plantations for pruned sawlogs: progress report. Confidential Report, Division of Forest Research and Development, Forestry Tasmania
- Wood, M.J., Ellis, L. and Volker, P.W. (2006). Towards the prediction and management of windthrow in *Eucalyptus* plantations across Tasmania. Australian Forest Growers – International Biennial Conference, “Sustainable Forestry – everybody benefits”, 22nd – 25th October 2006, Launceston, Tasmania, Australia. p. 234-244
- Wood, M.J., McKenzie, D.R., Mannes, D. and Musk, R. (2011). Plantation eucalypt thinning regime trials – establishment report (April 2011 update). Technical

Report 09/2011, Division of Forest Research and Development (Plantations Branch), Forestry Tasmania

- Wood, M.J., McKenzie, D.R., Mannes, D. and Musk, R. (2011). Second-generation hardwood (eucalypt) plantation thinning trials: establishment report and current status. Technical Report, Division of Forest Research and Development (Plantations Branch), Forestry Tasmania
- Wood, M.J., McLarin, M. and Adams, P.R. (2010). Modelling the impacts of secondary fertilisation on the current hardwood plantation rotation. Prepared for the General Management Team (Forestry Tasmania). 16 pp
- Wood, M.J., Scott, R., Von Minden, P. and Volker, P.W. (2007). Windthrow in Tasmania, Australia: issues, implications and management. Paper, IUFRO International Conference, "Wind and Trees", August 5th-9th 2007, Vancouver, British Columbia

## **8. SOCIAL AND ECONOMIC RESEARCH**

### **Journal Publications**

- Acuna, M. and Kellogg, L. (2009). Evaluation of alternative cut-to-length harvesting technology for native forest thinning in Australia. *International Journal of Forest Engineering* 20(2):19- 27
- Blackburn, D.P., Hamilton, M.G., Harwood, C.E., Innes, T.C., Potts, B.M. and Williams, D.R. (2010). Stiffness and checking of *Eucalyptus nitens* sawn boards: Genetic variation and potential for genetic improvement. *Tree Genetics & Genomes* 6 (5): 757-765. ISSN 1614-2942
- Blackburn, D., Harwood, C., Innes, T. and Williams, D. (2011). Improved methods for achieving traceability of tree and log identities in timber processing studies. *Forest Products Journal* 60 (7/8): 688-693
- Bradbury, G.J., Potts, B.M. and Beadle, C.L. (2010). Quantifying phenotypic variation in wood colour in *Acacia melanoxylon* R.Br. *Forestry* 83: 153–162
- Bradbury, G.J., Potts, B.M., Beadle, C.L., Dutkowski, G.W. and Hamilton, M. (2011). Genetic and environmental variation in heartwood colour of Australian blackwood (*Acacia melanoxylon* R.Br.). *Holzforschung: International Journal of the Biology, Chemistry, Physics and Technology of Wood* 65 pp. 349-359. ISSN 0018-3830
- Cannon, T. and Innes, T. (2008). Markets for the wood products from non-durable hardwood sawlog plantations. Pp 110-125 in *Plantation Eucalypts for High-Value Timber: Enhancing investment through research and development*. A.G. Brown and C.L. Beadle (Eds). RIRDC Publication No 08/113 Rural Industries Research and Development Corporation, Canberra
- Dare, M., Schirmer, J. and Vanclay, F. (2011). Does forest certification enhance community engagement in Australian plantation management? *Forest Policy and Economics* 13: 328–337
- Downes, G.M., Catela, F. and Meder, R. (2009). Developing and evaluating a multisite and multispecies NIR calibration for the prediction of Kraft pulp yield in eucalypts. *Southern Forests* 71(2): 155-164

- Downes, G.M. and Drew, D.M. (2008). Climate and Growth Influences on Wood Formation and Utilisation. *Southern Forests* 70: 155-167
- Downes, G.M., Meder, R., Ebdon, N., Bond, H., Evans, R., Joyce, K., and Southerton, S.G. (2010). Radial variation in cellulose content and Kraft pulp yield in *Eucalyptus nitens* using NIR spectral analysis of air-dry wood surfaces. *Journal of Near Infra-Red Spectroscopy* 18: 147–155
- Downes, G.M., Meder, R. and Harwood, C.E. (2011). A multi-site, multi-species NIR calibration for the prediction of cellulose content in eucalypt woodmeal. *Journal of Near Infrared Spectroscopy* 18: 381–387
- Field, J. (2009). Local government perception of the Tasmanian forest practices system. *Tasforests* 18: 101-115
- Ghaffariyan, M. (2010) Review of European biomass harvesting technologies. *Silva Balcanica* 11(1): 5–20
- Ghaffariyan, M.R. and Sessions, J. (2011) Error impact of regression models on forest road spacing. *Silva Balcanica* 12(1): 97–111
- Hamilton, M., Raymond, C., Harwood, C. and Potts, B. (2009). Genetic variation in *Eucalyptus nitens* pulpwood and wood shrinkage traits. *Tree Genetics and Genomes* 5(2): 307-316
- Hamilton, M.G., Greaves, B.L., Potts, B.M. and Dutkowski, G.W. (2007). Patterns of longitudinal within-tree variation in pulpwood and solid-wood traits differ among *Eucalyptus globulus* genotypes. *Annals of Forest Science* 64: 831-837
- Hamilton, M.G., Harwood, C.E. and Potts, B.M. (2009) The Effects of drying temperature and method of assessment on the expression of genetic variation in gross shrinkage of *Eucalyptus globulus* wood samples. *Silvae Genetica* 58: 252–261
- Hamilton, M.G., Potts, B.M., Greaves, B.L. and Dutkowski, G.W. (2010). Genetic correlations between pulpwood and solid-wood selection and objective traits in *Eucalyptus globulus*. *Annals of Forest Science* 67 (published online)
- Hamilton, M.G., Raymond, C.A. and Potts, B.M. (2008). Short Note: The genetic correlation between air-dried density and basic density in *Eucalyptus nitens* wood cores. *Silvae Genetica* 57: 210-212
- Leys, A.J. and Vanclay, J.K. (2010). Land-use change conflict arising from plantation forestry expansion: views across Australian fence-lines. *International Forestry Review* 12(3): 256–269
- Leys, A.J. and Vanclay, J.K. (2011). Social learning: a knowledge and capacity building approach for adaptive co-management of contested landscapes. *Land Use Policy* 28(3): 574–584
- Neyland, M.G., Hickey, J.E. and Edwards, L.G. (2009). Safety and productivity at the Warra silvicultural systems trial. *Tasforests* 18: 1–16
- Schimleck, L.R., Rezende, G.D.S.P., Demuner, B.J. and Downes, G.M. (2007). Estimation of whole-tree wood quality traits using near infrared spectra of increment cores. *NIR News* 18(8)
- Schirmer, J. (2009). Ethical issues in the use of multiple survey reminders. *Journal of Academic Ethics* 7: 125–139
- Schirmer, J. (2011). Scaling up: Assessing social impacts at the macro-scale. *Environmental Impact Assessment Review* 31: 382–391

- Strandgard, M. (2009). Evaluation of manual log measurement errors and its implications on harvester log measurement accuracy. *International Journal of Forest Engineering* 20: 9- 16
- Washusen, R., Harwood, C.E., Morrow, A., Northway, R., Valencia, J.C., Volker, P., Wood, M. and Farrell, R. (2009). Pruned plantation-grown *Eucalyptus nitens*: effect of thinning and conventional processing strategies on sawn board quality and recovery. *New Zealand Journal of Forestry Science* 39: 39-55
- Wilkinson, G. (2009). Guest editorial: Transparent forestry – seeing is believing. *Australian Forestry* 72: 1-2

### **Books and Book Chapters**

- Dare, M., Schirmer, J. and Vanclay, F. (2011). Handbook for operational community engagement within Australian plantation forest management (Cooperative Research Centre for Forestry: Hobart)
- Field, J. (2007). Local government perception of the forest practices system, undergraduate research report, University of Tasmania, 51 p
- Leys, A.J. and Vanclay, J.K. (2010a). Stakeholder engagement in social learning to resolve controversies over land-use change to plantation forestry. *Regional Environmental Change*. DOI: 10.1007/s10113-010-0132-6
- Washusen, R. and Innes, T. (2008). Processing plantation eucalypts for high-value timber. Pp 92-109 in *Plantation Eucalypts for High-Value Timber: Enhancing investment through research and development*. A.G. Brown and C.L. Beadle (Eds). RIRDC Publication No 08/113 Rural Industries Research and Development Corporation, Canberra

### **Technical Reports**

- Acuna, M. (2010). Wood properties and use of NIR spectroscopy and terrestrial LiDAR to improve optimal bucking and wood value recovery. XXIII IUFRO World Congress, Seoul, South Korea, 23–28 August 2010
- Acuna, M., Ghaffariyan, M. and Brown, M. (2010). Using FastTruck to assess the factors that affect transport efficiency in in-field chipping operations, *CRC Forestry Bulletin* 11, September 2010
- Acuna, M., Skinnell, J., Mitchell, R. and Evanson, T. (2011). Bunching stems in steep slopes for efficient yarder extraction. *CRC for Forestry Bulletin* 17. May 2011
- Adams, P.R. (2009). Plantation nutrition management: Lessons from South Eastern USA. Report on a study tour in June / July 2008. Gottstein Fellowship Report
- Baral, H. (2008). Application of GIS in Community Forestry: Integration of GIS technology with community participation. VDM Verlag. ISBN 978-3639034165
- Barry, K.M., Stone, C. and Mohammed, C.L. (2008). Crown-scale evaluation of spectral indices for defoliated and discoloured eucalypts. *International Journal of Remote Sensing* 29: 47-69

- Baxter, M., Brown, M. and Gan, H-S. (2010). A decision support tool for equipment replacement in forestry harvesting operations. 45th Annual ORSNZ Conference, University of Auckland, New Zealand, 28–30 November 2010
- Blackburn, D., Harwood, C., Hamilton, M., Innes, T., Potts, B. and Williams, D. (2009). Genetic variation in wood stiffness and sawn board checking traits in *Eucalyptus nitens*. Paper presented at the 2nd Australasian Forest Genetics Conference, Freemantle, Western Australia, 20th – 22nd April 2009
- Blakemore, P., Morrow, A., Ngo, D., Washusen, R., Harwood, C., Northway, R., Wood, M., Volker, P. and Porada, H. (2010). Plantation-grown *Eucalyptus nitens*: Solid wood quality and processing performance on linear sawing systems with a range of commercial and experimental drying schedules. CRC for Forestry Technical Report no. 200
- Blakemore, P., Morrow, A., Washusen, R., Harwood, Wood, M. And Ngo, D. (2010). Evaluation of thin-section quarter-sawn boards and rotary veneer from plantation-grown *Eucalyptus nitens*. CRC Technical Report 202
- Bowman, D.M.J.S., Kanowski, P. and Keenan, R. (2008). 'End the Forest Wars', The Australian, News Limited, Australia, 18 November 2008
- Brown, M. (2009). Best practices for restraining logs and timber for Tasmania. Report on behalf of Forest Products Transport Committee Load Restraint Subcommittee. Forest Products Transport Committee Tasmania Internal Report
- Brown, M. and Walsh, D. (2010). Potential economic impact of high productivity vehicles for woodchip transport in Australia. Institute of Road Transport Engineers New Zealand 2010 Conference, Rotorua, New Zealand, 27–29 July 2010
- Coote, D. (2009). Identification and review of commercial wood-fuelled electricity and heat generation technologies in the 1MW, 5MW and 25MW ranges. NFM Forest Internship Project. (The University of Melbourne: Melbourne, Australia)
- Coote, D. (2010). Review of commercial wood-fuelled electricity and heat generation technologies. CRC Forestry Bulletin 7, April 2010
- Downes, G.M., Catela, F. and Meder, R. (2007). Developing and evaluating a Global NIR Calibration for the prediction of Kraft Pulp Yield in Eucalypts. IUFRO Group 2.08.03 "Improvement and Culture of Eucalypts", Keynote speaker, Durban, South Africa 22-26 October 2007
- Downes, G.M. (2011). Developing and assessing a woodmeal calibration for the Polychromix Phazir™. CRC for Forestry Technical Report #212
- Downes, G.M., Meder, R., Ebdon, N., Menz, D. and Hicks, C. (2009). Quality Assessment of Australian woodchips Project 5: Field-based application of acoustic velocity and NIR as predictors of pulp quality across site and species. FWPA PN07.3027 CSIRO Client Report No. 1895
- Ghaffariyan, M. (2010). European biomass harvesting systems and their application in Australia, CRC Forestry Bulletin 10, September 2010
- Ghaffariyan, M., Acuna, M. Wiedemann, J. and Mitchell, R. (2011). Productivity of the Bruks chipper when harvesting forest biomass in pine plantations. CRC Forestry Bulletin 16. April 2011

- Ghaffariyan, M. and Andorovski, V. (2011). Bundling harvest residues in shining gum plantations. CRC Forestry Bulletin 15, February 2011 (also online at: <http://journal.forestenergy.org>)
- Griffin, R and Brown, M. (2010). Forest truck fuel consumption survey. CRC Forestry Bulletin 8, April 2010
- Grove, S., Stamm, L., McLarin, M., and Yee, M. (2006). Accommodating coarse woody debris dynamics into native forest harvest scheduling. New Zealand Ecological Society/Ecological Society of Australia joint conference, 28 August - 2 September 2006, Wellington, New Zealand
- Harwood, C. (2010). Sawn timber from native forests and plantations in Tasmania. CRC Forestry Bulletin 13, November 2010
- Leys, A. and Vanclay, J. (2010). 'Social learning study of plantation forestry in the Upper Clarence catchment of north-eastern NSW'. CRC for Forestry Technical Report 201. (CRC for Forestry: Hobart, Tasmania)
- Loxton, E., Schirmer, J. and Dare M. (2011). Structural adjustment assistance in the Australian forest industry: A review of recent experience and recommendations for best practice design of future structural adjustment packages. CRC for Forestry Technical Report 208
- McIntosh, P.D. (2009). The Forest Practices System in British Columbia, report on a short study tour, Forest Practices Authority, Hobart, Tasmania
- Schirmer, J. (2008). Forest industry employment and expenditure in Western Australia, 2005–06, Summary report, CRC for Forestry, Hobart
- Schirmer, J. (2008). Forestry, jobs and spending: forest industry employment and expenditure in WA 2005- 2006. CRC for Forestry Technical Report 189
- Schirmer, J. (2009). Socio-economic impacts of the plantation industry on rural communities in Tasmania. CRC for Forestry Technical Report 199. (CRC for Forestry: Hobart, Tasmania)
- Schirmer, J. (2009). Socio-economic impacts of the plantation industry on rural communities in Western Australia. CRC for Forestry Technical Report 198
- Schirmer, J. (2010). Tasmania's forest industry: trends in forest industry employment and turnover, 2006 to 2010. CRC for Forestry Technical Report #206.
- Schirmer, J., Loxton, E. and Campbell-Wilson, A. (2008). Impacts of land use change to farm forestry and plantation forestry: a survey of landholders. CRC for Forestry Technical Report 190
- Schirmer, J., Williams, K. and Dunn, C. (2008). Preliminary summary of findings of the Land Use Change project. CRC for Forestry Technical Report 191
- Strandgard, M. (2009). Comparing harvester productivity in third-row versus fifth-row thinning of a Eucalyptus nitens plantation. CRC Forestry Bulletin 6, December 2009
- Strandgard, M. and Mitchell, R. (2010). Feller-buncher operator performance benchmark. CRC Forestry Bulletin 12, October 2010
- Strandgard M. (2011). Enhancing forest machine efficiency: onboard computer selection and implementation guide (Cooperative Research Centre for Forestry: Hobart)
- Volker, P.W. (2007). Changes in the perception and role of foresters in the age of Sustainable Forest Management and community participation. Paper

presented at International Conference on the Future of Forests in Asia and the Pacific. Outlook for 2020. 16-18 October 2007, Chiang Mai, Thailand. (Asia Pacific Forestry Commission, FAO)

- Walsh, D. (2009). Research Summary – Impact on harvesting costs of short logs vs long logs and increasing log sorts. CRC for Forestry Internal Report
- Washusen, R. (2011). Processing plantation-grown *Eucalyptus globulus* and *E. nitens* for solid-wood products—Is it viable? CRC for Forestry Technical Report 209
- Washusen, R. and Harwood, C. (2011). Processing plantation-grown eucalypt sawlogs: modelling costs and log prices for mills optimised for the Tasmanian plantation resource. CRC for Forestry Technical Report 211
- Wiedemann, J. and Ghaffariyan, M. (2010). Preliminary results: volume recovery comparison of different harvesting systems in short-rotation hardwood plantations. CRC Forestry Bulletin 9, August 2010
- Williams, K. (2009). Community attitudes to plantation forestry. CRC for Forestry Technical Report 194
- Williams, K., Dunn, C., Ford, R. and Anderson, N. (2008). Understanding residents' views on land use change. CRC for Forestry Technical Report 187
- Williams, K. (2009). Community attitudes to plantations: survey of the views of residents of South-West Western Australia, 2008. Summary report, CRC for Forestry, Hobart
- Williams, K. (2009). Community attitudes to plantations: survey of the views of residents of Tasmania 2008. Summary report, CRC for Forestry, Hobart

## **9. SOIL AND WATER CONSERVATION**

### **Journal Publications**

- Almeida, A., Siggins, A., Smethurst, P., Silva C.V.J and Baillie, C. (2010). Establishment of experimental catchments to quantify water use by different vegetation types. *Ambiência - Revista do Setor de Ciências Agrárias e Ambientais* 6: 137–150
- Clapcott, J.E. and Barmuta, L.A. (2010). Forest clearance increases metabolism and organic matter processes in small headwater streams. *Journal North American Benthological Society* 29: 546–561
- Clapcott, J.E. and Barmuta, L.A. (2010). Metabolic patch dynamics in small headwater streams: exploring spatial and temporal variability in benthic processes. *Freshwater Biology* 55: 806–824
- Feikema, P.M., Morris, J.D., Beverly, C.R., Collopy, J.J., Baker, T.G. and Lane, P.N.J. (2010). Validation of plantation transpiration in south-eastern Australia estimated using the 3PG+forest growth model. *Forest Ecology and Management* 260: 663–678
- Feikema, P.M., Morris, J.D., and Connel, L.D. (2010). The water balance and water sources of a *Eucalyptus* plantation over shallow saline groundwater. *Plant and Soil* 332: 429–449.

- Fischer, D.G., Hart, S.C., Schweitzer, J.A., Selmants, P.C. and Whitham, T.G. (2010). Soil nitrogen availability varies with plant genetics across diverse river drainages. *Plant and Soil*, 331 (1-2) pp. 391-400. ISSN 0032-079X
- Forrester, D.I., Collopy, J.J. and Morris, J.D. (2010). Transpiration along an age series of *Eucalyptus globulus* plantations in southeastern Australia. *Forest Ecology and Management* 259: 1754–1760
- Hubbard, R.M., Stape, J., Ryan, M.G., Almeida, A.C. and Rojas, J. (2010). Effects of irrigation on water use and water use efficiency in two fast growing *Eucalyptus* plantations. *Forest Ecology and Management* 259: 1714–1721
- Lane, P.N.J., Feikema, P.M., Sherwin, C.B., Peel, M.C. and Freebairn, A.C. (2010). Modelling the long term water yield impact of wildfire and other forest disturbance in *Eucalypt* forests. *Environmental Modelling & Software* 25: 467–478
- Macinnis-Ng, C.M.O., Fuentes, S., O'Grady, A.P., Palmer, A.R., Taylor, D. Whitley, R.J., Yunusa, I., Zeppel, M.J.B. and Eamus, D. (2010). Root biomass distribution and soil properties of an open woodland on a duplex soil. *Plant and Soil* 327: 377–388
- McIntosh, P.D., Price, D.M., Eberhard, R. and Slee, A.J. (2009). Late Quaternary erosion events in lowland and mid-altitude Tasmania in relation to climate change and first human arrival. *Quaternary Science Reviews*, 28: 850–872
- McIntosh, P.D. and Barrows, T.T. (2011). 'Morphology and age of bouldery landslide deposits in bouldery dolerite terrain, Mt Nicholas, Tasmania, Australia', *Zeitschrift für Geomorphologie* 55: 383–393
- Mitchell, A.D. and Smethurst, P.J. (2008). Base cation availability and leaching after nitrogen fertilisation of a eucalypt plantation. *Australian Journal of Soil Research* 46: 445-454
- Moroni, M.T., Titus, B.D., Thiffault, N., Mante, C. and Makeschin, F. (2009). Controlling *Kalmia* and reestablishing conifer dominance enhances soil fertility indicators in central Newfoundland, Canada. *Canadian Journal of Forest Research* 39:1270-1279
- Naghdi, R., Moradmand Jalali, A., Ghaffariyan, M.R. and Lotfalian, M. (2009). Soil porosity and soil stress for skidder and mule logging sites. *Journal of Forest Science* 3: 103–113
- Neary, D.G., Smethurst, P.J., Baillie, B.R., Petrone, K.C., Cotching, W.E. and Baillie, C.C. (2010). Does tree harvesting in streamside management zones adversely affect stream turbidity? Preliminary observations from an Australian case study. *Journal of Soils and Sediments* 10: 652–670
- Noske, P.J., Lane, P.N.J., and Sheridan, G.J. (2010). Stream exports of coarse matter and phosphorus following wildfire in NE Victoria, Australia. *Hydrological Processes* 24: 1514–529
- Nyman, P., Sheridan, G.J., Smith, H.G. and Lane, P.N.J. (2011). Evidence of debris flow occurrence after wildfire in upland catchments of south east Australia. *Geomorphology* 125: 282–401
- O'Grady, A.P., Cook, P.G., Eamus, D., Duguid, A., Wischusen, J.D.H., Fass, T. and Worledge, D. (2009). Convergence in water use within an arid-zone woodland. *Oecologia* 160: 643–655

- Packer, A., Wood, M.J. and James, R. (2006). Soil protection with logging residues during mechanised harvesting of native forests in Tasmania, Australia; a preliminary study. *Australian Forestry* 69: 128-136
- Sands, R., Haramburu, E., Wood, M.J. and Douglas, R. (2007). Harvesting traffic and ripping affect growth of *Pinus radiata*. *New Zealand Journal of Forestry Science* 37: 112-123
- Slee, A. (2010). Mt Nicholas – Permian limestone karst of north-east Tasmania', *Australian Cave and Karst Management Association Journal* 78: 22–23
- Slee, A.J., McIntosh, P.D. and Tempest, G. (2011). 'Boulder caves of Mt Nicholas', *Caves Australia* 186: 26–27
- Smethurst, P.J. (2008). Can he do that? Riparian buffers and the state codes of forest practice. *Australian Agroforestry* 62
- Smith, B.J., Davies, P.E. and Munks, S.A. (2009). Changes in benthic macroinvertebrate communities in upper catchment streams across a gradient of catchment forest operation history. *Forest Ecology and Management* 257: 2166-2174
- Smith, H.G., Sheridan, G.J., Lane, P.N.J and Bren, L.J. (2011). Wildfire and salvage harvesting effects on runoff generation and sediment exports from radiata pine and eucalypt forest catchments, southeastern Australia. *Forest Ecology and Management* 261: 570–581
- Smith, H.G., Sheridan, G.J., Lane, P.N.J., Nyman, P. and Haydon, S.H. (2011). Wildfire effects on water quality in forest catchments: a review with implications. *Journal of Hydrology* 396: 170–192
- Smith, H.G., Sheridan, G.J., Lane, P.N.J. and Sherwin, C.B. (2010). Paired Eucalyptus forest catchment study of prescribed fire effects on suspended sediment and nutrient exports in southeastern Australia. *International Journal of Wildland Fire* 19: 624–636
- Wall, D. H. et al including Bashford, R. (36 authors). (2008). Global decomposition experiment shows soil animal impacts on decomposition are climate-dependent. *Global Change Biology* 14: 1-17
- Wang, Q., Cox, M.E., Hammond, A.P. and Preda, M. (2008). Deep weathering profile and groundwater characteristics within a low-lying coastal pine plantation, southern Queensland – relationship to waterlogging and salinization. *Australian Forestry* 71: 122–134
- Warren, C.R. and Adams, P.R. (2006). Uptake of nitrate, ammonium and glycine by plants of Tasmanian wet eucalypt forests. *Tree Physiology*. 27: 413 – 419
- Watson, A. and Barmuta, L.A. (2010). Litter retention in Tasmanian headwater streams after clear-fell logging. *Hydrobiologia* 637: 197–206

## **Books and Book Chapters**

- Baral, H., Kasel, S., Keenan, R., Fox, J. and Stork N. (2009). GIS-based classification, mapping and valuation of ecosystem services in production landscapes: A case study of the Green Triangle region of south-eastern Australia. In: 'Forestry: a climate of change' (eds R. Thistlethwaite, D. Lamb,

R. Haines) pp. 64–71. Proceedings of 2009 IFA Conference, Caloundra, Australia, 6–10 September 2009

Lester, D.W., Birch, C.J. and Dowling, C.W. (2009). Fertiliser N and P application on two Vertosols in north-eastern Australia. 3. Grain N uptake and yield by crop/fallow combination, and cumulative grain N removal and fertiliser N recovery in grain', *Crop & Pasture Science* 61: 24-31. ISSN 0004-9409

## Technical Reports

Almeida, A., Smethurst, P.M., Harwood, C. and Battaglia, M. (2009). Integrated research on catchment management and process-based modelling at Aracruz Guaiba Unit. CSIRO report no. 1892

Bialkowski, K. and Archibald, R (2009). Soil microbiology in plantation landscapes: project background and update. Report (4) to WA industry partners in CRC for Forestry: Biodiversity Project

Clapcott, J., Gooderham, J., Barmuta, L., Davies, P., Munks, S. and McIntosh, P. (2008). Monitoring the effectiveness of Forest Practices Code headwater stream provisions in wet dolerite terrain at Warra, south-east Tasmania, Forest Practices Authority Scientific Report 7, Forest Practices Authority, Hobart

Cook, P.G., O'Grady, A.P., Wischusen, J., Duguid, A., Fass, T. and Eamus, D. (2008). Ecohydrology of the sand plain woodlands in central Australia. NHT 2005/147, Natural Heritage Trust, Adelaide

Crombie, S.M., O'Garam E., Howard, B., Ward, B., Harper, R., Blake, G., Skinner, G. and Dixon, R. (2010). Sustainable Production and Landscape Repair in Salinity-Affected Water Supply Catchments. Final report: Caring for our country – open grants project OG084015

Gilfedder, M., Zhang, L., Theiveyanathan, T., Marcar, N., Roxburgh, S., Zhao, F., Chen, Y. and Almeida, A. (2010) 'Methods to Assess Water Allocation Impacts of Plantations'. Final report to the National Water Commission

Hardie, D. (2007). Conserving freshwater ecosystem values in Tasmania, Australia: identification and application of freshwater conservation management priority areas. 9th International River Symposium 4–7 September 2006. Brisbane, Queensland

Harper, R.J., Sochacki, S.J., Smettem, K.R.J., Robinson, N., Silberstein, R.P., Clarke, C.J., McGrath, J.F., Crombie, D.S. and Hampton, C.E. (2009). Catchment Scale Evaluation of Trees, Water and Salt. May 2009. RIRDC Publication No 09/059. RIRDC Project No FPC-2A. Rural Industries Research and Development Corporation, Canberra

Magierowski, R.H., Davies, P.E. and Read, S.M. (2010). The Tasmanian River Condition Bayesian Network. Landscape Logic Technical Report No. 26, Hobart

Marcar, N., Theiveyanathan, T., Roxburgh, S., Gilfedder, M., Littleboy, M., Almeida, A., Christy, B., Barlow, K., Crawford, D. and Benyon, R. (2010). Methodology to assess site-specific impacts of plantations on catchment water yields. Client report to the National Water Commission

- Marunda, C. (2009). Impact of natural factors and human disturbance on water quality in 15 sub-catchments of the Warra LTER site in Tasmania. CRC Uptake Newsletter 20/5/2009
- Marunda, C. (2009). Warra Progress report: Spatial analysis of the impacts of natural factors and forest operations on water quality in 15 sub-catchments in the Warra LTER site. CRC Meeting June 2009.
- McIntosh, P., Price, D., Eberhard, R. and Slee, A. (2008). Late quaternary erosion chronology in lowland and mid-altitude Tasmania, Forest Practices Authority Scientific Report 5, Forest Practices Authority, Hobart
- McIntosh, P.D., Field, J. and Dwyer, D. (2008). Surface weathering of granite in Blue Tier Forest Reserve – brief preliminary report, Forest Practices Authority Report, Hobart
- Mendham, D.S., Grove, T.S., O'Connell, A.M. and Rance, S.J. (2008). Impacts of inter-rotation site management on soil nutrients and plantation productivity in Eucalyptus globulus plantations in south-western Australia. In 'Site management and productivity in tropical plantation forests: Proceedings of workshops in Piracicaba (Brazil), 22-26 November 2004 and Bogor (Indonesia), 6-9 November 2006' (Ed. EKS Nambiar) P79-92 (Centre for International Forestry Research: Bogor, Indonesia)
- Roberts, S. (2009). Water quality in the Warra Long-Term Ecological Research study area 1998–2006. CRC for Forestry Technical Report 193
- Roberts, S. (2010). Water use of Eucalyptus nitens plantations in the Florentine Valley, Tasmania - preliminary results. Forestry Tasmania, August 2010
- Roberts, S. (2008). Pre-harvest water turbidity in Canaways Creek and Routs Creek, Derwent District, Tasmania: results of water monitoring from June 2006 to March 2008. DFRD Technical Report 15/2008
- Roberts, S. (2009). Managing forest hydrology research, Lessons from experimental Forests in the USA. Report on study tour to USA in June/July 2009. Prepared for the Gottstein Trust, December 2009
- Roberts, S. (2011). Predicting Eucalyptus nitens plantation water use using growth parameters – Comparisons of field results with existing models. FWPA Project PMC-143-0809. Milestone Report – Complete compilation of reports/papers on model development and testing. 15th April 2011. Forestry Tasmania
- Roberts, S. and Barton-Johnson, R. (2009). Predicting Eucalyptus nitens plantation water use with tree growth parameters: Plantation water use research, Florentine Valley, Tasmania. Site Establishment Report, December 2009. Forestry Tasmania, Division of Forest Research and Development, Plantations Branch, Hobart
- Roberts, S. (2010). Huon Wood Centre Environmental Monitoring: Results - 2002 to 2010. Report for Newwood Huon Pty Ltd. Division of Forest Research and Development, Forestry Tasmania, Technical Report 05/2010, August 2010
- Sankaran, K.V., Mendham, D.S., Chacko, K.C., Pandalai, R.C., Pillai, P.K.C., Grove, T.S. and O'Connell, A.M. (2008). Impact of site management practices on growth of eucalypt plantations in the monsoonal tropics in Kerala, India. In 'Site management and productivity in tropical plantation forests: Proceedings of workshops in Piracicaba (Brazil), 22-26 November 2004 and Bogor

- (Indonesia), 6-9 November 2006' (Ed. EKS Nambiar) pp23-37 (Centre for International Forestry Research: Bogor, Indonesia)
- Smethurst, P. (2008). Summary of Australian Codes of Forest Practice As They Pertain to Managing Commercial Plantations in Stream-Side Buffers on Cleared Agricultural Land. CRC Forestry Technical Report No. 178
- Smethurst, P. and Neary, D. (2010). Farm-scale sediment sources: tree harvesting, cattle and roads. Fact sheet for managers and policy-makers #4 (Landscape Logic Commonwealth Environmental Research Facilities Hub: Hobart) (<http://www.landscapelogicproducts.org.au/site/products/50-farm-scale-sedimentsources- tree-harvesting-cattle-and-roads>)
- Smethurst, P. and Petrone, K. (2010). Streamside management zones for protection of water quality. Fact sheet for managers and policy-makers #13 (Landscape Logic Commonwealth Environmental Research Facilities Hub: Hobart) (<http://www.landscapelogicproducts.org.au/site/products/51-streamside-management-zones-for-water-quality-protection>)
- Smethurst, P.J., Petrone, K.C., Baillie, C.C., Worledge, D. and Langergraber, G. (2011). Streamside management zones for buffering streams on farms: Observations and nitrate modelling. Landscape Logic Commonwealth Environmental Research Facility Technical Report No. 28, 31pp. (University of Tasmania: Hobart). ([http://www.landscapelogicproducts.org.au/site/system/files/57/original/Tech\\_report\\_28\\_Streamside\\_management\\_zones.pdf?1300224477](http://www.landscapelogicproducts.org.au/site/system/files/57/original/Tech_report_28_Streamside_management_zones.pdf?1300224477))
- Smith, H., Sheridan, G., Lane, P. and Bren, L. (2010). Best management practice guidelines for mitigating impacts on erosion and water quality from post-fire salvage harvesting of plantation forests. CRC for Forestry Technical Report #207
- Smith, H., Sheridan, G., Lane, P. and Bren, L. (2010). Guidelines for mitigating impacts on erosion and water quality from post-fire salvage harvesting. CRC Forestry Bulletin 14, December 2010
- Stampfer, K., Holzleitner, F., Ghaffariyan, M.R. and Visser, R. (2010). Economic and ecological variables of forest machinery based on long term recorded enterprise data. In Proceedings of 43rd International Symposium on Forestry Mechanization, Padua, Italy, 11–14 July 2010
- Trainer, E. (2007). Pesticide Impact Rating Index (PIRI). Tasmanian Weed Society. TASWEEDS Autumn 2007 Newsletter. p16
- Trainer, E. (2008). Pesticide Impact Rating Index (PIRI) – A users manual v 1.0. Forestry Tasmania Technical Report 05/2008
- Trainer, E. and Volker, P. (2008). Assessing common features at sites with pesticide detections observed by Forestry Tasmania since 2000. Forestry Tasmania Technical Report 04/2008
- Warfe, D.M. (2007). 'Disturbance incorporated: addressing assumptions in the determination of environmental flows regimes'. 6th International Symposium on Ecohydraulics. February 2007, Christchurch, New Zealand

## **PART 3**

# **REPORT ON IMPLEMENTATION OF TASMANIAN COMMUNITY FOREST AGREEMENT COMMITMENTS AND MILESTONES**

In May 2005 the Tasmanian and Australian Governments signed a Supplement to the Tasmanian RFA, termed the [Tasmanian Community Forest Agreement](#) (TCFA). This Agreement contained additional or changed commitments to those in the RFA as well as providing a response to the recommendations arising from the first five-yearly review.

The following provides a report on progress with implementation of these commitments **up to June 2011**.

### **Relationship to the RFA**

3. *The Parties agree to fully implement the actions recommended in the Report of the Inquiry on the progress with Implementation of the Tasmanian Regional Forest Agreement (2002), subject to the exception outlined in clause 5.*

The recommended actions have either been fully implemented or are continuing to be implemented. A detailed report on each action is provided in Part 2 of this report.

The TCFA has superseded some of the recommended actions.

5. *In relation to Recommendation 4.5 of the Report, the Commonwealth Government acknowledges the value of Threatened Species Listing Statements in providing interim direction for many rare and vulnerable Tasmanian species currently without Recovery Plans. However, under its current legislation, the Commonwealth cannot accredit such Statements as an alternative to Recovery Plans for threatened species. Recovery Plans will continue to be the mechanism for compliance with the Commonwealth Environment Protection and Biodiversity Conservation Act 1999.*

The Commonwealth and Tasmanian Governments have drafted 11 new recovery plans (five of these are multi-species plans) for *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) listed species associated with Tasmanian forests (*see Tables 4 and 5 Part one*). Public information relating to the status of these recovery plans is available on the Tasmanian Department of Primary Industries, Parks, Water and Environment [website](#).

In addition to reports on recovery plans in part 1, the state has developed 225 listing plans. See also see part 4, recommendation 12.

## **Strengthened protection of Old Growth forest**

6. *The Parties agree to the protection of one million hectares of Old Growth forest. This Supplementary Agreement provides for additional protection of Old Growth forest, resulting in a total of 977 000 hectares of Old Growth forest reserved on public land. From private land, the Commonwealth will protect a minimum additional area of 25 000 hectares of Old Growth forest, adding to the 5000 hectares of Old Growth forest already protected under the RFA Private Forest Reserves Program.*

The commitment target for public land was not reached in the reporting period.

The area of RFA old growth forest protected in formal and informal reserves on public land as at 30 June 2011 was 968,000 hectares, an increase of 5,000 hectares from June 2006. See clause 23 for progress on protecting old growth forest on private land.

## **New public land reserves**

7. *Further to clauses 48, 49, 50 and 51 of the RFA, the Parties undertake to add approximately 141 000 hectares to the CAR Reserve System, including 1300 hectares of Hydro Tasmania freehold land, and provide interim protection for approximately a further 7400 hectares pending further consideration for reservation, as outlined in Attachment 1 and shown indicatively on Maps 1, 2 and 3. The new reserves include proposals for approximately 58 000 hectares of Formal Reserves in the Tarkine, Styx Valley and eastern Tasmania.*

Tables 13 and 14 on the following pages show the level of reservation of forest and old growth forest respectively on public land as at 30 June 2011 compared to the target levels defined in Attachment 6 of the RFA and Attachment 1 of the TCFA.

The commitment target has been reached, however the addition of approximately 3500 hectares of land vested in Hydro Tasmania is yet to be finalised (see clause 15).

8. *The Parties agree that all additional protected areas on public land will remain available for mineral exploration and mining under the Mineral Resources Development Act 1995 in accordance with clause 79 of the RFA and subject to any requirements under the Environment Protection and Biodiversity Conservation Act 1999.*

Implementation of this commitment was completed prior to, and reported on in, the 2007 Review.

9. *The State undertakes to finalise the boundaries of the new reserves, with the exception of Commonwealth owned land, at a scale of 1:25,000 by June 2006, identifying the best management boundaries to protect the identified values and taking account of field verification of values being protected.*

Implementation of this commitment was completed prior to, and reported on in, the 2007 Review.

**Table 13 Reservation levels of Forest Communities in Formal and Informal Reserves on Public Land**

Forest Community	Reservation									
	1996 area (ha)	1996 reservation (ha)	RFA proposed reservation (ha)	RFA proposed reservation (%)	TCFA proposed reservation <sup>1</sup> (ha)	TCFA proposed reservation (%)	TCFA proposed reservation on public land 2 (ha)	TCFA proposed reservation on public land (%)	2011 reservation (ha) <sup>3</sup>	2011 reservation (%) <sup>4</sup>
Coastal <i>E. amygdalina</i> dry sclerophyll forest	190 210	32 510	59 450	31	70 140	37	69 340	36	69 570	37
<i>E. amygdalina</i> forest on dolerite	<b>178 310</b>	<b>13 640</b>	28 070	16	33 350	19	31 310	18	31 370	18
Inland <i>E. amygdalina</i> forest	<b>25 810</b>	<b>1 400</b>	2 070	8	4 540	18	2 990	12	2 760	11
<i>E. amygdalina</i> forest on sandstone	<b>30 110</b>	<b>1 810</b>	5 650	19	8 320	28	8 270	27	7 910	26
<i>Allocasuarina verticillata</i> forest	<b>1 430</b>	<b>530</b>	610	43	650	45	630	44	630	44
<i>E. brookeriana</i> wet forest	4 570	270	1 020	22	1 420	31	1 420	31	1 460	32
<i>Acacia melanoxylon</i> forest on flats	9 010	970	2 290	25	2 650	29	2 650	29	2 690	30
<i>Acacia melanoxylon</i> forest on rises	13 310	1 320	3 730	28	4 520	34	4 510	34	4 580	34
<i>Banksia serrata</i> woodland	160	120	120	74	120	75	120	75	120	73
<i>E. coccifera</i> dry forest	54 550	37 690	41 020	75	44 180	81	44 130	81	42 650	78
<i>Callitris rhomboidea</i> forest	790	260	370	47	490	62	480	61	490	62
Dry <i>E. delegatensis</i> forest	289 590	74 800	91 000	31	99 600	34	98 790	34	99 870	34
<i>E. viminalis</i> / <i>E. ovata</i> / <i>E. amygdalina</i> / <i>E. obliqua</i> damp sclerophyll forest	40 630	6 510	11 800	29	12 310	30	12 130	30	12 710	31
Tall <i>E. delegatensis</i> forest	285 750	75 080	86 780	30	96 220	34	95 900	34	99 360	35
King Billy Pine with deciduous beech forest	850	630	770	97	810	96	810	95	820	96
<i>E. viminalis</i> and/or <i>E. globulus</i> coastal	1 220	280	280	23	450	37	280	23	280	23

Forest Community	Reservation									
	1996 area (ha)	1996 reservation (ha)	RFA proposed reservation (ha)	RFA proposed reservation (%)	TCFA proposed reservation <sup>1</sup> (ha)	TCFA proposed reservation (%)	TCFA proposed reservation on public land 2 (ha)	TCFA proposed reservation on public land (%)	2011 reservation (ha) <sup>3</sup>	2011 reservation (%) <sup>4</sup>
shrubby forest										
Grassy <i>E. globulus</i> forest	14 450	4 230	6 330	44	6 580	46	6 230	43	6 150	43
Huon pine forest	8 980	6 720	7 400	86	7 670	86	7 660	85	7 650	85
King Island <i>E. globulus</i> / <i>E. brookeriana</i> / <i>E. viminalis</i> forest	2 430	130	610	25	570	23	500	21	540	22
<i>Leptospermum</i> sp. / <i>Melaleuca squarrosa</i> swamp forest	18 960	8 590	10 070	53	11 050	58	11 050	58	11 160	59
Callidendrous and thamnic rainforest on fertile sites	192 110	86 580	102 170	53	141 420	74	141 300	74	141 120	73
Thamnic rainforest on less fertile sites	378 090	231 610	279 380	74	324 500	86	324 470	86	322 850	85
<i>Melaleuca ericifolia</i> forest	600	220	220	37	400	67	400	67	400	67
<i>E. morrisbyi</i> forest	20	0	0	0	20	100	20	100	20	94
Dry <i>E. nitida</i> forest	159 860	120 850	136 990	86	142 540	89	142 490	89	142 510	89
Furneaux <i>E. nitida</i> forest	29 820	5 550	6 230	21	18 830	63	18 780	63	18 830	63
<i>Notelaea ligustrina</i> / <i>Pomaderris apetala</i> forest	290	190	190	66	220	76	220	76	220	76
Tall <i>E. nitida</i> forest	74 420	64 090	67 000	90	68 630	92	68 620	92	68 700	92
Dry <i>E. obliqua</i> forest	164 140	36 910	50 820	31	57 750	29	57 140	35	56 720	35
Tall <i>E. obliqua</i> forest	425 630	76 060	107 520	25	124 020	30	123 430	29	126 520	30
Shrubby <i>E. ovata</i> forest	7 200	270	340	5	570	8	370	5	360	5
<i>E. pulchella</i> / <i>E. globulus</i> / <i>E. viminalis</i> grassy shrubby dry sclerophyll forest	151 300	13 960	35 530	24	46 040	30	39 940	26	39 910	26
Pencil pine with deciduous beech forest	190	190	190	100	190	100	190	100	190	100
<i>E. pauciflora</i> forest on Jurassic dolerite	18 820	2 350	3 730	20	2 970	16	2 970	16	3 070	16

Forest Community	Reservation									
	1996 area (ha)	1996 reservation (ha)	RFA proposed reservation (ha)	RFA proposed reservation (%)	TCFA proposed reservation <sup>1</sup> (ha)	TCFA proposed reservation (%)	TCFA proposed reservation on public land 2 (ha)	TCFA proposed reservation on public land (%)	2011 reservation (ha) <sup>3</sup>	2011 reservation (%) <sup>4</sup>
Pencil pine forest	350	330	350	100	350	100	350	100	350	100
<i>E. pauciflora</i> forest on sediments	16 210	3 910	4 600	28	5 310	33	5 190	32	5 330	33
<i>E. regnans</i> forest	76 050	13 390	16 230	21	18 280	24	18 250	24	19 110	25
<i>E. risdonii</i> forest	380	170	170	46	180	47	180	47	160	43
<i>E. rodwayi</i> forest	8 670	280	430	5	420	5	400	5	410	5
<i>E. sieberi</i> forest on granite	17 660	2 190	5 080	29	5 460	31	5 460	31	5 590	32
Silver wattle ( <i>Acacia dealbata</i> ) forest	54 090	9 740	12 430	23	14 340	27	13 990	26	14 810	27
<i>E. sieberi</i> forest on other substrates	45 950	6 250	11 050	24	12 120	26	11 580	25	11 730	26
<i>E. subcrenulata</i> forest	10 240	8 510	8 600	84	8 800	86	8 800	86	8 830	86
<i>E. tenuiramis</i> forest on granite	3 020	1 320	2 760	91	2 820	93	2 820	93	2 810	93
<i>E. tenuiramis</i> forest on dolerite	8 430	3 570	5 920	70	6 320	75	6 320	75	6 360	75
Inland <i>E. tenuiramis</i> forest	55 020	3 260	7 140	13	10 550	19	7 970	14	7 960	14
<i>E. viminalis</i> grassy forest	113 320	1 450	3 070	3	4 520	4	2 880	3	3 010	3
Furneaux <i>E. viminalis</i> forest	140	0	120	83	120	86	120	86	120	84
Wet <i>E. viminalis</i> forest on basalt	4 180	320	560	14	600	14	560	13	820	20
King Billy pine forest	20 140	14 700	15 060	83	18 510	92	18 500	92	18 300	91
<b>TOTAL</b>	<b>3 208 690</b>	<b>975 710</b>	<b>1 245 140</b>	<b>39</b>	<b>1 446 360</b>	<b>45</b>	<b>1 426 820</b>	<b>44</b>	<b>1 429 920</b>	<b>45</b>

1. Includes reserves on Commonwealth land, other public land and Private CAR Reserves
2. Includes formal and informal reserves on public land only
3. Forest Extent is as at the first quarter of 2010 and reserves are as at 30<sup>th</sup> June 2011. Includes formal and informal reserves on public land only
4. The 2011 reserved extent expressed as a percentage of the unrounded 1996 extent

**Table 14 Reservation levels of Old Growth Forest in Formal and Informal Reserves on Public Land**

Forest Community	Old Growth									
	1996 area (ha)	1996 reservation (ha)	RFA proposed reservation (ha)	RFA proposed reservation (%)	TCFA proposed reservation <sup>5</sup> (ha)	TCFA proposed reservation (%)	TCFA proposed reservation <sup>on public land 6</sup> (ha)	TCFA proposed reservation <sup>on public land</sup> (%)	2011 reservation (ha) <sup>7</sup>	2011 reservation (%) <sup>8</sup>
Coastal <i>E. amygdalina</i> dry sclerophyll forest	40 090	12 610	24 300	60	26 590	66	26 400	66	26 110	65
<i>E. amygdalina</i> forest on dolerite	30 490	5 790	15 390	50	18 960	62	18 740	61	18 750	61
Inland <i>E. amygdalina</i> forest	2 860	140	170	6	870	30	550	19	520	18
<i>E. amygdalina</i> forest on sandstone	6 600	700	2 160	33	4 680	71	4 680	71	4 250	64
<i>Allocasuarina verticillata</i> forest	970	440	510	53	540	56	520	54	520	54
<i>E. brookeriana</i> wet forest	690	40	60	8	230	33	230	33	230	33
<i>Banksia serrata</i> woodland	160	120	120	75	120	75	120	75	120	73
<i>E. coccifera</i> dry forest	32 630	25 690	27 930	86	29 610	91	29 600	91	28 670	88
<i>Callitris rhomboidea</i> forest	600	230	330	54	340	57	330	55	340	57
Dry <i>E. delegatensis</i> forest	79 820	40 100	48 180	60	54 100	68	54 000	68	53 570	67
<i>E. viminalis</i> / <i>E. ovata</i> / <i>E. amygdalina</i> / <i>E. obliqua</i> damp sclerophyll forest	2 500	670	1 780	71	1 760	70	1 710	69	650	66
Tall <i>E. delegatensis</i> forest	104 420	50 880	57 980	56	63 500	61	63 430	61	64 300	62
King Billy Pine with deciduous beech forest	370	340	340	92	370	100	370	100	360	97
<i>E. viminalis</i> and/or <i>E. globulus</i> coastal shrubby forest	870	130	130	15	170	20	170	19	120	14
Grassy <i>E. globulus</i> forest	4 910	2 720	4 000	81	4 110	84	4 030	82	3 980	81
Huon pine forest	7 610	6 650	7 280	96	7 360	97	7 350	97	7 330	96
<i>Leptospermum</i> sp. / <i>Melaleuca squarrosa</i> swamp forest	9 960	7 620	8 320	84	10 580	91	10 580	106	8 970	90
Callidendrous and thamnic rainforest on fertile sites	159 640	79 280	93 870	59	131 110	82	131 000	82	130 410	82
Thamnic rainforest on less fertile sites	335 900	223 290	265 420	79	308 420	92	308 400	92	306 160	91

Forest Community	Old Growth									
	1996 area (ha)	1996 reservation (ha)	RFA proposed reservation (ha)	RFA proposed reservation (%)	TCFA proposed reservation <sup>5</sup> (ha)	TCFA proposed reservation (%)	TCFA proposed reservation <sup>on public land 6</sup> (ha)	TCFA proposed reservation <sup>on public land</sup> (%)	2011 reservation (ha) <sup>7</sup>	2011 reservation (%) <sup>8</sup>
<i>Melaleuca ericifolia</i> forest	310	30	30	10	200	65	200	65	200	64
Dry <i>E. nitida</i> forest	107 370	85 460	95 520	89	99 980	93	99 930	93	99 770	93
<i>Notelaea ligustrina</i> / <i>Pomaderris apetala</i> forest	270	190	190	72	220	81	220	81	220	81
Tall <i>E. nitida</i> forest	49 600	45 290	47 150	95	48 230	97	48 220	97	48 230	97
Dry <i>E. obliqua</i> forest	46 960	19 110	27 590	59	31 650	67	31 560	67	30 600	65
Tall <i>E. obliqua</i> forest	83 490	28 920	44 970	54	52 830	63	52 790	63	52 620	63
Shrubby <i>E. ovata</i> forest	470	110	150	32	180	38	160	35	160	34
<i>E. pulchella</i> / <i>E. globulus</i> / <i>E. viminalis</i> grassy shrubby dry sclerophyll forest	63 840	9 140	26 680	42	32 910	52	30 230	47	0 230	47
Pencil Pine with deciduous beech forest	170	170	170	100	170	100	170	100	170	97
<i>E. pauciflora</i> forest on Jurassic dolerite	1 870	910	1 280	68	1 110	59	1 110	59	1 220	65
Pencil pine forest	340	330	330	100	340	100	340	100	340	100
<i>E. pauciflora</i> forest on sediments	4 300	2 720	2 770	64	3 140	73	3 140	73	3 130	73
<i>E. regnans</i> forest	13 290	4 900	6 320	48	7 480	56	7 480	56	7 580	57
<i>E. risdonii</i> forest	10	0	0	0	0	0	0	0	0	7
<i>E. rodwayi</i> forest	730	120	140	19	140	19	140	19	140	19
<i>E. sieberi</i> forest on granite	960	180	790	82	800	83	800	83	790	83
<i>E. sieberi</i> forest on other substrates	1 660	320	790	48	830	50	830	50	820	49
<i>E. subcrenulata</i> forest	7 420	6 500	6 560	88	6 640	89	6 640	89	6 670	90
<i>E. tenuiramis</i> forest on granite	2 900	1 280	2 670	92	2 730	94	2 730	94	2 730	94
<i>E. tenuiramis</i> forest on dolerite	5 490	2 190	4 470	81	4 850	88	4 850	88	4 850	88
Inland <i>E. tenuiramis</i> forest	7 980	820	1 540	19	2 870	36	2 130	27	2 110	26
<i>E. viminalis</i> grassy forest	8 500	530	760	9	1 010	12	920	11	880	10
Wet <i>E. viminalis</i> forest on basalt	140	60	100	71	100	71	100	71	90	66
King Billy pine forest	17 300	15 290	15 590	90	17 200	99	17 190	99	16 930	98
<b>TOTAL</b>	<b>1 246 430</b>	<b>682 020</b>	<b>835 640</b>	<b>67</b>	<b>977 480</b>	<b>78</b>	<b>972 560</b>	<b>78</b>	<b>966 860</b>	<b>78</b>

1. Includes reserves on Commonwealth land, other public land and Private CAR Reserves
2. Includes formal and informal reserves on public land only
3. Old growth forest extent is as at the first quarter of 2010 and reserves are as at 30<sup>th</sup> June 2011. Includes formal and informal reserves on public land only
4. The 2011 reserved extent expressed as a percentage of the unrounded 1996 extent

10. *The State will, by June 2006, submit proposals for all new Formal Reserves outlined in Attachment 1 to the Tasmanian Parliament for approval, in accordance with legislative requirements, and use its best endeavours to secure the enactment of the proposals.*

Implementation of this commitment was completed prior to, and reported on in, the 2007 Review.

11. *The State will identify those Informal Reserve areas, as indicated in Attachment 1 on State forest on Management Decision Classification maps as Protection Zones and manage the areas for the protection of the CAR values of that land, subject to field verification of the existence and extent of those values.*

Implementation of this commitment was completed prior to, and reported on in, the 2007 Review.

12. *The State will progressively amend Forest Management Plans to include the updated Formal and Informal Reserves, completing the process by 30 June 2008.*

This commitment has been completed.

Forestry Tasmania produced a single Forest Management Plan in 2008 (Sustainability Charter) to cover all State Forest including formal and informal reserves and replaced the previous plans based on operational District boundaries. The plan can be found at: [www.forestrytas.com.au/uploads/File/pdf/Charter.pdf](http://www.forestrytas.com.au/uploads/File/pdf/Charter.pdf)

13. *The Commonwealth agrees that approximately 500 hectares of Commonwealth owned land, specified in Attachment 1 and shown indicatively on Map 3, will form part of the CAR Reserve System as Informal Reserves. These Informal Reserves will be included in new and revised Management Plans prepared for the areas, with public participation, by 30 June 2008.*

A Management Plan for this area was developed and completed through Forestry Tasmania's Sustainability Charter 2008.

14. *The State agrees that approximately 3900 hectares of Old Growth forest on unallocated Crown land and shown indicatively on Maps 1, 2 and 3 will not be available for timber harvesting and shall be managed for protection of the Old Growth forest pending completion of the current Crown Land Assessment and Classification Project process.*

This commitment has been implemented.

All identified areas of old growth on unallocated Crown land were being managed for protection pending implementation of the outcomes of the Crown Land Assessment and Classification project (CLAC).

The CLAC assessment was completed with more than 107 000 hectares of unallocated Crown land and Public Reserves including nearly 6000 separate parcels assessed. Of this, some 78 600 hectares was recommended for reservation under the *Nature Conservation Act 2002* and a further 14 200 hectares recommended to be reserved (or retained) as Public Reserves under the *Crown Lands Act 1976*.

Mapped areas of old growth forest within the areas recommended for reservation at October 2006 were 4300 hectares. By the end of June 2011 about one third (28 000 hectares) of the total area had been gazetted. The larger reserves and those

containing old-growth were prioritised for earliest gazettal. The remaining batches of reserves were to be gazetted in batches of 10 reserves on an approximately monthly basis. Some contain old growth forest.

15. *The State agrees that approximately 3500 hectares of forest on public land vested in Hydro Tasmania and shown indicatively on Maps 1 and 2 will not be available for timber harvesting and shall be managed for protection of the Old Growth forest values pending a review by Hydro Tasmania of land required for management of their infrastructure. The State further agrees that, subject to further consultation with the Commonwealth, those lands containing Old Growth forests not required by Hydro Tasmania for infrastructure will be protected under appropriate land tenure arrangements. Hydro Tasmania has agreed to covenant approximately 1300 hectares of sub-alpine eucalypt forest (identified on Maps 2 and 3) on freehold land it owns and that this land will be protected as part of the CAR reserve system.*

By June 2011, Hydro Tasmania had protected all identified areas of old growth forest on Crown land vested to it pending its consideration of the recommendations of the completed review of Hydro Tasmania's land requirements.

Boundaries of areas of Hydro Tasmania land to be divested were identified and procedures for the inclusion of these areas into the CAR reserve system were progressed by the Department of Primary Industries, Parks, Water and Environment and Forestry Tasmania.

The vesting process had not been completed by the end of the reporting period.

### **Changes to elements of the reserve system**

16. *Consistent with clause 57 of the RFA, the Parties agree that any changes to those elements of the CAR Reserve System in Informal Reserves:*
  - *will only occur in accordance with the RFA; and*
  - *will maintain the level of protection of identified values at the regional scale; and*
  - *that information on all such changes will be publicly available.*

Implementation of this commitment is ongoing.

These TCFA requirements are being applied to all the new Informal Reserves and will be reported against clause 57 in future RFA five-yearly reviews. The full CAR reserve system is now publicly available as a spatial layer on the Tasmanian Land Information System (LIST), available at: [www.thelist.tas.gov.au/](http://www.thelist.tas.gov.au/). Changes to all categories of CAR reserve are publicly available through the annual updates to this spatial layer.

17. *The State undertakes to maintain records indicating the location, extent and purpose of any amendment to the Informal Reserve system and the net impact that any amendments have on CAR values.*

Implementation of this commitment is ongoing.

Forestry Tasmania maintains a record of all changes to Informal Reserves on State forest and CAR values within changed areas. Information on changes during the

review period is provided at Clause 57 in Part 1 of this report. The public will be able to observe changes in the spatial layer through the annual updates to the CAR reserves spatial layer on the LIST.

### **Reporting and data access**

18. *The State agrees to provide the Commonwealth with updated copies of digital maps of the Formal and Informal Reserves by June 2006, and at the five yearly reviews. This information will be made publicly available on request. Summary information and digital coverage will be provided between these periods if there are any substantial amendments to the CAR Reserve System.*

This commitment has been completed.

The State has provided digital data of all final boundaries of the new Reserves to the Commonwealth and is publicly available at: [www.thelist.tas.gov.au/](http://www.thelist.tas.gov.au/).

19. *The Parties agree that access to data continues to be provided in accordance with clause 90 and Attachment 14 of the RFA. The Parties note that the following datasets are now publicly available through the State's Land Information System Tasmania (LIST):*

- *public land tenure (1:25,000);*
- *forest vegetation communities (1:25,000).*

Implementation of this commitment is ongoing.

Arrangements for data access specified in the RFA have been maintained.

All of the new Formal Reserves and Informal Reserves were incorporated into a publicly available CAR Reserves layer as part of the Tasmanian Land Information System (LIST), available at: [www.thelist.tas.gov.au/](http://www.thelist.tas.gov.au/).

### **Private land reservation**

20. *The Parties agree to co-operate to improve the protection of Old Growth forest on private land, particularly for forest communities that complement the new reserves on public land.*

Tasmania has cooperated with the Australian Government in the design and implementation of the Australian Government's Forest Conservation Fund program. The Forest Conservation Fund concluded in June 2009 having secured, with the commitment of over 150 landowners, around 28 023 hectares of forest including approximately 11 039 hectares of old growth forest. Further information is available from the Department of the Environment's website at: [www.environment.gov.au/land/forestpolicy/fcf/index.html](http://www.environment.gov.au/land/forestpolicy/fcf/index.html)

21. *The Commonwealth will establish, administer and fund a new market-based program to protect and manage up to 45,600 hectares of forested private land, additional to that secured under the Private Forest Reserves Program, targeting Old Growth forest and under-reserved forest communities. This program will include a specific component, capped at \$3.6 million, to protect up to 2400 hectares of forest land in the Mole Creek area.*

This commitment has been completed.

The Commonwealth implemented the Forest Conservation Fund program and further details regarding outcomes are at clauses 23 and 24 below.

23. *The new program will be developed and managed jointly with the State through a steering committee. The Parties will consult with Tasmanian private forest owner representatives and representatives of other non-government interests on the design and implementation of the program.*

This commitment has been completed.

A joint Steering Committee was formed to manage the Forest Conservation Fund program. An Advisory Group, with representatives of key stakeholders, met on several occasions throughout the design and implementation of the program.

The Forest Conservation Fund Program developed a competitive tender process within which landowners applied for funding for the covenanting of their forested land. On-ground implementation occurred through a service provider team based in Hobart that employed a network of conservation advisors.

The Forest Conservation Fund Program concluded on 30 June 2009. Registration of covenants on titles and final payments to landowners was finalised by December 2010. (Also refer to Clause 25).

Total funding approved for covenants and land purchases under the Forest Conservation Fund program (including Mole Creek under Clause 21, Part 2) was at around \$43 million for 28,023 hectares of under-reserved forest types, of which 11,039 hectares was classified as old growth forest.

The Forest Conservation Fund Revolving Fund was established in 2007-08. In 2008-09 the Revolving Fund was extended for an additional 5 years to 2013-14. Through this mechanism, forested land was purchased, placed under covenant and revolved for sale on the open market.

24. *The program will be administered in accordance with a strategic plan to be agreed between the Parties within four months from the date of this Supplementary Agreement. Overall responsibility for the administration of the program will reside with the Commonwealth.*

Implementation of this commitment was completed prior to, and reported on in, the 2007 Review.

25. *The State will establish conservation covenants on land titles under the Tasmanian Nature Conservation Act 2002 on lands protected by covenant under this program. The Commonwealth will reimburse the State all costs associated with covenanting the land.*

This commitment has been completed.

The Forest Conservation Fund program was scheduled to conclude on 30 June 2009; however the then Prime Minister approved the extension of the program to December 2010 to allow the State Government to complete the required covenanting process under the *Tasmanian Nature Conservation Act 2002*.

The Tasmanian Department of Primary Industries, Parks, Water and Environment processed and executed all conservation covenants in accordance with the terms of the agreement with the Commonwealth by 31 December 2010.

26. *The State will provide ongoing monitoring and management support services to owners of the covenanted land. The Commonwealth will provide one-off funding to the State of \$5.5 million in 2005-06 from program funding to cover the costs of these services.*

Implementation of this commitment is ongoing.

The Commonwealth has provided the funding and the Tasmanian Government, through the Department of Primary Industries, Parks, Water and Environment, is providing these services.

27. *The Parties agree that the Private Forest Reserves Program established under clause 59 of the RFA will continue to operate using the remaining funds provided under clause 100 of the RFA until 30 June 2006, at which time the Program shall cease.*

This commitment has been completed including finalisation of covenants still outstanding in 2007.

28. *The Parties agree to negotiate a new financial agreement, subject to the provisions of the Natural Heritage Trust of Australia Act 1997, that will provide for the use of Private Forest Reserve Program Natural Heritage Trust funds held by the State at the date of this Supplementary Agreement and the transfer of any of those funds remaining at June 2006, to the new program outlined in clause 21 above.*

The agreement, acquittal and transfer of funds have been completed.

29. *The State agrees to use the balance, at 30 June 2006, of the State Trust Fund established with Commonwealth funding under clause 101(iv) (excluding any amount provided from the Natural Heritage Trust) of the RFA to fund a State Private Property Vegetation Conservation Program.*

Implementation of this commitment was completed prior to, and reported on in, the 2007 Review.

## **Forest Management**

### **Old Growth silviculture on public land**

30. *The Parties are seeking to strengthen protection and sustainable management of Old Growth forest. The Commonwealth supports the State's policy to reduce clearfelling as a silvicultural technique in public Old Growth forests and the State's commitment to achieve non-clearfelling silviculture in a minimum of 80 per cent of the annual harvest area of the couped Old Growth forest on State forests by 2010. The Parties agree to jointly fund a package of forest management and operations, industry development, and research and development activities to implement this approach. The Parties note Forestry Tasmania will also undertake additional investments, beyond the scope of this funding package, to ensure its statutory wood supply requirements are met.*

The Tasmanian Community Forest Agreement set a target to reduce clearfelling to 20 per cent of annual harvest in old growth forests, subject to confirmation that appropriate progress was being made across a full range of ecological, social and economic objectives.

A research programme on Alternatives to Clearfelling in Old Growth Forests, which was funded under the Tasmanian Community Forest Agreement, was completed in October 2010 ([http://www.daff.gov.au/forestry/national/info/clear-felling/tcfa\\_alternatives\\_finalreport](http://www.daff.gov.au/forestry/national/info/clear-felling/tcfa_alternatives_finalreport)).

The \$2 million program commenced in 2006 to identify, commission and report on research into alternatives to clearfelling old growth forests on public land in Tasmania. Its key outcomes were:

- Research and field trials, including economic analysis, of alternatives to clearfelling;
- A growing list of science publications which included some 20 journal publications, 16 reports and non-refereed publications, 4 theses and 22 conference presentations at June 2011;
- Assistance to Forestry Tasmania in convening a panel of international experts in forest conservation and management;
- A research base as the focal point for an international conference – Old Forests New Management - as part of a review of the Warra-based research programme and recommendations on future directions;
- A science-based review and formal evaluation of the program by Forestry Tasmania in 2009, *A new silviculture for Tasmania's public forests*
  - Refer to:  
[www.forestrytas.com.au/uploads/File/pdf/pdf2009/a%20new%20silviculture%20web%20version.pdf](http://www.forestrytas.com.au/uploads/File/pdf/pdf2009/a%20new%20silviculture%20web%20version.pdf)

In Tasmania's tall old growth forests, the main silvicultural alternative to clearfelling has been the development of variable retention silviculture. The research programme has provided assurance that the variable retention technique can be safely and effectively implemented in old growth forests and is supported by science.

The variable retention technique aligns well with international best practice and Forestry Tasmania believes it now has a capacity, within operational, economic and safety constraints, to undertake up to 1,000 hectares of variable retention harvesting on State forest annually.

The table below summarises the annual harvest of old growth forest on public land for the five years up to 2010-11. The current priority is to meet the Tasmanian Community Forest Agreement target to use non-clearfell silviculture in a minimum of 80 per cent of the annual old growth harvest area on public land. Good progress was made (75 per cent in 2010-11) towards this target. Uncertainties around markets, including those resulting from the Statement of Principles process, and the need to rapidly reschedule harvest areas to meet contractual obligations to customers, meant that the target was not fully achieved in the reporting period.

The evaluation in 2009 made a recommendation, subsequently accepted by the parties (page 16, recommendation 3), that Forestry Tasmania should;

“3. Adopt a compliance target based on a five year average, aligned with RFA five-yearly reviews. The target should be updated to read:

*To reduce clearfelling of oldgrowth forest by achieving non-clearfell silviculture in a*

*minimum of 80 per cent of the annual oldgrowth harvest or by limiting the annual clearfelling of oldgrowth forest to less than 330 ha per year.”*

The table below shows the target of clearfelling less than 330 hectares of old growth per year was met by the last year of the review period.

**Table 15: Old growth harvesting (clearfell and partial) on public land**

<i>Harvest year</i>	<i>2006-07</i>	<i>2007-08</i>	<i>2008-09</i>	<i>2009-10</i>	<i>2010-11</i>
Old growth clearfelled (ha)	780	690	810	580	320
Cumulative area of clearfell from 2001 (ha)	6,700	7,390	8,200	8,780	9,120
Cumulative clearfell as % of total old growth in Tas (ha)	0.55%	0.60%	0.67%	0.72%	0.74%
Old growth partial harvesting (ha)	690	1,420	1,460	740	1,020
Total old growth harvesting (ha)	1,470	2,120	2,270	1,320	1,370
Partial harvesting of old growth as a percentage of total old growth harvested for the year	47%	67%	64%	56%	74%

Notes: Figures are rounded actual totals

Harvested areas for last 5 years, but cumulative totals since 2001.

In the longer term there may be more ecologically beneficial ways of implementing variable retention harvesting, rather than overly focussing on defined old growth forest. It may be more valuable to implement variable retention harvesting in selected areas of the commercial native forest estate, to retain old growth elements where they deliver the greatest biodiversity benefit.

31. *The State will publicly report the area of public Old Growth forest harvested by silvicultural technique each year.*

This commitment was met during the reporting period and is ongoing.

The area of old growth forest harvested on public land each year is reported in Forestry Tasmania's annual Stewardship Report, available at: [www.forestrytas.com.au/](http://www.forestrytas.com.au/).

32. *Progress to achieving safety, regeneration and log supply objectives will be reviewed by the State in 2007.*

This commitment was met with the review being undertaken in 2007.

Operational outcomes and research progress were reviewed by an independent international science panel. Final reports have been published. Findings were presented at a major international conference *Old Forests, New Management* held in Hobart in February 2008. 260 delegates from 20 countries attended.

Forestry Tasmania released a report *A new silviculture for Tasmania's public forests* on the review of the variable retention program on 22 May 2009.

The review and related research reports are available at:

<http://www.forestrytas.com.au/publications/a-new-silviculture-for-tasmanias-public-forests>.

### **Intensive Forest Management**

33. *Further to clauses 75 to 77 of the RFA, the Parties agree that further Intensive Forest Management will be used to mitigate the impact of new reserves and the reduction in use of clearfelling techniques within Old Growth forest.*

See report on clause 34.

34. *The Parties agree to jointly support, and the State will deliver, an integrated program of existing plantation productivity improvement and development, new plantation establishment, and enhanced native forest thinning programs designed to maintain targets referred to in clause 77 of the RFA for sustainable sawlog and veneer log supplies to industry from State forests.*

To 31 December 2010 the State had delivered on State forest:

- 12,463 hectares of new plantation established;
- 23,292 hectares of existing eucalypt plantation pruned;
- 16,180 hectares of existing eucalypt plantation fertilised; and
- 3,387 hectares of native forest regrowth thinned.

### **Reserve management**

36. *The State will deliver management and planning for the new reserves on public land created under this Supplementary Agreement.*

All new reserves on public land are being managed by Forestry Tasmania or the Department of Primary Industries, Parks, Water and Environment as part of their larger land estate and consistent with relevant reserve management objectives.

37. *The Parties acknowledge, in particular, the importance of the north west forests both to Aboriginal and other communities, and agree that management arrangements for new reserves will involve consultation with these communities to maintain access for traditional land uses and to agree the basis for long term management plans to maintain cultural links and uses, consistent with the conservation values of these areas.*

The Cradle Coast Authority has convened a stakeholder advisory group to provide a forum for information sharing. The Department of Primary Industries, Parks, Water and Environment and Forestry Tasmania are represented on this group.

The Department of Infrastructure, Energy and Resources and Forestry Tasmania and engaged the community in Northwest Tasmania in relation to planned tourism developments based on new TCFA reserves.

## 1080 use

38. *The State undertakes to phase-out use of 1080 on State forests by December 2005. This will require alternative strategies for browsing animal control in new forest plantings to be developed and implemented.*

Implementation of this commitment was completed prior to, and reported on in, the 2007 Review.

The use of the chemical 1080 for browsing animal control on State forests ceased from 31 December 2005.

39. *The Parties agree to work collaboratively on a joint program to accelerate research into, and implementation of, alternative strategies for browsing animal control on private forest and agricultural lands. The Commonwealth will invest \$4 million in a research, field testing and demonstration program to provide alternative options for private landholders, and work with the State in light of these results to continue to reduce the usage of 1080 on private lands.*

The Program's primary funding mechanism was through targeted grants. \$2.4million was invested in 19 external research projects. This funding was offered over four separate rounds of competitive grants. In addition, \$0.8m was invested in a program of research and demonstration work, undertaken by project officers working within DPIPWE. This work primarily focused on shooting and trapping as alternatives to 1080, but worked with researchers and stakeholders in a wide range of areas. A further \$0.4m was invested in a joint program with the Tasmanian Institute of Agricultural Research's (TIAR) extensive agriculture group looking at fencing, browsing behaviour, repellents, seedling stockings and Feratox® as alternatives to 1080 poison. A further \$0.4m was invested in program management.

The Program successfully advanced knowledge of alternative browsing damage control options, including specialised shooting equipment, new trap designs and trapping approaches, improved cost effectiveness of seedling stockings, evaluation of several potential repellents, improvements in wildlife-proof fencing, and an alternative and potentially more humane poison, Feratox®.

The Program showed that to be effective at reducing crop or pasture losses, any control strategy must effectively reduce and then maintain very low wildlife numbers on the crop or pasture area over time, and must target those areas where the highest levels of damage are being experienced.

The Program identified that the most effective control strategies are likely to be those which use a combination of controls, such as effective wallaby proof fencing with best practice shooting, trapping or poisoning and which use effective pasture or crop monitoring techniques to monitor the success of the program. The Program also showed that these strategies can be cost effective in reducing crop damage and pasture loss by browsing animals if implemented effectively. The full report on the program can be found at

<http://dpiipwe.tas.gov.au/wildlife-management/management-of-wildlife/the-alternatives-to-1080-program/the-alternatives-to-1080-program-final-report>

## Wildlife management

41. *The Parties note that the wallaby management plans for Flinders and King Islands are currently being developed for public consultation prior to formal consideration by State and Commonwealth regulatory bodies in accordance with relevant legislation. The State will develop a pilot wallaby management plan for a forested area on the Tasmanian mainland as a priority as an alternative animal browsing control strategy.*

The wallaby management plans for Flinders and King Island were completed and approved by State and Commonwealth regulatory bodies in the previous review period. However, these plans lapsed expired at the end of 2010 and were not renewed as markets for wallaby products had not significantly developed and the plans were not supported by landholders on King and Flinders Islands. The Department of Primary Industries, Parks, Water and Environment decided not to proceed with the pilot wallaby management plan under Clause 41 of the TCFA for the same reasons. The Department is still committed to investigating a wallaby management plan, but the need for such a plan will depend on market viability. As any viable market is likely to rely on wallaby products being sourced from both forest and non-forest area, the scope of a management plan will need to be state-wide, and therefore its development will most probably occur outside the TCFA process (and therefore Clause 42 would also no longer be pursued). If and when such circumstances transpire, the Department would commit to fully investigating the preparation of a plan; although against the background of a bigger export kangaroo meat trade, the marketing effort would need to be developed (niche quality product) to compensate for the much smaller weight of useable meat from a wallaby than from a kangaroo.

Commercial shooting is seen as one tool in a range of options to assist land managers to protect crops and pastures from wallaby browsing without use of 1080 poison. Trials involving shooting, including commercial harvesting conducted under the alternatives to 1080 program, suggested that a lot of shooting effort undertaken for crop protection purposes was not achieving this objective. Trials on King Island showed that commercial harvesting, in isolation, of high density populations, had no benefit for pasture protection, and even intensive shooting was only effective if the landholder was able to sustain an ongoing shooting effort to maintain low population levels after the initial control knockdown effort. This appears to have only been achieved on one site in this trial.

Wallabies harvested from forest regeneration or plantation areas produce meat which is much less acceptable than that fed on pasture. The industry is therefore unlikely to harvest wallabies in forest areas.

A possum management plan is in place and provides important guidance and precedence for the preparation of a wallaby management plan.

A challenge in the development of a plan has been to gain the acceptance of the Commonwealth that the commercial take would be treated separately from the non-commercial (crop-protection) take.

With respect to the possum harvest, the Commonwealth agrees that it has a role to play in regulating the commercial take but not in regulating routine or non-commercial take (pest cull).

Previous wallaby plans for the Bass Strait islands have little apparent support in the farming community. The cost of not discriminating between the two types of take was greater than any economic benefit from the harvesting for the meat trade.

42. *The Commonwealth will progress the regulatory process for the plans referred to in clause 41 under the Environment Protection and Biodiversity Conservation Act 1999 as a matter of priority.*

There were no actions to report under this recommendation. Clause 42 specifically commits to progressing the regulatory process for wallaby management plans for King and Flinders Islands. The management plans previously in force lapsed and there was no demonstrable support from landholders on the islands to reinstate them for reasons outlined above. In the event of demonstrated need, the intention would be to progress a State-wide plan as this would allow more commercial flexibility. Acceptance of any harvesting plan under the *Environment Protection and Biodiversity Conservation Act 1999* is a logical conclusion to such a process as the requirement to allow for an export market would be anticipated.

### **Special species timbers and leatherwood honey resource**

44. *The Parties agree to jointly fund, and the State will deliver, initiatives to support access to and management of selected areas of special timbers management units on State forest, for selective harvest of special species timbers, and to provide beekeepers with rotating access to apiary sites to maintain sustainable supplies of leatherwood honey.*

72 kilometres of new roading was constructed over three years at a cost of \$3 million and completed in 2007-08.

### **Native vegetation clearing and conversion**

45. *The Parties have agreed an approach to the phasing out of broad scale clearing and conversion of native forest in Tasmania. The State agrees to revise the Permanent Forest Estate Policy so that:*

- *An overall cap on clearing or conversion of native forest on both public and private land will be established to retain 95 per cent of the 1996 area of native forest;*
- *Broad scale clearing and conversion of native forest on public land will be phased out by 2010;*
- *Broad scale clearing and conversion of native forest on private land will be phased out over a period of ten years from the date of this Supplementary Agreement; and*
- *Assessment criteria for regulating forest clearing and conversion will ensure the protection of regional biodiversity and water quality values and to meet salinity objectives.*

Implementation of this commitment was completed prior to, and reported on in, the 2007 Review.

46. *The State agrees that the design of the approach outlined in clause 45 will be developed, in consultation with the Commonwealth, and will be implemented within six months of the date of this Supplementary Agreement, including public release of the revised Permanent Forest Estate Policy.*

The policy was revised in consultation with stakeholders including the Commonwealth, forest industry and private landowner representatives. The revised Policy was released in November 2005. It included a requirement for development of implementation guidelines in consultation with stakeholders.

The implementation guidelines were completed and incorporated into a revised Policy released by the Tasmanian Government in March 2007. The policy was subsequently revised in 2009 and a further update was in preparation as at June 2011, principally to clarify implementation mechanisms and responsibilities to achieve the policy. The latest version can be viewed at:

[www.dier.tas.gov.au/forests/permanent\\_native\\_forest\\_estate\\_policy](http://www.dier.tas.gov.au/forests/permanent_native_forest_estate_policy)

47. *The Parties agree that the controls on private forest clearing and plantation conversion will not otherwise constrain private forest owners from undertaking sustainable commercial harvesting and regeneration of native forest and other land uses on their land that maintain the native forest cover.*

The policy specifically provides that sustainable commercial harvesting and regeneration of native forests and other land uses that maintain the native forest cover are not constrained by the policy.

48. *The State undertakes to introduce new statutory mechanisms to the Tasmanian Parliament by December 2005 to prevent the clearing and conversion of rare, vulnerable and endangered non-forest native vegetation communities on public and private land, and use its best endeavours to secure the enactment of the proposals. The Parties agree to make the necessary amendments to the Bilateral Agreement for the Extension to the Natural Heritage Trust (2003) consistent with this undertaking.*

Implementation of this commitment was completed prior to, and reported on in, the 2007 Review.

## **Forest Industry Development and Revitalisation**

### **Industry retooling and new plant investment**

53. *The Parties agree to jointly manage a program to facilitate forest industry retooling and investment in new plant and technology. The program will aim to maximise recovery of forest products from increasing use of regrowth, plantation and other changes in the resource mix.*

Three programs funded and administered by the Australian Government have been completed.

The programs were:

- Forest Industry Development Program (TFIDP)
- Softwood Industry Development Program (TSIDP)
- Country Sawmillers Assistance Program (TCSAP).

Details of the TSIDP are provided at clause 63 and the TCSAP at clause 55.

Under the Tasmanian Forest Industry Development Program, the Australian Government provided \$42 million to assist the Tasmanian native timber industry. Specifically, the program contributed financial assistance for 62 projects which contributed over \$160 million of new investment across the harvesting and processing sectors of the native hardwood industry. These projects improved sawlog utilisation rates, added value to Tasmanian forest resources, developed new products, upgraded harvesting equipment, promoted exports, and supported employment.

54. *The Parties agree to consult with industry to determine the priority areas for allocation and delivery of the funding. Projects considered for funding will be industry and market focused, and commercially viable. Highest priority will be given to commercial proposals in business plans from mills affected by the changes in the resource mix for the improved utilisation of regrowth and hardwood plantation grown wood.*

Implementation of this commitment was completed prior to, and reported on in, the 2007 Review.

55. *The Parties agree to provide assistance for country sawmillers and to special species timber mills significantly affected by the new agreed reserves in north-western Tasmania.*

The \$4 million Tasmanian Country Sawmillers Assistance Program (TCSAP) was funded and administered by the Commonwealth. During the program the allocated funding was revised to \$3.2 million and a 30 per cent additional payment was later allocated to assist grantees offset tax liabilities. This brought the total funding allocation under the TCSAP to \$4.2 million.

Over the entire program \$3.6 million was expended on the TCSAP helping to stimulate and contribute to over \$6 million of investment in the sawmill sector.

The program closed to new applications in June 2007 and all funding approvals were made by Ministers by 30 June 2008.

Initially the program was anticipated to conclude on 30 June 2008. However, this program was extended to 30 June 2009. This allowed 11 project funding deeds to be amended to allow these projects to be finalised. The combined grant value of these projects was \$1.42 million in the 2008-09 financial year.

The funding assisted grantees to purchase sawmill and kiln drying equipment intended to reduce the reliance on old growth forest material, assist in processing small and young logs and increase value adding of sawn material.

56. *The Parties agree to provide assistance for the development of improved marketing, recovery and value adding initiatives for special species timbers.*

Forestry Tasmania prepared and released a Special Timbers Strategy in February 2010. The strategy sets out three key objectives: sustaining the resource; maximising value recovery; and promoting Tasmania's special timbers to the world.

Fine Timbers Tasmania, a not-for-profit organisation, was established ([www.chainofcustody.com.au/](http://www.chainofcustody.com.au/)) to promote chain of custody certification to a wide range of Tasmanian businesses and to increase customer awareness of timber legally sourced from sustainably managed forests.

Forestry Tasmania continued to build the Island Specialty Timbers Tasmania enterprise ([www.islandspecialtytimbers.com.au/shops/ist](http://www.islandspecialtytimbers.com.au/shops/ist)) with operations continuing at Geeveston, increased sales from Strahan and the opening of a new sales outlet at Smithton.

Tasmania's special timbers were promoted and sold at the Timber and Working with Wood shows held in Melbourne, Brisbane, Sydney and Canberra.

A program of fencing of blackwood rich coupes to protect blackwood regrowth from browsing occurred in the review period. For more detail on this program see [http://cdn.forestrytasmania.com.au/uploads/File/pdf/pdf2014/review\\_sustainable\\_blackwood\\_supply\\_2013.pdf](http://cdn.forestrytasmania.com.au/uploads/File/pdf/pdf2014/review_sustainable_blackwood_supply_2013.pdf)

### **Management of harvest residue**

58. *The State will implement publicly accountable systems for monitoring of the impact of forest residue harvesting for biomass energy plants on biodiversity values.*

No biomass energy plants have been established in Tasmania to date.

### **Infrastructure development**

59. *The Parties agree to provide funding for, and the State will deliver, additional roading and other infrastructure to support the implementation of changed harvesting programs required for the introduction of the new silviculture in public Old Growth forest.*

Final work on implementation of this commitment was completed in 2009-10.

### **Pulp mill approvals**

60. *The Parties agree to progress all required assessment processes of the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 as a priority. The Commonwealth has agreed to an accredited State assessment under the Act.*

The former Commonwealth Minister for the Environment and Water Resources approved the Gunns Limited pulp mill on 4 October 2007 under the EPBC Act.

The approval contained 48 conditions which were designed to ensure matters of national environmental significance were protected. As part of these conditions, the then proponent, Gunns Limited, needed to submit an Environmental Impact Management Plan (EIMP) for the Minister's approval. In considering the plan, the Minister was to take into account expert scientific advice from a specially appointed Independent Expert Group. The conditions imposed stringent requirements, including controls on effluent discharge and measures to protect listed threatened species.

On 10 March 2011 the then Minister for Sustainability, Environment, Water, Population and Communities approved the remaining modules of the EIMP required under the EPBC Act conditions of approval for the Bell Bay pulp mill. At that time the Minister also approved tougher environmental controls sought by Gunns Limited to be incorporated into the EIMP. The plan specified that the proponent would only use plantation timber for the pulp mill and a bleaching process that would use less chlorate than first was proposed. This became a legally binding commitment required

to be implemented as part of the Commonwealth Government conditions of approval for the mill operations.

The March 2011 approval of the final three EIMP modules and tougher environmental controls completed the necessary Commonwealth environmental approvals for the Gunns Limited Bell Bay pulp mill.

The Tasmanian Department of Primary Industries, Parks, Water and Environment, Tasmanian Environment Protection Authority and the Commonwealth Department of the Environment continue to work closely to coordinate their respective regulatory activities and information requirements.

62. *The Commonwealth agrees to consider giving the pulp mill project major project status and facilitation of the project at the national level.*

*Implementation of this commitment was completed prior to, and reported on in, the 2007 Review.*

### **Softwood industry**

63. *The Commonwealth will fund and administer, in cooperation with the State, a \$10 million program of assistance to the Tasmanian softwood industry.*

The \$10 million Tasmanian Softwood Industry Development Program (TSIDP) was funded and administered by the Commonwealth in consultation with the State. During the program the funding allocation was increased to \$10.7 million and a 30 per cent additional payment was later allocated to assist grantees offset tax liabilities. This brought the total funding allocation for the TSIDP to \$13.99 million.

Over the entire program \$13.5 million was expended. This helped to stimulate over \$52 million of investment in the softwood sector as a result of the program.

The program was closed to new applications in June 2007 and all funding approvals were made by Ministers by 30 June 2008, in line with program guidelines. Initially the program was anticipated to conclude on 30 June 2008. However, this program was extended to 30 June 2009. This allowed four project funding deeds to be amended to allow these projects to be finalised. The combined grant value of these projects was \$8.49 million in the 2008-09 financial year.

The approved applications included purchase of equipment for use in plantation harvesting operations, sawmill and kiln drying upgrades, investments in processing infrastructure and increase value adding of sawn material.

64. *The Commonwealth will consult with the State and the Tasmanian softwood industry to determine the priorities to increase value added investment in softwood in Tasmania. The Parties' objective is to maintain a viable and environmentally sustainable softwood industry in the State.*

*Implementation of this commitment was completed prior to, and reported on in, the 2007 Review.*

## **Skills and training**

66. *The Commonwealth will fund and administer a program to support improved training and skills development throughout the forestry sector, including environmental care, changing forest management and wood processing, safety, product quality, and business skills.*

This commitment has been delivered through ForestWorks Ltd under an agreement with the Commonwealth Department of Education, Employment and Workplace Relations signed in June 2006. The commitment was completed in September 2010.

The major benefit of the project was the provision of expert advice and support to enterprises, registered training organisations and other stakeholders. This enhanced the level of knowledge and engagement between enterprises and service providers such as the registered training organisations, Australia Apprenticeship Centres, Group Training Organisations and Job Services Australia and supported improvements to skills and training development, careers promotion and pathways and employment outcomes within the industry.

## **Other elements supporting sustainable environmental and industry outcomes**

67. *The Parties agree to fund the development of tourism and visitor facilities in forest areas focussing on new reserves on public land created under this Supplementary Agreement.*

The programs were completed in 2009-10.

The Commonwealth funded and administered the \$3 million Tasmanian Forest Tourism Initiative to assist the development of environmentally sensitive tourism infrastructure in Tasmania, focussing on the new reserves created as part of the TCFA.

The Tasmanian Forest Tourism Initiative incorporated two related programs:

- Tasmanian Forest Tourism Development Program (\$2 million)
- Tarkine Bushwalk Program (\$1 million) This program incorporated the \$1 million bushwalking infrastructure program under clause 68.

The Tasmanian Forest Tourism Initiative used an open and competitive grants process to identify suitable proposals. The following eight projects were completed as part of this Initiative providing new infrastructure and visitor interpretation facilities, walking tracks and a mountain bike path.

- Cradle Coast Authority's Tarkine wilderness gateway experience
- Forestry Tasmania's Blue Tier Forest Reserve and associated visitor sites
- Forestry Tasmania's Edge sinkhole mountain bike track
- Forestry Tasmania's Styx State Forest tourist infrastructure development
- Kentish Council's Mount Roland Regional Reserve walking track upgrade
- Tarkine National Coalition's guide to walks and self drive tours in the Tarkine
- Tarkine National Coalition's Tarkine short bushwalks project

- Tarkine Wilderness Pty Ltd.'s enhanced visitor access and interpretation at the Southern Tarkine Gateway.

Further details of this program are at: [www.environment.gov.au/node/20486](http://www.environment.gov.au/node/20486)

The Tasmanian Government provided \$2 million towards the development of a tourism project by Forestry Tasmania at Maydena. The "Eagles Eyrie" construction has been completed and the TCFA funding components of the Maydena project finalised.

68. *The Commonwealth will fund and administer, in cooperation with the State, and subject to any required State approval processes, \$1 million towards the provision of bushwalking infrastructure in northwest Tasmania.*

This commitment has been completed in conjunction with the Tasmanian Forest Tourism Initiative – see clause 67.

69. *The Commonwealth will provide \$1 million to a catchment water quality program, developed and delivered in consultation with the State and drawing on CSIRO expertise. The program will build on State chemical audit and water monitoring programs to assess the impact of chemical usage in Tasmania's water catchments.*

The River Catchment Water Quality Initiative was launched by Ministers on 30 August 2006. The program was completed in 2007-08.

The principal outcome of the program was the development and testing of the CSIRO Pesticide Impact Residue Index (a model for predicting risk to water quality of using various pesticide chemicals to actual sites), which was launched in September 2008 and is available at: [www.dpiw.tas.gov.au/inter.nsf/Attachments/SSKA-7JB346/\\$FILE/CSIRO\\_rpt.pdf](http://www.dpiw.tas.gov.au/inter.nsf/Attachments/SSKA-7JB346/$FILE/CSIRO_rpt.pdf)

70. *The Parties agree to support State research into the Tasmanian devil facial tumour disease through a collaborative partnership.*

The work program agreed between the parties under this clause and funded under Clause 71 was completed in 2006-07.

71. *The Commonwealth will provide \$2 million to specific priority projects, developed and delivered in consultation with the State.*

The TCFA funded component of the Tasmanian Devil Facial Tumour Disease program has been completed.

The Commonwealth and the Tasmanian Government have subsequently committed to a joint Save the Tasmanian Devil Program (see <http://www.tassiedevil.com.au>).

72. *The Parties acknowledge that the initiatives outlined in this Supplementary Agreement constitute significant improvements in the sustainable management of Tasmania's forests, particularly old growth, and its forest industries. The Commonwealth agrees to provide funding towards a communication program to be delivered in consultation with the State.*

The \$2.2 million program was completed in 2008-09.

The Parties jointly developed and delivered communication about the Tasmanian Community Forest Agreement after it was signed. The Commonwealth provided approximately \$600,000 in funding to support this stage of the program.

To gain the best value from the remaining \$1.6 million of the communication budget, the Australian Government Department of Agriculture, Fisheries and Forestry commissioned a consultant to develop a communications strategy in November 2006. Based on the consultant's recommendations, \$500,000 was allocated to highlight the sustainability of the Tasmanian forest industry in international markets.

During 2007-08, the Commonwealth undertook visits to China and several European countries to promote the Australia – Sustainable Forest Management information package to government and industry stakeholders. This package was developed in consultation with the Tasmanian Government and was translated into Mandarin, French and German, and was well received by stakeholders.

\$200,000 in funding was allocated to the Forest Education Foundation to promote Tasmania's forest industry and the TCFA outcomes to complete the program.

### **Financial commitments**

75. *The Commonwealth will contribute to the State the following amounts according to the schedule of payments laid out in Table 2 in Attachment 2:*

- (i) \$66 million towards intensive forest management activities;*
- (ii) \$13 million as a general grant to support implementation of the forest package.*

The intensive forest management payment was paid over four financial years. The Commonwealth contribution of \$66 million towards intensive forest management activities was finalised with a \$19 million payment in 2007-08.

The \$13 million general grant was paid in June 2005.

76. *The Commonwealth will contribute the following amounts towards joint programs governed by separate Memoranda of Understanding agreed with the State, with estimated profiles of spending laid out in Table 3 in Attachment 2:*

- (i) \$2 million towards research into alternatives to clearfelling;*
- (ii) \$42 million towards support for the hardwood sawmill industry;*
- (iii) \$4 million towards support for country sawmills;*
- (iv) \$2.2 million towards a communication program;*
- (v) \$2 million towards tourism and recreation projects.*

- (i) See comments for clause 30.
- (ii) See comments for clause 53.
- (iii) See comments for clause 55.
- (iv) See comments for clause 72.
- (v) See comments for clause 67.

77. *The State will contribute \$90 million of new funding between the signing of this agreement and 2009-10 to fund the balance of the costs of the integrated package, with specific allocations by activity outlined in Table 1 in Attachment 2 and estimated profiles of expenditure outlined in Table 4 in Attachment 2.*

Tasmania has contributed funding in accordance with progressive expenditure under the TCFA. The final payment of \$22 million was made in 2009-10.

79. *In relation to funds provided for Intensive Forest Management, the State undertakes to provide to the Commonwealth at the end of each financial year, until the funds are expended, an annual acquittal of both Parties' funds against items of activity and an indication of the proposed level of activity for the following financial year. The Parties intend that combined government funds provided annually for this activity will broadly match expenditure on the activity (allowing some provision for advance payment), and that payments will be changed under clause 78 should there be significant variations in spending from the payments set out in Tables 2 and 4 in Attachment 2.*

Acquittal reports and proposed activity statements for the Intensive Forest Management Program have been provided to the Commonwealth in accordance with the requirements of clause 79.

## **PART 4 - Report on Implementation of Recommendations from the 2007 Five-yearly Review**

In February 2008, the Independent Reviewer John Ramsay provided his [report](#) to the Australian and Tasmanian Governments as part of the second five-yearly review of the Tasmanian Regional Forest Agreement. It contained 43 recommendations. The joint government [response](#) to these recommendations was released in January 2010.

This Part of the report provides the text from the joint government response to each recommendation for information (under the 'response' headings) and the status as at June 2011 of progress in implementation of each of these recommendations.

### **Forest Practices System**

#### **Monitoring activities**

##### **Recommendation 1**

*That the State requests the Forest Practices Authority to review and report to the Parties on the procedures and practices the Forest Practices Authority follows to guarantee the independence and integrity of its monitoring and compliance functions and activities and any change that it proposes to those procedures and practices.*

##### **Response**

The Tasmanian Government has requested the Forest Practices Authority to review and report to the Parties on the procedures and practices the Forest Practices Authority follows to guarantee the independence and integrity of its monitoring and compliance functions and activities and any change that it proposes to those procedures and practices.

The Forest Practices Authority has advised that it will undertake the review and report to both Parties during 2010, as a basis for ongoing consultations with the Parties to allow the Parties to meet their obligations under the RFA.

##### **Status**

Implementation of this recommendation was completed.

The Forest Practices Authority undertook the review of its monitoring and investigation protocols and these revised protocols were published on its web site in October 2010 ([www.fpa.tas.gov.au/compliance](http://www.fpa.tas.gov.au/compliance)).

### **Availability of Forest Practices Plans**

##### **Recommendation 2**

*That the State further progresses improvements to the Forest Practices System by requesting the Forest Practices Authority to ensure that information is available from the forest practices planning process as follows:*

*(a) Subject to appropriate non disclosure of personal or sensitive information such as any confidential location of protected sites (although the values to be protected should be identified), the content or draft content (if a request is made prior to the*

*certification of the plan) of forest practices plans, should be disclosed to immediate neighbours as soon as possible after a request is made, at a location agreed between the applicant for the Forest Practices Plan and the neighbour concerned; and*

*(b) Recognising the wider public interest in the ecologically sustainable management of Tasmania's forests, and subject to the non disclosure of the matters identified in (a) above, information on the values protected in any certified Forest Practices Plan and the manner of that protection, should be made available on request to any interested person, by ordinary mail or electronically.*

## **Response**

The Parties support this recommendation as a means of increasing transparency in the Forest Practices System.

The Tasmanian Government requested that the Forest Practices Authority implement this recommendation. The Forest Practices Authority strongly supports this principle and has progressed implementation to ensure that non-confidential information contained in Forest Practices Plans is made available to neighbours and other interested members of the public in a timely manner. The Forest Practices Authority expected to finalise implementation in early 2010.

Forestry Tasmania currently makes information available for Forest Practices Plans on State forest consistent with this recommendation.

([www.forestrytas.com.au/shops/general](http://www.forestrytas.com.au/shops/general)).

## **Status**

Implementation of this recommendation was completed.

On 26 August 2010 the Board of the Forest Practices Authority announced that it had updated its policy on the release of information within Forest Practices Plans to bring it in line with the requirements of the new Right to Information Act and this recommendation. The new policy can be accessed at:

[www.fpa.tas.gov.au/\\_data/assets/pdf\\_file/0009/58086/FPA\\_policy\\_on\\_communicati\\_on\\_of\\_information\\_relating\\_to\\_forest\\_practices\\_plans.pdf](http://www.fpa.tas.gov.au/_data/assets/pdf_file/0009/58086/FPA_policy_on_communicati_on_of_information_relating_to_forest_practices_plans.pdf)

## **Relationship between the forest sector and its neighbours**

### **Recommendation 3**

*That the Parties note the potential benefits that may follow from the review and implementation of the Good Neighbour Charter for commercial tree farming and implementation of a Good Neighbour Charter of wider scope and encourage the proposed signatories to the Charter to conclude the review as soon as possible, execute the charter and release it publicly.*

## **Response**

The review of the Good Neighbour Charter has been completed and the signatories (Forestry Tasmania, Gunns Ltd, Norske Skog Boyer Mills Ltd, Timberlands Pacific Pty Ltd, Forest Enterprises Australia Pty Ltd, and Great Southern Plantations Pty Ltd) released the Good Neighbour Charter for Commercial Forestry on 27 November 2008. The Parties welcome the Charter and recognise the importance of good relations between forest managers and neighbours, and note that the

signatories have widened the scope of the Charter to apply to native commercial forestry as well as plantations.

The revised Charter is available at: [www.fiatas.com.au/index.php?id=297](http://www.fiatas.com.au/index.php?id=297)

### **Status**

Implementation of this recommendation was completed.

### **Recommendation 4**

*That the State consults with the signatories to the proposed Good Neighbour Charter with a view to encouraging the Charter signatories to establish a process for documenting and reporting on the effectiveness of the operational implementation of the Charter.*

### **Response**

The Tasmanian Government has consulted with the developers of the Good Neighbour Charter to inform them of this recommendation and seek their support for its implementation. Discussions between the Tasmanian Government, the Forest Industries Association of Tasmania and Forestry Tasmania have commenced.

### **Status**

This action was not further progressed by the Charter signatories after the 2010 joint government response. A number of the Signatories to the Charter are no longer participating in the industry.

## **Management Planning**

### **Recommendation 5**

*That the State establishes a program, by 30 June 2008, to complete the preparation of management plans or a management regime for all national parks and other formal reserves managed under the National Parks and Reserves Management Act 2002, including identifying the cost of the preparation of such plans.*

### **Response**

The Tasmanian Government has approved management plans covering 70 per cent of the area of reserves managed under the Tasmanian *National Parks and Reserves Management Act 2002*.

Management plans are in place for 16 of the State's 19 national parks. The Tasmanian Parks and Wildlife Service has prepared a program to complete the preparation of a general management plan for the three national parks (Mt William, Rocky Cape and Savage River) that do not have a management plan.

A draft management plan for the Savage River National Park was prepared and placed on public exhibition. Completion of management planning for the remaining two national parks – Rocky Cape and Mount William - has been deferred due to Tasmanian Aboriginal community interest in these areas (see response to recommendations 7 and 8).

As well as national parks, there are approximately 60 State reserves, 78 nature reserves, 12 game reserves, 181 conservation areas, 23 nature recreation areas, 21 regional reserves and 29 historic sites reserved under the Tasmanian *Nature*

*Conservation Act 2002* and managed by the Tasmanian Parks and Wildlife Service. Management plans have been prepared for only a small percentage of these reserves.

Due to the large number of these reserves, a “general management plan” is proposed to cover them all. The general management plan will include a summary of values of the reserve system as well as values and zoning maps for each reserve. The structure of the proposed general management plan is aligned with the three Tasmanian Parks and Wildlife Service operational regions: South, North and North West. The first draft general management plan covering reserves in all regions has been completed.

### **Status**

Implementation of this recommendation was completed.

An established program for the preparation of management plans is in place.

### **Recommendation 6**

*That the State resources the program to enable all the management plans or the management plan regime for all national parks and other formal reserves managed under the Tasmanian National Parks and Reserves Management Act 2002, to be in place by 30 June 2010.*

### **Response**

The Tasmanian Parks and Wildlife Service is progressing a program to develop a general management plan to cover all reserves without specific management plans. The Tasmanian Government is committed to completing management plans for Mt William, Rocky Cape and Savage River National Parks as soon as practicably possible, noting that there are statutory timeframes required for public consultation, review and approval processes, and that there are ongoing discussions with the Tasmanian Aboriginal community who have an interest in these reserves. The target date for completion of this work is June 2011.

Completed management plans can be viewed at:

[www.parks.tas.gov.au/index.aspx?base=5957](http://www.parks.tas.gov.au/index.aspx?base=5957)

### **Status**

Implementation of this recommendation had progressed but was still to be completed as at June 2011.

A first draft of the General Management Plan for Protected Areas under the *Nature Conservation Act* (covering all reserves without a management plan ~ 380) was completed in 2009. State-wide internal agency consultation on the draft was completed, comments analysed, a review report prepared and necessary changes made.

The commencement of management planning for Mt William and Rocky Cape National Parks was delayed pending discussions with the Tasmanian Aboriginal community.

This work will continue to be progressed as part of normal agency priorities.

Overall, despite delays due to resourcing and outstanding discussions with the Aboriginal community (see recommendation 7), this recommendation has largely been implemented.

### **Recommendation 7**

*That where management plans are to be prepared for national parks or other formal reserves which involve matters to be resolved in negotiations with the Tasmanian Aboriginal community, those negotiations should be subject to an appropriate timetable to achieve resolution prior to 30 June 2009.*

#### **Response**

The Tasmanian Government Department of Primary Industries, Parks, Water and Environment will continue to negotiate an approach and program for the completion of management plans with the Tasmanian Aboriginal Community with the aim of achieving resolution during 2010.

#### **Status**

Implementation of this recommendation has been further progressed but is yet to be completed. Ongoing Government negotiations with the Tasmanian Aboriginal community have been focussed on other state-wide priorities.

### **Recommendation 8**

*That any matters covered by the management plan for those national parks or other formal reserves that can be progressed concurrently with negotiations with the Tasmanian Aboriginal community should be progressed in accordance with the program referred to above.*

#### **Response**

The Tasmanian Government Department of Primary Industries, Parks, Water and Environment is progressing the completion of management plans in accordance with the program developed in response to Recommendation 6 above.

#### **Status**

Implementation of this recommendation has been further progressed but is yet to be completed.

Some background information was gathered, but the work on the General Management Plan (Recommendation #6) received priority.

## **Reserve Management**

### **Recommendation 9**

*That the Parties, as a minimum, maintain annual funding in real terms for management of all the values of the reserve system in Tasmania and consider increasing the resources available to meet the management needs resulting from the expansion to the reserve system directly resulting from the RFA and the TCFA.*

#### **Response**

The Parties will continue to provide funds to support those reserves covered by the Tasmanian Wilderness World Heritage Area Management Plan.

The Tasmanian Government will continue to fund the Comprehensive, Adequate and Representative reserve system, consistent with relevant commitments under the RFA and the TCFA, and the relevant management objectives for each element of the reserve system.

### **Status**

The Australian and Tasmanian Governments have maintained a funding partnership for the Tasmanian Wilderness World Heritage Area (TWWHA). This was renewed as a four year agreement in 2009-2010 with the Australian Government providing \$3.4 million a year under the Caring for our Country Program and the State providing matching funding. For the reporting period Tasmania more than matched Australian Government funding for the TWWHA.

The State continued to provide approximately \$20 million in annual funding to the Department of Primary Industries, Parks, Water and Environment to support the recurrent operations of the Parks and Wildlife Service in managing reserves. In addition to this, the Parks and Wildlife Service received funding under various State and Australian Government programs to upgrade and maintain visitor infrastructure.

The Parks and Wildlife Service has steadily increased income from park entry fees and other enterprises in reserves. Approximately \$10 million was generated from visitor and other use of reserves in 2010-11, enabling some services (eg. cave tours) and contributing to provision of visitor facilities.

### **Recommendation 10**

*That the State ensures the conduct of audits of compliance with the Tasmanian Reserve Management Code of Practice 2003 and the publication of the outcomes of those audits for financial year 2008-09 and thereafter.*

### **Response**

Forestry Tasmania has conducted audits of compliance with the Tasmanian *Reserve Management Code of Practice 2003* for a number of recently completed activities in forest reserves and has published the results in its 2007-08 Sustainable Forest Management Report. The report is available at:

[www.forestrytas.com.au/publications/sustainable-forest-management](http://www.forestrytas.com.au/publications/sustainable-forest-management)

The Tasmanian Government Department of Primary Industries, Parks, Water and Environment has completed a major upgrade of its internal environmental impact assessment system – the Reserve Activity Assessment (RAA) system. The RAA system is now operational for all reserves managed under the Tasmanian *National Parks and Reserves Management Act 2002*. The Tasmanian Government will extend audits of compliance with the Tasmanian *Reserve Management Code of Practice 2003*, to lands managed under the Tasmanian *National Parks and Reserves Management Act 2002* and will aim to commence reporting of compliance for the 2010-2011 year.

### **Status**

Implementation of this recommendation has been further progressed but is yet to be completed.

Forestry Tasmania continues to publish the results of audits of activities in forest reserves, not covered by the forest practices system, in the annual Forestry

Tasmania Stewardship Reports available at <http://www.forestrytas.com.au/publications>.

Results from the four reports relating to the reporting period are shown in table 16 below.

**Table 16 Number of activities audited on State forest for compliance with Reserve Code of Practice**

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

These audits use the State forest activity assessment process to assess activities as part of Forestry Tasmania's obligation to manage reserves in accordance with the *Reserve Management Code of Practice*.

As reported in the 2010-11 Stewardship Report, management challenges in that year arose through use of State forest for active recreation, such as four-wheel driving and motocross events.

The Parks and Wildlife Service had completed a range of audits for the RAA system for the Southern Region and was undertaking compliance audits for the remainder of the state at June 2011. Audits for the 2010-11 year included:

- Auditing 26 project checklists, used to determine RAA requirements
- Auditing two RAA activities during the implementation phase of the project
- In-depth auditing of six of those projects for planning and outcome compliance. These projects involved macropod management, remote area toilet replacement, major front country walking track upgrade, coastal weed removal, a planned burn and an Aboriginal heritage walk. These projects were chosen as they cover different levels in the RAA system, and represent a range of activities and locations.

The Parks and Wildlife Service has not yet commenced the publication of results audits of compliance with the Tasmanian *Reserve Management Code of Practice 2003*.

## **Recommendation 11**

*That the Parties request the Forest Practices Authority to include, as part of the current review of the Forest Practices Code, a review of current mechanisms for ensuring that forest harvesting operations do not impact on the integrity of the boundaries of formal reserves.*

### **Response**

The Tasmanian Government has requested the Forest Practices Authority to implement this recommendation.

The Forest Practices Authority has advised that it will include a review of mechanisms for ensuring that forest harvesting operations do not impact on the integrity of the boundaries of formal reserves as part of the current review of the Forest Practices Code.

It is planned that there will be a public exposure draft of the revised Tasmanian Forest Practices Code available in late 2010.

### **Status**

Implementation of this recommendation was completed.

The review of the mechanisms for ensuring that forest harvesting operations do not impact on the integrity of the boundaries of formal reserves was undertaken by the Forest Practices Authority as part of the Forest Practices Code review. Draft provisions were written for incorporation into a draft revised Code. The Forest Practices Code Review process was suspended by the Forest Practices Authority in April 2010 to await clarification from the government on matters of future forest policy. In the interim, the Forest Practices Authority has reminded Forest Practices Officers to ensure that boundaries of formal reserves are clearly marked in the field and that measures are incorporated into forest practices plans to ensure that forest practices do not impact on the integrity of the boundaries.

## **Threatened Species and Communities**

### **Recommendation 12**

*That the Parties progressively prepare and publish Listing Statements or Advice, including conservation advice, for all forest-related threatened species. Priority should be given to completing Listing Statements for all endangered forest-related species by no later than the end of 2008. Listing Statements or Advice should also be prepared for all newly listed species at the time of listing.*

### **Response**

The Parties will continue to prepare Listing Statements and Conservation Advice for all nationally listed threatened species, in accordance with the processes required by Sections 194Q and 266B of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and the Tasmanian *Threatened Species Protection Act 1995*. Since 2009, the Tasmanian Government has prepared Listing Statements for all newly listed species at the time of listing.

The Parties encourage the nomination of any forest-related threatened species that are yet to be listed under State or Commonwealth legislation.

## **Status**

The State Government is continuing to prepare listing statements for listed species as resources allow, with priority being given to species listed as endangered and vulnerable.

There were 225 published listing statements as at 30 June 2011 (including 43 that were revised in this time). Since that time 52 have been published and 8 have been revised. Thirty-one draft listing statements have been prepared but not finalised since 30 June 2011. At the end of the review period there were 373 listed species without draft or published listing statements.

## **Recommendation 13**

*That the Parties make the Listing Statements or Advice publicly available on an appropriate internet site as each is completed.*

### **Response**

Both Parties will maintain the current practice of publishing Listing Statements or Conservation Advice on their respective websites as each is completed.

All listing statements and Conservation Advice for species and ecological communities listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* are currently available at:

[www.environment.gov.au/cgi-bin/sprat/public/sprat.pl](http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl)

The Australian Government will continue to regularly publish this information online in accordance with the processes required by Section 266B of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

All listing statements for species listed under the Tasmanian *Threatened Species Protection Act 1995* are available on the Tasmanian Government's Department of Primary Industries, Parks, Water and Environment website at:

[www.dpipwe.tas.gov.au/inter.nsf/webpages/SJON-58E2VD?open#listingstatements](http://www.dpipwe.tas.gov.au/inter.nsf/webpages/SJON-58E2VD?open#listingstatements)

### **Status**

This recommendation is continuing to be implemented on an ongoing basis.

## **Recommendation 14**

*That the Parties continue to complete Recovery Plans for forest-related endangered species, in accordance with the requirements of the Environment Protection and Biodiversity Conservation Act 1999 and the Threatened Species Protection Act 1995, but that priority in terms of time and resources should be given to the Recovery Plans already in preparation and the Listing Statement or Advice process referred to above.*

### **Response**

The Parties are continuing to complete Recovery Plans for forest-related endangered species, with the priority being on those plans already in preparation, and Listing Statements and Conservation Advice for forest-related endangered species.

There are currently 13 Recovery Plans being developed under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 and three under the Tasmanian Threatened Species Protection Act 1995. These are planned for completion by August 2010.

The Parties will continue to support and implement endorsed Recovery Plans for species listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

### **Status**

This recommendation is continuing to be implemented on an ongoing basis.

This task was still in progress at June 2011. Seven new Recovery Plans were ready to go to the Commonwealth Minister for approval prior to adoption at that time.

Recovery Plans relating to forest-dwelling species in Tasmania were adopted under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (refer to Tables 4, 5 and 6 in Part 1 of this report).

### **Recommendation 15**

*That the Parties review the commitments under the RFA for lists of Priority Species with a view to removing duplication and ensuring consistency with lists required under the Environment Protection and Biodiversity Conservation Act 1999 and the Threatened Species Protection Act 1995. An up-to-date list of forest-related threatened species and communities that include the RFA commitments should be publicly available on an appropriate internet site.*

### **Response**

The Parties will consult, including through the Species Information Partnership, on updating relevant commitments, definitions and Attachment 2 under the RFA for lists of Priority Species, to remove duplication and ensure consistency by the end of 2009. A list of Priority Species and recommended amendments which was prepared for the Second Five Yearly RFA Review is available on the Tasmanian Government's Department of Primary Industries, Parks, Water and Environment website at: <http://dpiwwe.tas.gov.au/conservation/threatened-species/lists-of-threatened-species/list-of-rfa-priority-species>

An up-to-date list of Priority Species will be prepared by 2011, made available on the website, and will be further updated as species listing information changes.

### **Status**

Implementation of this recommendation has been further progressed but is yet to be completed.

The need for Priority Species lists has been superseded by the further development of the Threatened Species schedules under both the TSPA and EPBC Act. No further work is being done on this commitment.

### **Recommendation 16**

*That the State, in consultation with the Australian Government, reviews the processes used within the forest practices system for the protection and recovery of threatened species, in particular the annual independent monitoring and reporting of the application of management prescriptions for threatened species in the development and implementation of Forest Practices Plans.*

## Response

The Parties recognise the importance of ongoing monitoring to ensure the effectiveness of management prescriptions for threatened species.

An independent expert panel has finalised a review for the Forest Practices Authority of the biodiversity provisions of the Forest Practices Code. This includes a review of the processes used within the forest practices system for the management of threatened species within wood production forests. The report entitled “Review of the biodiversity provisions of the Tasmanian Forest Practices Code” is available at: [www.fpa.tas.gov.au/\\_data/assets/pdf\\_file/0018/58140/biodiversity\\_review\\_report.pdf](http://www.fpa.tas.gov.au/_data/assets/pdf_file/0018/58140/biodiversity_review_report.pdf)

The Forest Practices Authority has advised that it will report to both Parties on this review by 2010, as a basis for ongoing consultations with the Parties on the protection and recovery of threatened species, to allow the Parties to meet their obligations under the RFA.

## Status

Implementation of this recommendation was completed.

The actions to address this recommendation and the processes used are described in:

- The [Annual Reports of the Forest Practices Authority](#) which report on the monitoring of the application of prescriptions within forest practices plans.
- The procedures for managing threatened species under the forest practices system were reviewed and revised by the Forest Practices Authority and the Department of Primary Industries, Parks, Water and Environment in April 2010.
- The Forest Practices Authority and the Department of Primary Industries, Parks, Water and Environment, in consultation with external scientists, revised and updated the management prescriptions contained within the Threatened Fauna Advisor. The Threatened Fauna Advisor is a decision tool that forms part of the Forest Practices Code and it provides endorsed management prescriptions for incorporation into forest practices plans.
- The Forest Practices Authority, in consultation with the Forest Practices Advisory Council, reviewed the report on the biodiversity provisions of the Forest Practices Code by the independent expert panel. The Forest Practices Authority’s response is available at: [www.fpa.tas.gov.au/\\_data/assets/pdf\\_file/0019/58141/Response\\_of\\_FPAC\\_and\\_the\\_FPA\\_to\\_the\\_recommendations\\_of\\_the\\_Biodiversity\\_Expert\\_Review\\_Panel.pdf](http://www.fpa.tas.gov.au/_data/assets/pdf_file/0019/58141/Response_of_FPAC_and_the_FPA_to_the_recommendations_of_the_Biodiversity_Expert_Review_Panel.pdf)
- The Forest Practices Authority revised its Monitoring and Assessment Protocols (see response to recommendation 1 above), which include the assessment of compliance with the threatened species provisions contained within the Code and forest practices plans.
- The report [Developing a framework for the conservation of habitat of RFA priority species – Background report 3: a report on the on-ground implementation of current forest management prescriptions for the conservation of RFA priority species](#) (Chuter and Munks 2011) was developed as part of the Swift Parrot and RFA Priority Species Project to describe the approach that the Forest Practices

Authority uses to monitor the effectiveness of management prescriptions for biodiversity and threatened species and has been provided to the Australian Government.

## **Recommendation 17**

*That the Parties continue to improve knowledge of threatened species and threatened communities and the efficacy of existing management prescriptions in protecting those species. This should include explicit monitoring programs, which might be general or for specific species or a combination of both. Priorities for monitoring should be reviewed annually, taking into account the regular threatened species and communities monitoring process undertaken in the forest practices system, with priorities being determined cognisant of current threatening processes, development pressures and relevant government policies.*

### **Response**

The Parties are committed to a process of continuous improvement in relation to the scientific knowledge of, and efficacy monitoring for, threatened species and threatened communities.

In particular, the Parties recognise the importance of a strategic approach to the management of threatened species habitat, a systematic approach to the management of and monitoring of changes in threatened species habitat.

The Parties agree to continue to work collaboratively to progress these approaches with priorities being determined cognisant of current threatening processes, development pressures and relevant government policies.

### **Status**

This recommendation continued to be implemented through the review period.

The Department of Primary Industries, Parks, Water and Environment and the Forest Practices Authority co-operatively developed effectiveness monitoring projects as part of a broader program of monitoring the implementation of management prescriptions for threatened species.

The Forest Practices Authority reported on the approach that it uses to monitor the effectiveness of management prescriptions for biodiversity and threatened species (see Recommendation 16 above). In addition, the Forest Practices Authority, with funding provided by the Australian Government, reviewed the approach to threatened species conservation at the landscape level and is developing a proposal for a landscape approach to the management of biodiversity within the forest practices system in Tasmania.

[http://www.fpa.tas.gov.au/\\_data/assets/pdf\\_file/0003/76161/RFA\\_Priority\\_Species\\_Project\\_doc\\_1\\_landscape\\_management\\_of\\_biodiversity.pdf](http://www.fpa.tas.gov.au/_data/assets/pdf_file/0003/76161/RFA_Priority_Species_Project_doc_1_landscape_management_of_biodiversity.pdf)

## **Recommendation 18**

*That the Parties consider the need to amend the RFA to reflect the 2006 amendments to the Environment Protection and Biodiversity Conservation Act 1999 which require the existence of conservation advice for all threatened species and communities and which enables the exercise of Ministerial discretion in relation to the preparation of recovery plans.*

## **Response**

The Parties agree to consider the need to amend the RFA to reflect the 2006 amendments to the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and will further discuss a package of amendments to the RFA to implement this recommendation along with recommendations 31 and 39.

## **Status**

The Parties decided not to amend the current Regional Forest Agreement and will reconsider this recommendation as part of the Regional Forest Agreement extension process after the third five-yearly review.

# **Integrated Catchment Management**

## **Recommendation 19**

*That the State completes Water Management Plans under the Water Management Act 1999 in accordance with its commitments under the National Water Initiative Implementation Plan.*

## **Response**

The Tasmanian Government Department of Primary Industries, Parks, Water and Environment is progressing Water Management Plans from 2007-09, consistent with the commitments and timelines under the National Water Initiative and Tasmania's Implementation Plan. The Plan is set out in Tasmania's Implementation Plan for the National Water Initiative, which is available on the Tasmanian Government Department of Primary Industries, Parks, Water and Environment website at: <http://dpiuwe.tas.gov.au/water/water-legislation-policies-and-strategies/national-water-initiative/nwi-implementation-plan-%28tas%29>

The Parties note that the Council of Australian Governments has agreed to consider accelerating National Water Initiative commitments. The Tasmanian Government Department of Primary Industries, Parks, Water and Environment has a program in place for completion of Water Management Plans in accordance with its National Water Initiative commitments.

## **Status**

Implementation of this recommendation had progressed but is yet to be completed.

The State entered into the *Implementation Plan for More Efficient Irrigation in Tasmania* under the *NPA for Water for the Future*, with the Commonwealth in late 2009. The development of water management plans has been focussed on areas where major irrigation developments are occurring (part funded by the Commonwealth under the Implementation Plan). The Sassafras Wesley Vale, Boobyalla River and Tomahawk River Plans have now been adopted, whilst the draft Macquarie River and Ringarooma River Plans have been provided to the respective consultative groups for feedback. The South Esk River Plan has been publically released and the Department of Primary Industries, Parks, Water and Environment is finalising the Secretary's report for the Tasmanian Planning Commission. The water management plans for the Jordan, Meander, and Coal Rivers are not currently being progressed as other plans have assumed a higher priority.

## Recommendation 20

*That the State, as a matter of priority, continues to invest in research into the impacts of forestry practices on hydrological cycles in Tasmanian catchments, including improved models at catchment levels, as well as improved data and catchment planning processes. The research should be undertaken in collaboration with other research organisations and independent experts and the State should put measures in place to ensure that relevant data on current and proposed plantation establishment and operations is readily available for the work.*

### Response

The Tasmanian Government Department of Primary Industries, Parks, Water and Environment will consider new information on the impact of forestry practices on hydrological processes, and its incorporation into catchment models and water planning processes.

Forestry Tasmania maintains an active forest hydrology research program, partly supported by Tasmanian Community Forest Agreement funds for at least five years. Research is undertaken in partnership with the CRC for Forestry. Outcomes from research undertaken by Forestry Tasmania with relevant organisations and researchers will be published.

Data on the existing extent of plantations are published annually on the Tasmanian Government Department of Primary Industries, Parks, Water and Environment LIST database. Data on current and proposed plantation harvesting are provided to the Forest Practices Authority annually in Three Year Wood Production Plans.

Forestry Tasmania's Three Year Wood Production Plan is available on the Forestry Tasmania website at: [www.forestrytas.com.au/forest-management/3yp](http://www.forestrytas.com.au/forest-management/3yp)

The Forest Practices Authority is currently investigating the feasibility of placing Three Year Wood Production Plans covering private land on their website.

The Parties note commitments made under the National Water Initiative and the work of the Council of Australian Governments' Working Group on Climate Change and Water.

### Status

This recommendation continued to be implemented through the review period.

The Tasmanian Government Department of Primary Industries, Parks, Water and Environment continued to consider and incorporate new information on the impacts of forestry practices on hydrological processes into its catchment models and water planning processes as it became available and sees this as an ongoing, continuous improvement, process.

In 2006, Forestry Tasmania commenced a new program of hydrological research in conjunction with the CRC for Forestry and funded by Forest and Wood Products Australia. Work in the Florentine Valley showed strong relationships between the basal area and water use of *Eucalyptus nitens* plantations and research continued to see if the relationships could be extrapolated to other locations and species. Use of *basal area:water use* relationships in Forestry Tasmania's forest estate model was tested to see if this is a good method for predicting plantation water use in response to different management decisions. The final report was due in 2012.

Forestry Tasmania continues to annually publish details of its proposed plantation operations in its Three Year Wood Production Plan, and routinely provides all its hydrological and climatic measurement data to the Bureau of Meteorology to enable monitoring and research initiatives by the wider research community.

The Forest Practices Authority reports that hydrological models and government policy have not been sufficiently advanced for them to incorporate any updates into the Forest Practices Code.

Three year plans for harvesting on public and private land are provided to local government and water management authorities.

## **Recommendation 21**

*That the State completes the development of its computer model for impacts of forestry practices on hydrological cycles in Tasmanian catchments that include prediction of the impact of forest-based activities on catchment water availability.*

### **Response**

The Tasmanian Government Department of Primary Industries, Parks, Water and Environment has completed the development of the Water Availability and Forest Land Use Planning Tool. This model builds on the TasLUCaS model for predicting the impact of vegetation change on hydrological cycles, and provides quantitative information on a daily timestep.

The Parties note commitments made under the National Water Initiative and the work of the Council of Australian Governments' Working Group on Climate Change and Water.

### **Status**

As noted in the initial Government response, implementation of this recommendation has been completed.

## **Recommendation 22**

*That the State ensures that the wider community is able to access information on the methodology that supports the operation of the model, that there are public opportunities for exchange of information and sharing of opinions in relation to the operation of the model, and that the outcomes of the application of the model to catchments are disclosed and reported on a regular basis.*

### **Response**

The Tasmanian Government Department of Primary Industries, Parks, Water and Environment has prepared a report on the development of the Water Availability and Forest Land Use Planning Tool, and its initial application in the Ringarooma catchment. This report has been publicly released, together with the independent reviews undertaken by two external experts, and the technical report prepared by the consultant who undertook the Water Availability and Forest Land Use Planning Tool (WAFL) development. The reports are available on the Tasmanian Government Department of Primary Industries, Parks, Water and Environment website at: [www.dpipwe.tas.gov.au/inter.nsf/WebPages/CGRM-7KL4RA?open](http://www.dpipwe.tas.gov.au/inter.nsf/WebPages/CGRM-7KL4RA?open)

The Tasmanian Government Department of Primary Industries, Parks, Water and Environment will report on the outcomes of the application of the model to

catchments as assessments are undertaken. It is expected that the application of the WAFL to relevant catchments will be completed following consideration of the outcomes of the CSIRO Tasmanian Sustainable Yields Project.

The CSIRO Tasmanian Sustainable Yields Project will be completed and reported upon in January 2010. The project will be providing a broad estimate of the hydrological impact of plantation water interception on catchment yields under a number of different scenarios, and will indicate where further application of the WAFL may be required. Information about the CSIRO Sustainable Yield's Project is available at: [www.csiro.au/partnerships/TasSY.html](http://www.csiro.au/partnerships/TasSY.html)

For relevant catchments, the findings from the WAFL's application will be incorporated into the water planning process as required under the National Water Initiative. Further opportunity for the exchange of information and sharing of opinions in relation to the operation of the WAFL will be provided through the stakeholder consultation processes as part of the development of water plans.

The Parties note commitments made under the National Water Initiative and the work of the Council of Australian Governments' Working Group on Climate Change and Water.

### **Status**

This recommendation continued to be implemented through the review period

The Water Availability and Forest Land Use Planning tool was completed in 2010, and the Department of Primary Industries, Parks, Water and Environment applied the tool within the water management planning process to better quantify risks in particular catchments.

### **Recommendation 23**

*That the State ensures that its Water Management Planning framework appropriately provides for a risk-based approach to management of water interception and extraction activities in accordance with the requirements of the National Water Initiative.*

### **Response**

The Tasmanian Government Department of Primary Industries, Parks, Water and Environment has adopted a risk-based approach to the management of water interception and extraction activities. Risk assessments using the model to assess the impacts of plantation forest interception have been undertaken in relevant Tasmanian catchments over 2008-09, and the results have been incorporated into water planning processes as a priority.

The Parties note commitments made under the National Water Initiative and the work of the Council of Australian Governments' Working Group on Climate Change and Water.

### **Status**

This recommendation was fully addressed in the initial Government response.

### **Recommendation 24**

*That the State requests the Forest Practices Authority to consider, in the current review of the Forest Practices Code, the inclusion of measures to enable the*

*management of the impacts of forest practices on the yield of water in catchments, so as to meet objectives of Water Management Plans.*

### **Initial Government Response**

The Tasmanian Government has requested the Forest Practices Authority to implement this recommendation.

In recognition of this, the Forest Practices Authority will implement this recommendation as part of the current review of the Forest Practices Code. The review will include consideration of the State's water management framework commitments under the National Water Initiative, as the basis for the development of an appropriate regulatory framework to support implementation at an operation level.

The Parties note commitments made under the National Water Initiative and the work of the Council of Australian Governments' Working Group on Climate Change and Water.

### **Status**

Implementation of this recommendation has been completed.

The Forest Practices Authority has prepared draft provisions for incorporation into the draft revised Code. The Forest Practices Authority suspended development of the draft Code in April 2010 to await clarification from the government on matters of future forest policy.

## **Environmental Management Systems and Forest Certification**

### **Recommendation 25**

*That the State completes the development of an environmental management system for all reserves under the Tasmanian Nature Conservation Act 2002 by 30 June 2009 and that the resources required to achieve implementation be allocated to enable implementation as soon as possible thereafter.*

### **Response**

The Tasmanian Parks and Wildlife Service has completed the first major component of an Environmental Management System – an upgraded environmental impact assessment process for reserve activities (the Reserve Activity Assessment system). This system provides a robust assessment of impacts on reserve values of existing and proposed activities. It enables development of measures to avoid or mitigate any identified undesirable impacts as well as providing additional conservation benefits in reserves.

The Tasmanian Parks and Wildlife Service has developed a range of other management and business processes and procedures over the past 10 years that provide similar benefits to those expected from an Environmental Management System. These include the Reserve Standards Framework, a component of the Tasmanian Government Department of Primary Industries, Parks, Water and Environment Public Risk Policy, which is a strategic planning tool for the provision of visitor services. The Reserve Standards Framework underpins the Tasmanian Government Department of Primary Industries, Parks, Water and Environment's public policy approach to risk management. There is a comprehensive walking track

classification system, an occupational health and safety system, and fire management policies and guidelines.

The Tasmanian Government will aim to develop and implement the Environmental Management System for land managed under the Tasmanian *National Parks and Reserves Management Act 2002* by June 2011.

### **Status**

Implementation of this recommendation had been progressed but was yet to be completed.

The Tasmanian Parks and Wildlife Service had developed the foundation elements of an Environmental Management System, consistent with the ISO 14001 standard. These were:

- determination of an Aspects and Impacts Table from state-wide workshops
- legislation and other requirements list developed
- a communications process implemented, through a regular newsletter.

The Tasmanian Parks and Wildlife Service had also developed an environmental policy, upgraded environmental impact assessment process, monitoring and evaluation framework, auditing of compliance with the Reserve Management Code of Practice and a supporting information management system. The agency continues to work on the Environmental Management System as resources allow.

## **Fire and Smoke Management**

### **Recommendation 26**

*That the State ensures that the state-wide fire management policy framework that applies to all tenures across the State, takes account of the increase in the area of forest plantations since the last Review, the effect of drought and the potential impacts of climate change.*

### **Response**

A new State Fire Management Policy is being developed by the State Fire Management Council. Issues such as forestry plantations, the effect of drought and the potential impacts of climate change will be considered in the development of the policy. A draft policy has been considered by the State Fire Management Council and is being reviewed by stakeholders prior to finalisation.

### **Status**

Implementation of this recommendation has been completed.

The State Fire Management Council completed and endorsed the [State Vegetation Fire Management Policy](#) at its meeting in May 2010. The Council intended that the Policy be reviewed after the first two years of operation unless it became necessary to do so sooner.

### **Recommendation 27**

*That the State ensures that policies in the fire management policy framework on all tenures are made publicly available as the policies are confirmed or revised.*

## **Initial Government Response**

The Tasmanian Government will ensure that policies in the fire management policy framework on all tenures are made publicly available on relevant websites as the policies are confirmed or revised.

The fire management policy framework prepared in 2006 is available at: [www.dier.tas.gov.au/forests/tasmanian\\_regional\\_forest\\_agreement\\_rfa#framework](http://www.dier.tas.gov.au/forests/tasmanian_regional_forest_agreement_rfa#framework)

## **Status**

This recommendation is continuing to be implemented on an ongoing basis.

Most relevant fire management publications are available on the Tasmania Fire Service (TFS) website at: [www.fire.tas.gov.au/Show?pagelD=colPublications](http://www.fire.tas.gov.au/Show?pagelD=colPublications)

## **Climate Change**

### **Recommendation 28**

*That the Parties improve the collection and public reporting of relevant data to ensure that there is an improved understanding of the contribution, both positive and negative, that Tasmania's forests, forest management practices and the forestry sector generally, make to the global carbon balance and climate change issues.*

## **Response**

The Parties recognise the role of Tasmania's forests in mitigating climate change. The Parties are preparing for the impacts of climate change, including investigating climate change impacts on forests.

Development of a national climate change agenda is being driven by the Council of Australian Governments. The Primary Industries Ministerial Council, also acting on behalf of the Natural Resource Management Ministerial Council, endorsed the National Climate Change and Commercial Forestry Action Plan on 6 November 2009. This was developed in consultation with all States and Territories. In addition, for all forests including non-commercial forests, the Australian Government is undertaking a national climate change and forests vulnerability assessment again in consultation with all States and Territories.

The Australian Government is also developing the National Carbon Accounting System to provide comprehensive coverage of greenhouse gas emissions and removals in Australia's forests (including harvested wood products).

The Tasmanian Government recognises the importance of forests for sequestering carbon in its Tasmanian Framework for Action on Climate Change details of which can be found at:

[www.climatechange.tas.gov.au/\\_data/assets/pdf\\_file/0017/57230/CC\\_Framework\\_fact\\_sheet.pdf](http://www.climatechange.tas.gov.au/_data/assets/pdf_file/0017/57230/CC_Framework_fact_sheet.pdf)

Implementing the Tasmanian Framework for Action on Climate Change will include consideration of and reporting on the role of forests in Tasmania's emissions and their contribution to emissions reduction.

## **Status**

This recommendation was continuing to be implemented.

The 2010 State Budget included \$2 million to establish a new Climate Change Adaptation Unit to help prepare Tasmania's economy and infrastructure to take advantage of the opportunities presented by climate change. This new unit will work across Government to coordinate scientific research and climate change projections and to set out how the State can best respond.

The Tasmanian Government also allocated \$250 000 for research into economic opportunities that will arise for new activity in emerging carbon markets and the role of Tasmanian forests in emitting and sequestering carbon. It is important that the future of forestry in Tasmania be based on sound independent research and verifiable data.

Private Forests Tasmania received \$360 000 in 2009-10 from the Australian Government's Forest Industries Climate Change Research Fund for research and development activities to underpin work on carbon initiatives aimed at preparing private forest owners for emerging carbon markets and educating them about the role trees can play in the carbon balance on their properties. The first of these projects was successfully completed in May 2011 with the release of the Carbon Plantations Kit and well attended field days. The second project, the refinement of a user friendly computer model (Farm Forestry Toolbox) that can estimate plantation viability including carbon sequestration, was close to completion in June 2011 with training courses planned for 2011-12.

Under the *Forest Industries Climate Change Research Fund*, the Australian Government funded research to address major knowledge gaps about the impact of climate change on forestry and forest industries in Australia. The projects assist industry in better understanding climate change, building industry capacity to adapt to predicted scenarios, and capitalising on emerging mitigation opportunities. The 24 research projects were focussed on four funding priorities (adaption, mitigation, bioenergy and inventory and data) and cost \$4.7 million.

Of particular note for this recommendation is the project underway by the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) analysing the potential effects of climate change on forests and forestry in Australia, expected to be released in the third quarter of 2011. A component of this project will report on the potential effects of climate change on forests and forestry in Tasmania.

## **Private Land Management**

### **Recommendation 29**

*That the State recognises the importance of providing public information on the success or otherwise of forest regeneration, and requests the Forest Practices Authority to:*

- (a) prepare a report on the success or otherwise of forest regeneration on private land on which native forest was harvested since the 2002 Review;*
- (b) provide a comprehensive report on regeneration success or otherwise of forests on public and private land in its annual report; and*
- (c) provide a consolidated report for consideration as part of the next five year Review.*

## Response

The Tasmanian Government recognises the importance of continuing to provide information on the forest practices system to all stakeholders, including improved information on the success or otherwise of forest regeneration activities on private land. In recognition of this, the Tasmanian Government has requested the Forest Practices Authority to implement this recommendation.

The Forest Practices Authority has advised it will implement this recommendation so that a consolidated report will be available for consideration as part of the third RFA review in 2012.

## Status

Implementation of this recommendation has been completed.

The FPA undertook a major thematic audit of reforestation on private land and the results are reported in its 2010-11 annual report. In summary, the FPA found that adequate levels of reforestation are generally being achieved on private land after harvesting operations. However, the documentation and reporting of stocking levels needs to be improved and follow-up actions need to be undertaken where stocking levels are marginal. The study comprised a stratified random sample of 155 forest practices plans that involved the harvesting and regeneration of native forests on private land from 2002 to 2011. The sample comprised coupes harvested by partial harvesting regimes (82 per cent) and coupes harvested by clearfell regimes (18 per cent).

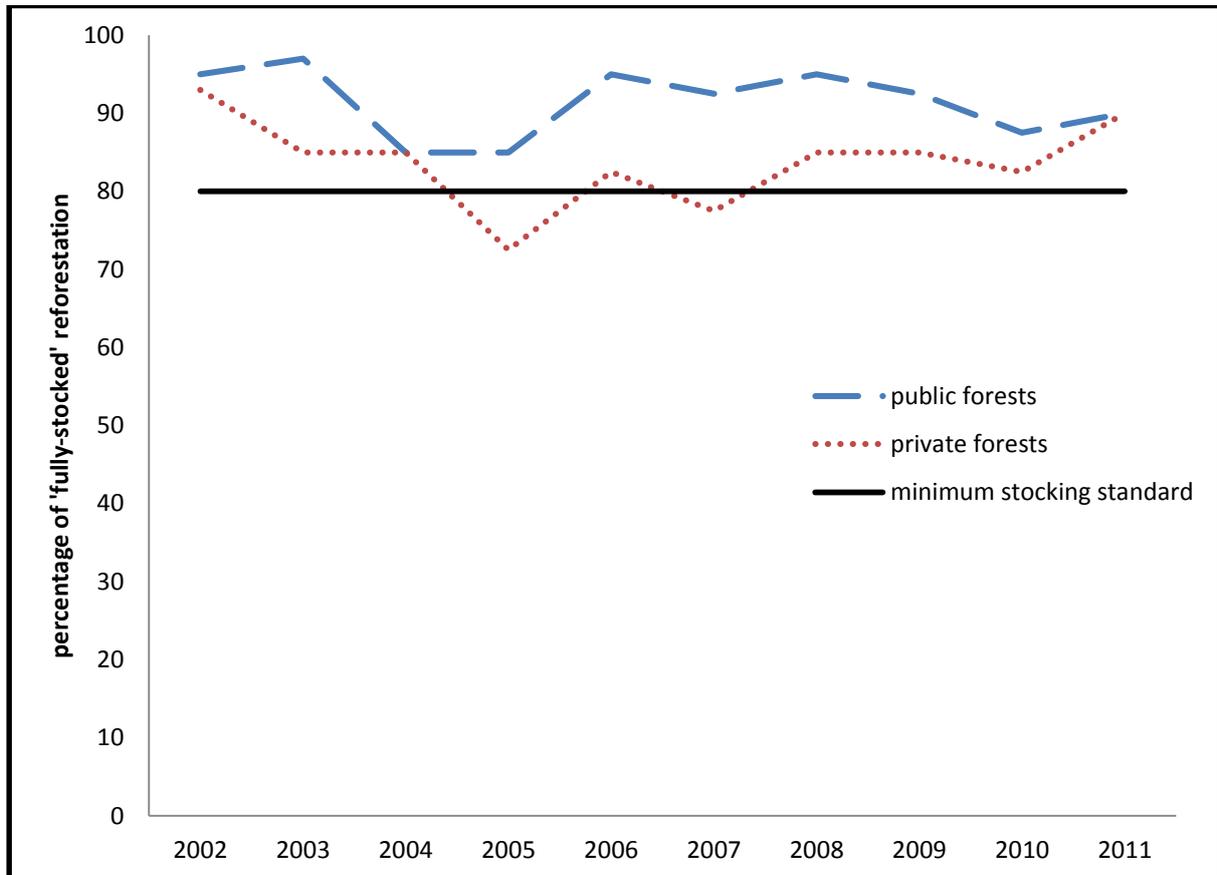
A desktop assessment found that 87 per cent of coupes were reported to have achieved acceptable stocking, although regeneration checks were often poorly documented.

A field check of a sub-sample of 21 coupes showed that the results reported for reforestation by forest managers were consistent with the results of the FPA's independent field survey.

Despite the shortcomings of documentation in many cases, the study verified that the reporting of regeneration by forest practices officers through the compliance reporting mechanisms required for all coupes under the *Forest Practices Act 1985* is generally a reliable means of reporting on regeneration success.

The Forest Practices Authority (FPA) monitors compliance with the reforestation requirements of forest practices plans on public and private land under the compliance reporting provisions of the *Forest Practices Act 1985*. The FPA also independently checks a sample of plans. The FPA's annual reports contain the results of the compliance reports lodged by Forest Practices Officers and the results of the FPA's independent assessments. The results of the FPA's independent assessment of reforestation for the period 2002-2011 are summarised in Figure 2 below.

**Figure 2. Results of the Forest Practices Authority’s independent assessment of reforestation stocking on public and private land (as a percentage of ‘fully-stocked’ forest) <sup>1</sup>**



<sup>1</sup> The Forest Practices Code prescribes that a minimum of 80% of each coupe should achieve the full stocking standard.

## National Estate

### Recommendation 30

*That, notwithstanding changes in Commonwealth legislation, the Parties confirm their commitment to management of the national estate values as set out in Attachment 1 of the RFA for the duration of the RFA.*

### Response

The Parties reconfirm their commitment to the management of national estate values as set out in Attachment 1 of the RFA, for the duration of the RFA, consistent with their roles and responsibilities as set out in the 1997 Council of Australian Government agreement to rationalise Commonwealth-state heritage arrangements, and in subsequent Commonwealth-state agreements relating to heritage.

### Status

This recommendation was implemented as reported in the initial Government response.

### **Recommendation 31**

*That the Parties consider amending the RFA to reflect the changes in the Commonwealth legislation related to the cessation of the national estate listing process. The Parties should consider including appropriate commitments to protect the values of any places listed on the National Heritage List in accordance with the Commonwealth legislation.*

#### **Response**

The Parties agree to consider the need to amend the Tasmanian RFA to take into account changes in national legislation and processes and will further discuss a package of amendments to the RFA to implement this recommendation, along with recommendations 18 and 39.

#### **Status**

The Parties decided not to amend the current Regional Forest Agreement and will consider this recommendation as part of the Regional Forest Agreement extension process after the third five-yearly review.

### **Recommendation 32**

*That, given that the Register of the National Estate will not exist after 31 December 2011, the State examines the current places on the Register and determines whether any properties or values listed should be accorded any ongoing status and the nature of that status.*

#### **Response**

Recalling the 1997 Council of Australian Governments' agreement to rationalise Commonwealth-state heritage arrangements and noting the transition period for the Register of the National Estate of 19 February 2007 to 18 February 2012, the Parties will aim to complete the transfer of the Register of the National Estate places to national and state heritage registers as appropriate.

All Tasmanian places of State significance on the Register of the National Estate for historic cultural heritage values are already included on relevant registers, are pending assessment or in the process of being assessed for listing.

The Tasmanian Government will aim to complete all Heritage Register entries of Register of the National Estate places by 31 December 2011, as part of the ongoing State-wide heritage survey implementation.

Information about the Tasmanian Heritage Register is available at:

[www.heritage.tas.gov.au/register.html](http://www.heritage.tas.gov.au/register.html).

Those Tasmanian Aboriginal Heritage places that were previously on the Register of the National Estate have been incorporated into the State database.

Site specific natural values of places on the Register of the National Estate are already on relevant State natural value data bases at:

[www.dpiw.tas.gov.au/inter.nsf/webpages/ljem-6tv6tv?open](http://www.dpiw.tas.gov.au/inter.nsf/webpages/ljem-6tv6tv?open).

These values are also considered in relevant State planning processes.

#### **Status**

Implementation of this recommendation has been completed.

At June 2011, approximately 90 per cent of places on the Register of the National Estate for historic/cultural heritage values were on the Tasmanian Heritage Register following an assessment process and according to provisions in the *Historic Cultural Heritage Act 1995*. The remaining places on the Register of the National Estate are recognised and promoted by Heritage Tasmania as a resource that should be consulted for future environmental and heritage surveys as it will assist identification and assessment of new nominations.

### **Recommendation 33**

*That the State requests the Forest Practices Authority to revise the Forest Practices Archaeological Manual as soon as possible to address all matters other than Tasmanian Aboriginal heritage, and further revise that Manual, as required, to take account of the proposed Tasmanian Aboriginal Heritage legislation when it is enacted.*

#### **Response**

The Tasmanian Government has requested the Forest Practices Authority to consider implementing this recommendation. The Forest Practices Authority has advised that in its current form, the historic cultural heritage section of the manual is not an impediment to appropriate management, and therefore its revision is not a high priority. The Forest Practices Authority intends to give priority to amending the manual, when the new Tasmanian Aboriginal legislation is approved by the Tasmanian Parliament.

#### **Status**

Implementation of this recommendation has been further progressed but is yet to be completed.

The Forest Practices Authority prepared revised guidelines on European Heritage and incorporated these into new procedures that are expected to replace the previous Archaeological Manual.

The new Aboriginal Heritage legislation had not yet been presented to Parliament as at June 2011. A revised approach to the development of new Tasmanian Aboriginal Heritage Legislation was announced in 2011 with the first exposure draft of the legislation due in mid-2012.

## **Sustainable Yield**

### **Recommendation 34**

*That the State ensures that Forestry Tasmania prepares and makes available its report on the review of sustainable high quality sawlog supply from State forests as part of the documentation released for public comment as part of the third RFA Review.*

#### **Response**

Since the signing of the RFA in 1997, Forestry Tasmania has undertaken three reviews, in 1998, 2002 and 2007, reports from which were published. The 2007 report is available on the Forestry Tasmania website at:

[www.forestrytas.com.au/publications/sustainable-forest-management](http://www.forestrytas.com.au/publications/sustainable-forest-management)

To meet relevant sustainable yield commitments under the RFA, Forestry Tasmania will continue to undertake and report on a review of sustainable high quality sawlog supply from State forests and will release relevant reports to enable public comment as part of the third RFA Review in 2012.

### **Status**

Implementation of this recommendation had been progressed but was yet to be completed

Forestry Tasmania had commenced work on the next review of sawlog supply and planned to complete and publish the work in the first half of 2012, in time for the third five-yearly review. Due to the delay in commencing the third five-yearly review and the ongoing uncertainty (as at June 2011) as to the future area and management regime available for wood production on public land, Forestry Tasmania delayed completion of this work.

### **Recommendation 35**

*That the State, in consultation with the forest processing industry, reviews and identifies appropriate and measurable indicators that show the quality of sawlogs supplied to the processing sector, and determines the data to be reported and the responsibilities for collecting and reporting on the data.*

### **Response**

Forestry Tasmania will consult with the Forest Industries Association of Tasmania to determine priorities for review and to identify appropriate and measurable relevant indicators.

Forestry Tasmania will build on existing reporting processes, including the Annual Sustainable Forest Management (SFM) Report (refer 2007-08 SFM Report Figs 9 and 10) which is available at:

[www.forestrytas.com.au/uploads/File/publications/SFM.pdf](http://www.forestrytas.com.au/uploads/File/publications/SFM.pdf)

### **Status**

Implementation of this recommendation has been completed.

After consultation with Forest Industries Association of Tasmania, Forestry Tasmania began publishing two new indicators of sawlog quality (category 1 and 3 sawlog diameter and percentage of non-seasoning species) to address this recommendation. These data has been reported since 2009 in Forestry Tasmania's Annual Stewardship Reports which are available at:

[www.forestrytas.com.au/publications](http://www.forestrytas.com.au/publications)

## **Special Species**

### **Recommendation 36**

*That the State completes the special timber species supply strategy by 30 September 2008, which should include information on the resource that remains available by species and the rate at which that resource will be available.*

## Response

Forestry Tasmania is implementing new resource planning, supply chain management and marketing/promotions initiatives consistent with the provisions of the RFA and TCFA. This has included a number of commissioned reports which are currently being finalised. These initiatives and reports have been integrated into a comprehensive and coherent strategy which will provide information on the resource, and more importantly, viable systems for improved value recovery and supply to market.

The draft Special Timbers Strategy was released by Forestry Tasmania for public comment on 31 July 2009 at: [www.forestrytas.com.au/branchline/branchline-july-31-2009/draft-special-timbers-strategy-released-for-public-comment](http://www.forestrytas.com.au/branchline/branchline-july-31-2009/draft-special-timbers-strategy-released-for-public-comment).

Following a one month consultation period, Forestry Tasmania expects to complete the Special Timbers Strategy and publish it on its website in early 2010.

## Status

Implementation of this recommendation has been completed.

The final [Special Timbers Strategy](#) was released by Forestry Tasmania in February 2010.

## Resource Security

### Recommendation 37

*That the Parties commence the process of identifying the key issues relevant to considering the extension of the RFA in advance of the next RFA Review in 2012, so that an assessment of all the factors concerning desirability or otherwise of extending the RFA is available to the Review and is published as part of the next Review process. In particular, the progressive shortening of the period of industry resource security provided by the current RFA should be taken into account, together with operational and policy matters that were not prominent at the commencement of the RFA, such as catchment management and climate change.*

## Response

Consistent with the RFA, and as an important element of the National Forest Policy Statement, the process for extending the duration of the RFA will be considered by the Parties as part of the third RFA Review in 2012. Identification of key issues will be included when preparing for the next review.

## Status

This recommendation has not been implemented as at June 2011.

The Regional Forest Agreement stipulates the process for extending the duration of this Agreement will be agreed by the Parties as part of the third five-yearly review.

As noted in Part 1, clauses 8 and 45, the parties were working with the signatories to the Tasmanian Forests Statement of Principles to facilitate an agreement on the future management of forests and did not commence the review.

The Tasmanian and Australian Governments remain committed to the Tasmanian Regional Forest Agreement as an appropriate intergovernmental mechanism for an

agreed long-term framework for conservation and sustainable management of Tasmania's forests.

It is expected that the third five yearly review will identify issues that are particularly relevant to the ongoing implementation of the RFA in the context of the commitment to extend the agreement, potentially including minor improvements that strengthen the RFA framework.

## **RFA Attachment 12**

### **Recommendation 38**

*That the Parties facilitate the preparation by industry of an updated development strategy for the industry, taking account of stakeholder views and the Forest and Forest Industry Strategy (1990), the RFA Employment and Industries Development Strategy, existing and future resource availability and industry developments, and emerging opportunities for new products and services.*

#### **Response**

The Parties support the need to work with the forest industry to ensure it is internationally competitive and sustainable over the long term. The responsibility for developing such a strategy lies primarily with the industry.

The Tasmanian Government Minister for Energy and Resources has agreed to a proposal from the Forests and Forest Industry Council of Tasmania to coordinate the preparation of an updated industry development strategy. The Forests and Forest Industry Council of Tasmania is consulting with industry stakeholders, and expects to complete the strategy by the end of 2009. The Australian Government has agreed to provide relevant information for inclusion in the updated industry development strategy.

The Australian Government is also providing funding of \$8.04 million over three years from April 2008 for the establishment of the Forest and Forest Products Industry Skills Council, ForestWorks, and has announced the national Forest Industries Development Fund to develop value adding initiatives that improve the international competitiveness of Australia's forest products. Round 1 of the fund was finalised in April 2009 and Round 2 grants were finalised in November 2009.

In February 2009, a sub-committee of the Forest and Wood Products Council met to progress the topics of future priorities and industry strategy. A paper that was drafted by industry outlining a strategy was presented to full Council in May 2009. The issue will be further discussed at future meetings.

On 19 June 2009, the Australian Government Minister for Innovation, Industry, Science and Research, Senator Kim Carr, announced that a new Pulp and Paper Industry Strategy Group would be formed to undertake a review of the pulp and paper manufacturing industry in Australia. The Strategy Group was tasked with developing a plan to encourage innovation and attract investment in pulp and paper manufacturing in Australia. Members of the Strategy Group included senior representatives from the leading pulp and paper companies, unions, industry experts and all levels of government. On 21 August 2009, Senator Carr released the Strategy Group's Issues Paper which noted the industry's support for further expansion of Australia's plantation resources. The Strategy Group submitted a draft Pulp and

Paper Industry Strategy to Senator Carr on 20 November 2009 and the group is expected to submit its final report by the end of March 2010.

### **Status**

Implementation of this recommendation has been completed.

The Forests and Forest Industry Council of Tasmania completed the *New Forest Industry Plan* in early 2010 outlining the opportunities for growth, innovation and wealth creation in the industry.

The Pulp and Paper Industry Strategy Group released its strategy on 20 April 2010. The report identifies the business environment needed for the pulp and paper industry to be successful and prosperous, particularly in regional Australia.

### **Recommendation 39**

*That the Parties review Attachment 12 of the RFA with the following objectives:*

*(a) to maintain the original focus and intent of enhancing employment and industry development in the forest and forest related sectors as is set out in Clause 72 and Attachment 12 of the RFA and the commitments in the Tasmanian Community Forest Agreement;*

*(b) to take account of current policies, available programs and potential opportunities with a view to making further appropriate commitments for the next ten years of the RFA; and*

*(c) to remove commitments already discharged or no longer relevant having regard to the preliminary examination of these matters as set out in Appendix 4 Table 1.*

### **Response**

The Parties agree to update and rationalise Attachment 12 of the RFA in advance of the third RFA Review in 2012 and agree that this should be done after completion of the Tasmanian forest industry development strategy (see recommendation 38).

### **Status**

This recommendation will not be implemented.

Attachment 12 was not formally reviewed after the completion of the forest industry development strategy. The Parties have decided not to amend the Regional Forest Agreement and will reconsider industry development initiatives as part of the Regional Forest Agreement extension process after the third five-yearly review.

## **Information and Education**

### **Recommendation 40**

*That the Parties continue a program, in collaboration with industry stakeholders, of community education, information and awareness on the value of forests, the management of forests and the operation of the Forest Practices System in the pursuit of the ecologically sustainable management of forests, to assist the community to understand the issues associated with the management of forests for all values, particularly in light of climate change, biodiversity, catchment management and the domestic processing of wood products.*

## Initial Government Response

The Parties recognise the value of community education, information and awareness on the value and management of forests.

The Tasmanian Government will continue a range of programs to improve community education, information and awareness, in collaboration with industry stakeholders. These include programs managed through the Forests and Forest Industry Council of Tasmania, Forestry Tasmania, the Forest Practices Authority and Private Forests Tasmania, and through continued support for the Forest Education Foundation.

The Australian Government will produce the State of the Forests Report and the State of the Environment Report as required by relevant policies and legislation. It will continue to contribute to relevant international fora such as the Food and Agriculture Organisation (FAO) and the United Nations Forum on Forests (UNFF).

## Status

This recommendation was continuing to be implemented.

The Tasmanian Government continued a range of programs to improve community education on forests including Forestry Tasmania's involvement in activities such as lunch time talks, the TV series "Going Bush" and many other publications and information sessions (see [forestrytas.com.au](http://forestrytas.com.au) for more information). The Forests and Forest Industry Council continued a program of information and education.

Forestry Tasmania and the Forest Industries Association of Tasmania continued to support the Forest Education Foundation which delivered a comprehensive forest education program to Tasmanian schools.

The Forest Practices Authority published a regular newsletter outlining their activities and updates, and published the State of the Forests 2001-2006 booklet. Private Forests Tasmania maintains a web presence and manages field days and workshops to distribute their knowledge to stakeholders.

The Australian Government through the Australian Bureau of Agriculture and Resource Economics and Sciences (ABARES) annually publishes *Australia's forests at a glance*, which provides easily accessible up to date information on Australia's forests and forest industries. In addition, the government continues to produce the Australian forest and wood products statistics (updated every three months); the Australian Plantation Statistics; and various forestry papers released through the ABARES Outlook conferences.

Forests at a glance and other relevant publications can be viewed online at: [www.agriculture.gov.au/abares/pages/publications/default.aspx](http://www.agriculture.gov.au/abares/pages/publications/default.aspx)

The Australian Government also supported the objectives of this recommendation through Forest and Wood Products Australia (FWPA). Established in late 2007, the FWPA is a not for profit company that provides research and development and promotion for the forest and wood products industry in Australia. The Australian Government facilitated the formation of the FWPA under the *Forestry Marketing and Research and Development Services Act 2007* allowing the collection of industry levies for research and development and importantly, promotion. The government collects these levies on behalf of FWPA and has agreed to provide a matching co-contribution to FWPA's research and development program only.

The industry, through the FWPA, has sponsored the development and implementation of the successful advertising campaign, *Wood. Naturally Better.*<sup>™</sup>. The campaign was designed to promote the benefits of timber and wood products and since being launched in 2008 has had a positive impact on public perceptions of wood products, sustainability and carbon storage.

In addition, the FWPA has successfully worked with Planet Ark (a not-for-profit environmental organisation) on the *Make it Wood – Do your world some good* advertising campaign. The campaign promoted timber and wood products as responsible building materials that act as a natural carbon store. In particular, it focuses upon promoting timber and wood products against more greenhouse intensive building products.

## **Apiculture**

### **Recommendation 41**

*That the State completes the plan for the future of the Tasmanian apiary industry in consultation with the Tasmanian Beekeepers Association and forest industry sector.*

#### **Response**

The Forests and Forest Industry Council of Tasmania has established an Apiary Working Group that includes representatives of the Tasmanian Beekeepers Association, public land managers and the forest industry. The Working Group has developed a draft plan for the future of the apiary industry as a concept document, recognising that its implementation requires resolution of commercial matters that can only be resolved through direct negotiation between beekeepers and land managers.

#### **Status**

Implementation of this recommendation was further progressed but is unlikely to be completed.

Subsequent to the Response, the Forest and Forest Industry Council continued attempting to progress towards an agreed plan but came to the conclusion that that further progress was dependent on negotiations between the other working group members. Public land management agencies continued to deal with apiary issues directly on a one on one basis, although there is ongoing liaison to promote a consistent approach to apiary site licensing and management across land tenure.

Forestry Tasmania reached agreement with the Tasmanian Beekeepers Association in 2011 on long term site access and fee structure for apiary sites in State forest. Forestry Tasmania participates in regular consultations with the Tasmanian Beekeepers Association through the Murchison Leatherwood Committee, the Tasmanian Beekeepers Association (Southern Branch) and the Wedge Community Forest Agreement. The Tasmanian Beekeepers Association has requested Forestry Tasmania to continue to collate production statistics for honey production on State Forest, despite concerns by Forestry Tasmania about the reliability of the data provided.

Apiary sites are identified in the Management Decision Classification (MDC) layer in the Forestry Tasmania GIS. Any harvesting or silvicultural activities which may

impact on apiary sites are discussed with the apiary site licence holder in the planning stage of the operation.

The Parks and Wildlife Service reviewed all existing apiary sites in reserves and, following consultation with the Tasmanian Beekeepers Association, issued consistent ten year licences for all sites, with provision for a transition to CPI indexed fees. The Parks and Wildlife Service is working with bee keepers to develop a greater awareness of their responsibilities to manage sites on reserved land and require licensees to comply with the requirements of the National Best Management Practice for Beekeeping in the Australian Environment prepared on behalf of the Australian Honey Bee Industry Council.

As at June 2011, the approximately 12 licensed sites on unallocated Crown land, have different licences and conditions to those issued by the Parks and Wildlife Service.

## **RFA and TCFA Financial and Performance Auditing**

### **Recommendation 42**

*That the Parties should identify the major financial commitments established by the RFA, TCFA and any related financial commitments, to establish a program of independent financial and performance audits of the discharge of those commitments (which may include separate program evaluation) and the achievement of the outcomes sought as a result of those commitments. The Parties should prioritise the audits as considered appropriate. In particular, the audits should address the effectiveness of the programs for (i) protection of forest communities on private land, (ii) intensive forest management, and (iii) industry development and restructuring. Reports produced as a result of audits or evaluations should be published on their completion.*

### **Initial Government Response**

The Parties note that it is part of sound governance to regularly audit programs funded under the RFA and TCFA.

The Parties agree to facilitate performance evaluations and audits of programs for (i) protection of forest communities on private land, (ii) intensive forest management, and (iii) industry development and restructuring, at their completion. The Parties will publish completed performance evaluations and audits on relevant government websites.

### **Status**

Implementation of this recommendation had been progressed. However one element, as at June 2011, was yet to be completed.

The Australian Government's TCFA Forest Conservation Fund Program for the protection of forest communities on private land (see Part 3, clause 21) was independently evaluated and the evaluation report was released in August 2010. The report is available at:

[www.environment.gov.au/land/forestpolicy/fcf/index.html#outcomes](http://www.environment.gov.au/land/forestpolicy/fcf/index.html#outcomes)).

The TCFA intensive forest management program is being independently audited by the Tasmanian Government, with the report expected to be completed and released before the third five-yearly review.

An independent audit and evaluation of the TCFA Industry Development Programs was conducted by the Australian Government Department of Agriculture, Fisheries and Forestry (now Department of Agriculture) in 2010. The audit and report was prepared by Ernst & Young and includes six recommendations. The Report is available at: [www.agriculture.gov.au/SiteCollectionDocuments/forestry/forestry-report.pdf](http://www.agriculture.gov.au/SiteCollectionDocuments/forestry/forestry-report.pdf) [www.daff.gov.au/data/assets/pdf\\_file/0020/2040707/forestry-report.pdf](http://www.daff.gov.au/data/assets/pdf_file/0020/2040707/forestry-report.pdf).

## Monitoring and Reporting

### Recommendation 43

*That, given that Recommendation 5.1 of the 2002 Review stated “[T]hat the Parties, as a priority, develop a process, to obtain reliable data to inform social and economic indicators for the community, and the performance of forest based industries relevant to Attachment 12 of the RFA. The sustainability indicators relevant to the social and economic aspects of the industry need to be reviewed when such reliable data becomes available.”, recommendation 5.1 of the 2002 Review should be implemented by the Parties as a matter of high priority. The process should engage all relevant stakeholders in the identification of the data to be collected. This stage of the process should be completed by 30 September 2008. These data should be available to the next five year Review, and form part of the matters taken into account in the decision whether or not to extend the RFA.*

### Response

The Parties agree to continue to work together, and with industry and other relevant stakeholders, to improve the availability and reliability of social and economic data and indicators regarding the performance of forest based industries.

As part of the Australian Government’s forestry policy commitments, a Forestry Industry Database is being developed by URS Forestry that will address information to assist predicting future wood flows and industry needs. This will include the collation of comprehensive information about the resource, the workforce and its skills requirements; and developing a national database for the use of industry and government bodies. This work is due for completion by July 2010.

The Parties also note that the ongoing work of the CRC for Forestry is producing new data for some key elements, which are expected to improve further for the third RFA Review in 2012.

The Australian Government has engaged the Australian National University Fenner School of Environment and Society to identify a set of indicators to describe and quantify the social and economic impacts of forestry in Australia over time, which included a case study in north east Tasmania. This report was released in May 2009 and is available at: [www.agriculture.gov.au/forestry/national/monitoring-seif](http://www.agriculture.gov.au/forestry/national/monitoring-seif)

### Status

Implementation of this recommendation had been progressed but was yet to be completed.

The forestry industry database was released in May 2011. It outlines employment statistics and future wood volumes and training requirements and can be accessed at: [www.forestryindustrydatabase.com.au/](http://www.forestryindustrydatabase.com.au/)

The CRC for Forestry completed a number of reports that provide substantive, improved data on the Tasmanian forest industry.

These reports are listed in Attachment 1 and are available on the CRC website [www.crcforestry.com.au/research/programme-four/communities/index.html/](http://www.crcforestry.com.au/research/programme-four/communities/index.html/)