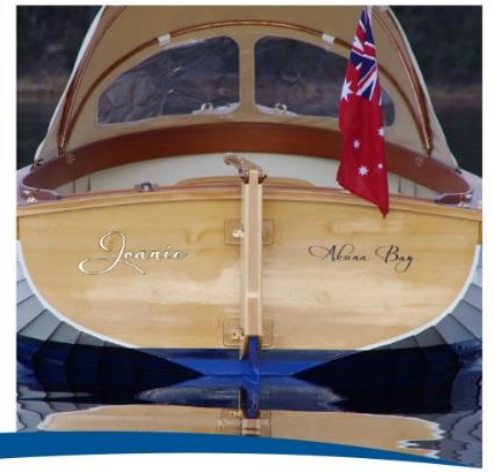


Tasmanian Special Species Management Plan 2017



© State of Tasmania October 2017

Requests and enquiries concerning reproduction and rights should be addressed to the Department of State Growth.

ISBN: 978-1-921527-61-6 (print)

ISBN 978-1-921527-62-3 (online)

This plan was prepared by the Tasmanian Government Department of State Growth.

Questions regarding the use of this material should be directed to:

specialspecies@stategrowth.tas.gov.au

The recommended reference for this publication is:

DSG (2017). *The Tasmanian Special Species Management Plan*, Department of State Growth.

Image credits: Andrew Denman, Pieman Collection – Hadyn Cattach courtesy of Hydrowood, Indeco courtesy of Design Tasmania, species images courtesy of Mark Wapstra.

Table of contents

| | |
|---|----|
| Table of contents | 3 |
| 1. Executive summary | 5 |
| 2. Background to the plan | 9 |
| 2.1 Industry overview..... | 9 |
| 2.2 Land available for production of special species timbers | 10 |
| 2.3 Availability of special species timbers..... | 11 |
| 3. Legislative requirements of the plan | 13 |
| 4. Species and land to which the plan applies | 14 |
| 4.1 Species | 14 |
| 4.2 Land..... | 14 |
| 5. Existing regulatory framework..... | 16 |
| 5.1 The permanent native forest estate policy | 16 |
| 5.2 The CAR reserve system..... | 16 |
| 5.3 The Forest Practices System..... | 17 |
| 6. Objectives and principles..... | 18 |
| 6.1 Objectives..... | 18 |
| 6.2 Principles | 18 |
| 7. Managing natural and cultural values..... | 20 |
| 7.1 Biology and ecology of the special species | 20 |
| 7.2 Species conservation status | 25 |
| 7.3 Habitats | 26 |
| 7.4 Listed natural and cultural values assessment..... | 28 |
| 8. Established supply level of special species timbers | 32 |
| 8.1 Sawlog characteristics..... | 33 |
| 8.2 Potential future resource from ‘couped-up’ areas of permanent timber production zone land | 34 |
| 8.3 Potential resource from other land tenures | 35 |
| 8.5 Other sources of timber | 39 |
| 8.6 Dispersal of harvesting activity | 40 |
| 9. Management strategies..... | 41 |
| 9.1 Overview | 41 |
| 9.2 Silvicultural techniques by vegetation community | 41 |

| | | |
|------------|---|-----------|
| 9.2 | Additional species specific techniques..... | 44 |
| 9.3 | Other management strategies | 44 |
| 10. | Management actions..... | 45 |
| | Goal 1: Adaptive management..... | 45 |
| | Goal 2: Resource accessibility and location | 45 |
| 11. | Approvals and process | 46 |
| 11.1 | Local government approval..... | 46 |
| 11.2 | Forest practices plans | 46 |
| 11.3 | Land owner approval | 47 |
| 12. | Implementation and amendment process for the plan..... | 49 |
| 12.1 | Implementation of the plan | 49 |
| 12.2 | Amendments to the plan | 49 |
| 12.3 | Review of the plan | 49 |
| 13. | Definitions and acronyms | 50 |
| 14. | References..... | 51 |
| 15. | Appendices..... | 53 |
| | Appendix 1 Objectives for the management of relevant land tenures/classes | 53 |
| | Appendix 2 Land owner approval processes..... | 56 |

I. Executive summary

Tasmanian special species timbers make an important contribution to the Tasmanian economy and brand. The harvesting and utilisation of special species timbers has a long history in Tasmania, and is an important part of the state's cultural heritage.

Over the last two decades, the net harvestable area of public native forest has substantially reduced and there has been a related decline over the period in the supply of special species timber from this land. Currently, future resource supply is considered by the special species sector to be a key constraint to the future of the sector.

The Tasmanian Special Species Management Plan (the plan) provides guidance as to where special species harvesting is provided for under existing statutory land management provisions and the terms on which harvesting may be permitted on that land.

The plan does not have the power to change the areas of land in which special species timber harvesting can occur. All areas of land covered by this plan are included because special species timber harvesting is provided for under current and previous legislation.

Requirements of the Act

The plan is a requirement of, and has been prepared consistent with, the *Forestry (Rebuilding the Forest Industry) Act 2014* (Forestry (RFI) Act).

The Forestry (RFI) Act requires that the plan:

- specifies the special species timber and land to which the plan applies
- contains information relating to the management of conservation, environmental, cultural and heritage values in relation to the harvesting of special species timber
- specifies the established supply level of each species, taking into account information relating to the management of conservation, environmental, cultural and heritage values in relation to the harvesting of special species timber on the land specified in the plan.

The Forestry (RFI) Act also requires that the Crown Lands Minister may only approve an application for special species harvesting on Future Potential Production Forest land where:

- (a) the special species timber that is the subject of the application ... cannot be supplied, at the time of the making of the application, from the permanent timber production zone land; and
- (b) the special species timber harvesting will be consistent with the special species management plan.

Role of the plan

Harvesting of special species timbers is a permissible activity on a wide range of public land tenures, including Permanent Timber Production Zone land (PTPZ land), Future Potential Production Forest land (FPPF land), Conservation Areas, Regional Reserves and other public land (such as Crown land and land managed by Hydro Tasmania). The plan does not have the power to change existing statutory management provisions providing for special species harvesting on any of these land tenures, other than FPPF land.

Consequently, aside from FPPF land, the exclusion of a land tenure from the plan would have no effect on the pre-existing availability of that land for special species harvesting.

Given that harvesting of special species timbers on FPPF land may only be approved if the harvesting is consistent with the plan as well as meeting the other requirements outlined in the RFI Act, delivery of the plan is an essential element in the management framework for harvesting on FPPF land.

For all other land tenures/classes described in the plan, the plan is intended to serve as a guidance document only, and does not change the current obligations or requirements on the relevant land owner.

Species

The term 'special species timbers' is defined in Section 3 of the Forestry (RFI) Act as being:

a) timber of the following species:

- blackwood (*Acacia melanoxylon*)
- myrtle (*Nothofagus cunninghamii*)
- celery top pine (*Phyllocladus aspleniifolius*)
- sassafras (*Atherosperma moschatum*)
- Huon pine (*Lagarostrobos franklinii*)
- silver wattle (*Acacia dealbata*); and

b) timber of any other species that is prescribed by the regulations; and

c) timber with particular properties that is prescribed by the regulations.

The plan applies to special species timbers as defined in the Forestry (RFI) Act. As a consequence the list of defined species can only be varied by amending the Forestry (RFI) Act or by regulation.

Land

Under the Forestry (RFI) Act, the plan is a requirement in order to harvest special species timbers from FPPF land. The plan also applies to public land tenures/classes where special species timber harvesting is provided for by other legislation and consistent with existing statutory land management objectives. Therefore, in addition to FPPF land, the plan applies to the following land tenures/classes:

- PTPZ land (*Forest Management Act 2013*)
- Conservation Areas and Regional Reserves (*Nature Conservation Act 2002* and *National Parks and Reserves Management Act 2002*)
- other public land (for example *Crown Lands Act 1976*).

The plan does not apply to any land within the Tasmanian Wilderness World Heritage Area, nor any land classed as a reserve declared under the *Nature Conservation Act 2002*, other than Regional Reserves or Conservation Areas.

The plan does not apply to private property or to any land tenure or class of land for which legislative change would be required in order to make special species timber harvesting allowable.

As noted, for tenures other than FPPF land, the plan does not mandate any additional obligations or requirements on the relevant land owner or manager. However, it is expected that, when a land owner considers a proposal to harvest special species timbers on land that is within its control, the plan may be used to inform decision-making by that land owner with respect to such harvesting.

Established supply level

The established supply level, for the purposes of the plan, is the maximum volume of timber that may be supplied from land covered by the plan, on an ongoing basis, without depleting future resource availability. This volume is described as a maximum annual harvesting quantity, expressed in cubic metres.

The overall maximum annual harvesting quantity is not a supply target. It is provided as an estimate of the maximum volume of timber that could be supplied from land covered by the plan, on an ongoing basis, without depleting future resource availability or quantity.

The established supply level has been determined, based on a resource analysis undertaken by Forestry Tasmania (now Sustainable Timber Tasmania (STT)) in 2015-2016. This analysis included PTPZ land, FPPF land, Conservation Areas and Regional Reserves. The resource analysis indicates that the supply of special species from existing production areas of PTPZ land is likely to reduce as STT transitions into harvesting of regrowth forests and will not be sufficient to meet the future needs of the special species timber sector.

Outside of existing PTPZ land managed for wood production, an area of 1.8 million hectares of land was assessed, of which approximately 420 000 hectares is expected to contain special species.

A significant resource of myrtle, blackwood, sassafras and silver wattle is available on all land tenures in the plan. It is noted that the modelling used in the resource analysis does not reflect the full extent of the silver wattle resource, due to habitat sample bias. The resource analysis indicates that there may be challenges maintaining or increasing supply of Huon pine and celery top pine into the future, particularly the timber grades required for higher value and/or specialised uses such as boat building.

Two maximum annual harvesting quantities are provided in the plan:

1. one for FPPF land only
2. one for all other land to which the plan applies, and for which the resource assessment work was undertaken.

A separate maximum annual harvesting quantity is provided for FPPF land as, under the Forestry (RFI) Act, the Crown Lands Minister may only approve a harvest application on FPPF land if it is consistent with the plan.

With the exception of the acacia species (silver wattle and blackwood), special species timbers are comparatively slow growing. Myrtle, sassafras and celery top pine have rotation lengths of 300 years. A rotation length for Huon pine was not determined, due to its very slow growth rates.

Management of values

The plan prescribes specific management strategies and actions that outline how conservation, environmental, cultural and heritage values that occur, or potentially occur, on FPPF land will be managed.

The plan integrates with Tasmania's existing forest management system. It does not replace or remove any existing requirements upon applicants and land owners, or change the operation of the Forest Practices System, which applies to timber harvesting operations in Tasmania. It describes the elements of the Forest Practices System relevant to the management of natural and cultural values.

In accordance with the requirements of the Forestry (RFI) Act, a conservation assessment of FPPF land was undertaken as part of the development of the plan. The conservation assessment was a desktop assessment of the listed natural and cultural values within the FPPF land. The conservation assessment concluded that the Forest Practices System provides for the management of natural and cultural values that occur on FPPF land in the context of special species timber harvesting. Recommendations from the conservation assessment have been incorporated into the plan.

Harvesting techniques

The Forestry (RFI) Act defines 'special species timber harvesting' to mean the harvesting of special species timber by partial harvesting. The plan describes specific silvicultural techniques that are consistent with the definition of partial harvesting, namely over-storey retention, selective sawlog removal and group selection.

All three harvesting techniques are established silvicultural techniques and have been researched by forest scientists and tested over a long period of time.

Land owner approvals

Noting the diversity of ownership and management of land to which the plan applies, the plan also provides information on the approval processes applicable to special species timber harvesting. It has been designed to assist both applicants in framing harvesting proposals and land owners with their decision-making processes. However, other than for FPPF land, the plan does not have a determinative role in a land owner's approval process.

A key aim of the plan is to facilitate a cross-tenure management approach to special species timber harvesting.

2. Background to the plan

2.1 Industry overview

Tasmanian special species timbers make an important contribution to the Tasmanian economy and brand. The harvesting and utilisation of these species has a long history in Tasmania. They are used to make a wide range of high-value products, including wooden boats, furniture and musical instruments, as well as a range of craft products.

Economically, the sector encompasses a full domestic value chain, including:

- forest management and special species timbers harvesting
- primary processing and sawmilling
- secondary processing – manufacture
- retail
- tourism.

Accurate estimates of the scale of the special species timbers sector are difficult to make. Extrapolating from national estimates, Farley et al (2009) estimated that the sector generated approximately \$70 million each year and provided employment for more than 2 000 full-time equivalent positions and 8 500 part-time and income earning hobbyists. In the context of overall forest industry employment, these estimates appear high but more recent surveys emphasise the continuing importance of the sector in maintaining forestry-related employment.

Indufor (2015) noted that survey responses from 55 respondents, representing 160 full-time equivalent positions, indicated that employment numbers had largely been maintained over the previous five years. This is in contrast to the experience of the broader native forest sector over that period.

Indufor (2015) found that:

- sawmills sell approximately 55 per cent of timbers to customers interstate
- international sales by sawmills are currently in the order of 20 per cent, which suggests a strong increase in international sales since 2009
- Tasmanian secondary processors sell the majority of their special species timber products within Tasmania
- retailers sell between 60 and 65 per cent of their special species timber products to customers interstate
- international sales by retailers are in the order of 14 per cent of sales.

Overall, the assessment indicates that the sector has a high dependence on interstate sales for sawn timber and finished products. International markets are also significant, and appear to be increasing.

The sector is an important contributor to the growing tourism economy. Tasmania's largest tourism event is the biennial Australian Wooden Boat Festival. The Festival adds \$30 million directly and \$80 million indirectly to the state's economy (Department of State Growth, unpublished).

Other popular tourism festivals, such as Stringsfest and Deloraine Craft Fair, also have a significant special species timbers theme.

Special species timbers and products derived from special species timbers are, as described by Farley (2016), an important component of Tasmania's tangible and intangible cultural heritage.

2.2 Land available for production of special species timbers

Harvesting of special species timbers has evolved with the broader native forest management model in Tasmania. In recent history, special species timbers, with the exception of Huon pine, have been predominantly sourced from production areas of state forest, generally as arising through integrated eucalypt harvesting. Significant volumes of Huon pine were harvested from Hydro impoundments ahead of flooding in the 1970s and 1980s, resulting in volumes of this timber being available from stockpiled wood, as well as ongoing salvage operations in western Tasmania.

Between 1995-1996 and 2015-2016, the net harvestable area of public native production forest reduced from 810 500 hectares to 376 000 hectares. This is a reduction in area of approximately 53 per cent (ABARES 2013, Forestry Tasmania 2016c).

A primary aim of the 1997 Tasmanian Regional Forest Agreement was to provide for certainty of resource access to the forestry industry – including the special species sector. During that process, areas were specifically set aside for long term access by the special species timbers sector. These Special Timber Management Units (STMUs) amounted to 143 000 hectares.

Since 1997, there have been a number of government forest policy actions that have significantly affected the area of land available for special species timber harvesting; most notably, the Tasmanian Community Forest Agreement (TCFA) 2005 and the Tasmanian Forests Agreement (TFA) 2013.

The TCFA led to approximately 52 per cent of the then existing STMUs being proclaimed as reserves under the *Nature Conservation Act 2002*. This change in tenure most significantly affected industry access to myrtle (with production subsequently reducing by approximately 90 per cent), as well as access to sassafras and celery top pine.

In 2013, through the Tasmanian Forest Agreement process, 15 600 hectares of areas previously managed for the production of special species timbers was added to the Tasmanian Wilderness World Heritage Area (TWWHA), and the area of STMU's was further reduced to 35 000 hectares. Overall, there has been a 75 per cent reduction in the area of STMU's from 1997 levels.

The TWWHA currently covers an area of 1.58 million hectares of land, which is approximately 23 per cent of Tasmania's total land mass. The 2016 TWWHA Management Plan prohibits all native forest harvesting on land covered by the TWWHA Management Plan (DPIPWE, 2016a).

As at June 2015, the Tasmanian system of reserves on public land comprised 3.26 million hectares, of which 2.73 million hectares are formal reserves. Formal reserves are proclaimed under the *Nature Conservation Act 2002* (NCA) and managed consistent with the *National Parks and Reserves Management Act 2002* (NPRMA) and associated Regulations. The Department of Primary Industries, Parks, Water and Environment's (DPIPWE) Parks and Wildlife Service has responsibility for the management of nearly all formal reserves.

The NPRMA sets out the management objectives for each reserve class. There are eight classes of reserve that can be proclaimed under the NCA and NPRMA. Five classes of reserve (National Park, State Reserve, Game Reserve, Nature Reserve and Historic Site) include management objectives that do not explicitly provide for natural resource extraction.

The three remaining classes (Conservation Area, Nature Recreation Area and Regional Reserve) include management objectives that do explicitly provide for the controlled use of natural resources. For Conservation Areas and Regional Reserves, the management objectives explicitly provide for special species timber harvesting.

The management objectives for Conservation Areas and Regional Reserves (s.5 and s.7, Schedule 1 *National Parks and Reserves Management Act 2002* (NPRMA)) have included 'the controlled use of natural resources', since the NPRMA commenced in 2002 and prior to that they were in the *National Parks and Wildlife Act 1970* (DPIPWE 2016b).

2.3 Availability of special species timbers

The availability of resource has consistently been identified as a key constraint for the industry (Farley, 2009; Indufor, 2015; Farley, 2016). Farley (2016) also notes the extent of processors drawing down on existing stocks, having previously noted (in 2009) the extent of stockpiling of timber to overcome fluctuations in availability.

Recent reports investigating the market demand for special species timbers in Tasmania have noted that the availability of special species sawlogs has declined appreciably for all special species. Production has reduced by 55 per cent over a decade, to approximately 10 000 m³ of all log grades (Indufor, 2015). The reduction in high quality sawlogs is even more pronounced. The reduction in volumes is due to a number of factors, including the reduction in the area of production forest and Sustainable Timber Tasmania's transition to regrowth forests (Forestry Tasmania, 2014a).

Figure 1a and 1b (refer to page 12) show Sustainable Timber Tasmania's production of sawlogs over a 13 year period. The total volume of special species sawlogs has declined from around 20 000 m³ per year from 2003-04 to a little over 10 000 m³ per year in 2015-16.

The volume of sawlogs has declined for all species over the period, with myrtle, celery top pine and silver wattle experiencing the sharpest declines. At present, blackwood is by far the dominant species, accounting for over 85 per cent of total supply in recent years, and therefore the dominant component of special species timbers in the market.

The quality and type of wood provided to the market is an important consideration in any assessment of the availability of special species timbers. For instance, boat builders have specific timber quality requirements, preferring long, wide, defect-free boards. This significantly limits the proportion of special species timber that is suitable for boat building. As a general guide, typically less than five per cent of the celery top pine and Huon pine harvested and milled by large saw-millers is considered 'boat grade' (Indufor, 2015).

In 2010-11, Sustainable Timber Tasmania sold 15 141 m³ of special species timbers logs. Over 95 per cent (14 477 m³) of those logs were higher grade saw logs. In 2014, 9 199 m³ of special species timbers were harvested with only 3 450 m³ (37 per cent) being millable logs.

Figure 1a Sustainable Timber Tasmania's total special species production of sawlogs over the period 2003-2004 to 2015-2016.

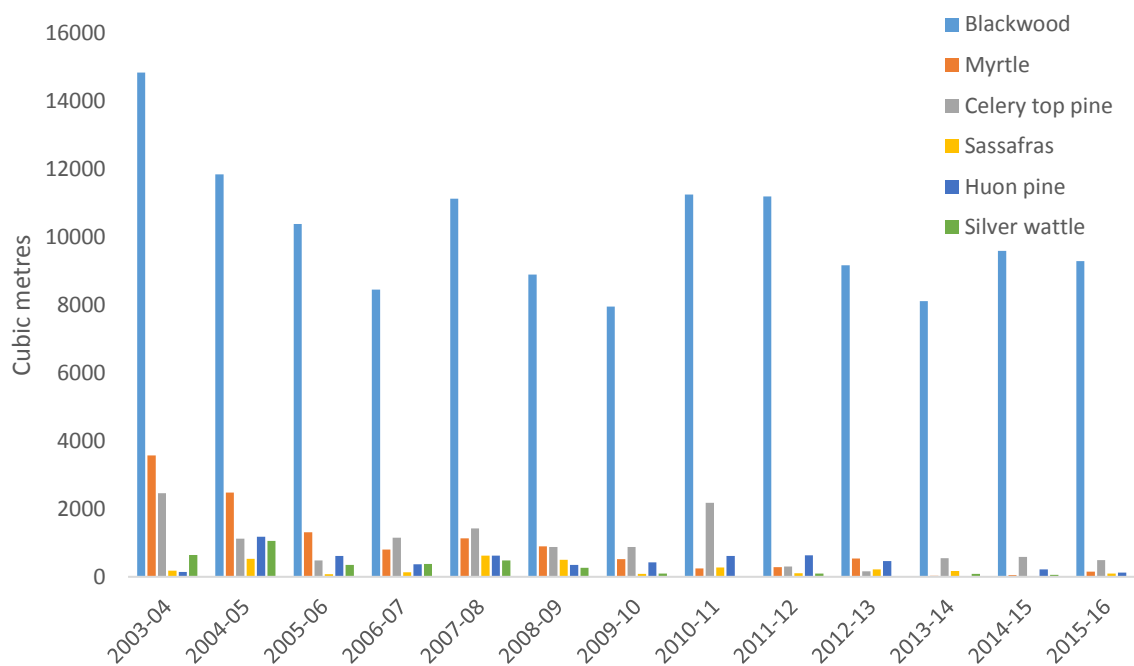
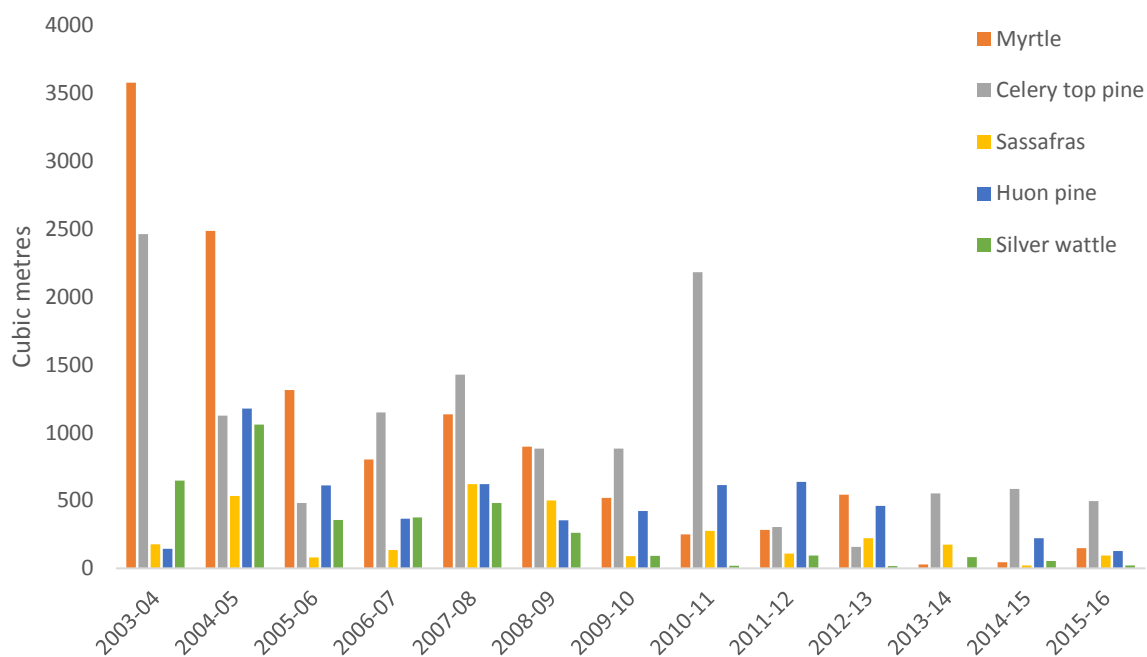


Figure 1b Production of sawlog for the minor special species only (excluding blackwood).



3. Legislative requirements of the plan

The Forestry (RFI) Act (s. 12) states that the plan must:

1. specify the special species timber to which the plan applies
2. specify the land to which the plan applies
3. contain information relating to the management of conservation values and other environmental values in relation to the harvesting of special species timber on that land
4. contain information relating to the management of cultural and heritage values in relation to the harvesting of special species timber on that land
5. specify the established supply level of each species of Tasmanian special species timber in relation to the land taking into account the information referred to in 3 and 4.

Table 1 Requirements of the plan by the Forestry (RFI) Act, and section of the plan where they are delivered.

| Requirement | Section of the plan |
|---|----------------------|
| Specify the special species timber | Section 4 |
| Specify the land | Section 4 |
| Specify the established supply level of each species | Section 8 |
| Contain information relating to the management of conservation and environmental values | Sections 7, 9 and 10 |
| Specify the special species timber | Section 4 |

The Forestry (RFI) Act defines ‘special species timber harvesting’ to mean the harvesting of special species timber by partial harvesting. Under the Forestry (RFI) Act, partial harvesting is defined as ‘the harvesting of single trees or groups of trees whilst retaining other trees including advance growth trees, seed trees and shelterwood trees’. Specific silvicultural techniques that are consistent with the definition of partial harvesting are discussed in Section 9.

Timber harvesting is restricted to ‘partial harvesting’ on FPPF land. The management objectives for Conservation Areas and Regional Reserves specifically refer to the defined term ‘special species timber harvesting’, thereby restricting harvesting of special species on those tenures to ‘partial harvesting’.

The Forestry (RFI) Act also sets out a process (Part 3, s.11) for making special species timber harvesting applications on FPPF land. Further information on the application process for special species timber harvesting on FPPF land is provided in Section 11 and Appendix 2.

4. Species and land to which the plan applies

4.1 Species

The term ‘special species timber’ is defined in the Forestry (RFI) Act as including:

- a. timber of the following species:
 - blackwood (*Acacia melanoxylon*)
 - myrtle (*Nothofagus cunninghamii*)
 - celery top pine (*Phyllocladus aspleniifolius*)
 - sassafras (*Atherosperma moschatum*)
 - Huon pine (*Lagarostrobos franklinii*)
 - silver wattle (*Acacia dealbata*)
- b. timber of any other species prescribed by the regulations
- c. timber with particular properties that is prescribed by the regulations.

The plan applies to special species timbers as defined in the Forestry (RFI) Act. As a consequence the list of defined species can only be varied by amending the Forestry (RFI) Act or by regulation.

A description of the distribution and ecology of the species listed in the definition (as at October 2017) is provided in Section 7 of the plan.

4.2 Land

It is a requirement of the Forestry (RFI) Act to specify the land to which the plan applies. It is important to note that a reference to land does not impose any mandatory obligations or requirements on the relevant owner/manager(s)¹ of that land, in addition to those already in effect.

The plan does not apply to the following land:

- any area of land located within the Tasmanian Wilderness World Heritage Area (TWWHA), as declared under the World Heritage Convention (UNESCO, 1972)²
- any land classed as a reserve declared under the *Nature Conservation Act 2002*, other than Regional Reserves or Conservation Areas³.

¹ Note within the plan the term land owner is used to apply to the relevant Agency or entity with responsibility for managing the land.

² The 2016 TWWHA Management Plan specifically prohibits special species timber harvesting from within the TWWHA.

³ Schedule 1 of the *National Parks and Reserves Management Act 2002* sets out the Management Objectives for the different Reserve classes. Only the Objectives for Regional Reserves and Conservation Areas explicitly provide for the potential harvesting of special species timber.

- private property. Note that special species harvests can occur on private land in Tasmania. As with any land, any person proposing the harvesting of special species timbers on private property, which they do not own, will need to obtain permission from the relevant land owner, as well as comply with forest practices requirements.

The plan applies to all public land tenures/classes where special species harvesting is consistent with the statutory purposes and/or objectives of the land tenure/class. Specifically:

1. Permanent Timber Production Zone Land (PTPZ Land)

This land class is defined under the *Forest Management Act 2013* and managed by the Forestry Corporation. The Forestry Corporation is Sustainable Timber Tasmania (formerly Forestry Tasmania).

2. Future Potential Production Forest Land (FPPF Land)

The FPPF land is defined under the Forestry (RFI) Act. Section 11(4)(b) of the Forestry (RFI) Act makes any harvesting of special species timbers on FPPF Land subject to the plan. Specifically, the Minister administering the *Crown Lands Act 1976* ('the Crown Lands Minister' and 'the Crown Lands Act', respectively) may only approve an application for the harvesting of special species timbers from FPPF Land if satisfied that the proposed harvesting is consistent with the plan.

For the majority of FPPF land, the underlying land tenure is unallocated Crown land. A small area of the FPPF land is vested in other public authorities such as Hydro Tasmania. Department of Primary Industries, Parks, Water and the Environment (DPIPWE) manages FPPF land that is Crown land not vested in other authorities. Schedule 3 of the Forestry (RFI) Act sets out the Objectives for Management of FPPF land (see Appendix 1).

3. Conservation Areas and Regional Reserves

Conservation Areas and Regional Reserves are proclaimed reserves under the *Nature Conservation Act 2002*. DPIPWE manages this land consistent with the *National Parks and Reserves Management Act 2002* (NPRMA). A specific purpose for the reservation of Conservation Areas and Regional Reserves is 'special species timber harvesting' (see Schedule 1 of the *Nature Conservation Act 2002*). Schedule 1 of the NPRMA sets out the objectives for Management of Conservation Areas or Regional Reserves (see Appendix 1). A specific objective of both Conservation Areas and Regional Reserves is 'to provide for the controlled use of natural resources, including special species timber harvesting'.

The management objectives for Conservation Areas and Regional Reserves (s. 5 and s. 7, Schedule 1 *National Parks and Reserves Management Act 2002* (NPRMA)) have included 'the controlled use of natural resources', since the NPRMA commenced in 2002 and prior to that they were in the *National Parks and Wildlife Act 1970* (DPIPWE, 2016).

4. Other public land

Other public land is primarily unreserved public land not included in categories 1, 2 and 3 above. The majority of this land is Crown land, within the meaning of the *Crown Lands Act 1976*, and managed by DPIPWE. Some Crown land is declared as a Public Reserve, and Schedule 4 of the *Crown Lands Act 1976* sets out the Objectives for Management of this land (see Appendix 1). The remaining land in the category includes public land that has been vested in an authority. Whilst there are a number of authorities in which public land may be vested, it is only land vested in the Hydro Electric Corporation, under the *Hydro-Electric Corporation Act 1995*, which is expected to hold much special species timber resource.

5. Existing regulatory framework

Tasmania has a complex and sophisticated Forest Management System that has evolved over a number of decades. It is important to note that the plan reflects the existing forestry management framework; it does not replace or remove any existing requirements upon applicants.

The following is only intended to provide a brief overview of the key elements of the Forest Management System, particularly those that relate to the plan and the harvesting of special species timbers.

The Forest Management System underpins the Tasmanian Regional Forest Agreement (RFA) (Commonwealth of Australia, 1997). The RFA was originally a 20-year bilateral agreement between the Tasmanian and Australian governments signed on 8 November 1997. An extended RFA was signed by both governments on 18 August 2017. The RFA is founded on the principles of ecologically sustainable forest management and seeks to provide certainty for the conservation of environment and heritage values, and sustainability of resource access for the forestry industry.

Tasmania's forest management system has, at its core, three primary elements:

- a policy for maintaining a permanent native forest estate (the PNFEP)
- a comprehensive, adequate and representative (CAR) reserve system that securely protects forest conservation values
- a system for managing production forests on public and private land in a manner that contributes to sustainable environmental, social and economic outcomes (that is, the Forest Practices System).

5.1 The permanent native forest estate policy

Tasmania's policy for maintaining a permanent native forest estate (PNFEP) is in place to ensure the maintenance of the native forest resource base for all its various conservation, production and amenity values. The PNFEP acknowledges that forest condition will change from place to place and from time to time through regeneration after fire or harvesting, and through natural succession as forests age. The PNFEP regulates how native forests are to be maintained and managed for a variety of uses by prohibiting the broad-scale clearance and conversion of native forest. It does not regulate the reservation of native forests or the use of plantation forests.

The PNFEP is implemented by the Forest Practices Authority through the Authority's consideration of applications for approval of forest practices plans under the *Forest Practices Act 1985*.

5.2 The CAR reserve system

Tasmania's CAR reserve system comprises formal reserves, informal reserves and reserves on private land. As at May 2017, Tasmania's CAR reserve system comprised just over half of the state's land area. It provides protection for a wide range of Tasmania's natural and cultural heritage values, including native forest and non-forest vegetation communities, geodiversity, biodiversity and water values, wilderness, old-growth forest and historic and indigenous heritage.

5.3 The Forest Practices System

The Forest Practices System is given effect by the *Forest Practices Act 1985* which defines and regulates forest practices activities in Tasmania. The *Forest Practices Act 1985* establishes the Forest Practices Authority (FPA) as the regulator of forest practices in Tasmania. It also provides for, and gives statutory power to, the PNFEF and the Forest Practices Code (the Code).

The purpose of the Code is to 'prescribe the manner in which forest practices shall be conducted so as to provide reasonable protection to the environment'. The Code applies to forest practices on all land tenures. The Code provides a practical set of guidelines and standards for the protection of environmental values, in particular:

- soil and water
- geomorphology
- flora, fauna, and genetic resources
- cultural heritage (includes European and Aboriginal heritage)
- visual landscape.

The Code specifically encapsulates management of listed Matters of National Environmental Significance under the *Environment Protection and Biodiversity Conservation Act 1999* relevant to forest management, including: World and National Heritage, wetlands of international significance, listed threatened species and communities and listed migratory species.

Once a value has been detected in an area planned to be harvested, then a combination of the Code, planning tools and specialist advice from FPA or DPIPWE staff are utilised to ensure sustainable management of the value. Planning tools, such as the Threatened Fauna Adviser, provide endorsed recommendations. These recommendations, and/or specialist advice, are then used to formulate a management prescription within a Forest Practices Plan. Examples of management prescriptions include requirements to retain a defined percentage of nesting or foraging habitat for specific listed species, distance buffers to protect specific cultural and natural values, such as nests and dens, and temporal prescriptions (for instance requiring an activity to be undertaken outside the breeding season of a particular species).

All forest practices, other than activities that are exempt under the *Forest Practices Regulations 2017*, must be carried out under a certified Forest Practices Plan. Forest Practices Plans must be prepared and implemented in accordance with the *Forest Practices Act 1985* and the Code. A Forest Practices Plan must be certified by the Forest Practices Authority to be in compliance with the Forest Practices Code. Once certified, a Forest Practices Plan becomes a legal document that must be complied with.

6. Objectives and principles

6.1 Objectives

The key objectives of the plan are to:

- provide a management framework for the long-term, sustainable harvesting of special species timbers in Tasmania

(In doing so, the plan outlines an approach that achieves sustainable management of the forests with due care for the environment and taking into account social, economic and environmental outcomes, including providing ongoing access to special species to continue to sustain and grow the special species timber sector)

- meet the requirements of the Forestry (RFI) Act, which states that the plan must specify or contain information relating to:
 - the special species timber to which the plan applies
 - the land to which the plan applies
 - the management of conservation values and other environmental values in relation to the harvesting of special species timber on that land
 - the management of cultural and heritage values in relation to the harvesting of special species timber on that land
 - the established supply level of each species of special species timber in relation to the land, taking into account information relating to the management of conservation, environmental, cultural and heritage values in relation to the harvesting of special species timber on the land specified in the plan.
- facilitate a cross-tenure management approach to the management of, and access to, special species timbers
- provide relevant information to assist land owners in assessing, and applicants in developing, special species timber harvesting applications.

6.2 Principles

Special species predominantly occur in blackwood swamp forests, mixed forest (that is lowland wet eucalypt forests with a rainforest understorey), and rainforest. The exception is silver wattle which is widely distributed throughout eucalypt forests and woodlands.

These habitats can be used utilised for a range of recreational and commercial activities and contain a range of natural and cultural values. For this reason, the following key principles have been applied in the development of the plan. The access to, and harvesting of, special species timber, should:

- a. be in accordance with the principles of ecologically sustainable forest management (ESFM) (see Table 2 refer to page 19)
- b. not have an impact on the maintenance of the CAR reserve system that is inconsistent with the objectives of management for reserves, outlined in schedule 1 of the *National Parks and Reserves Management Act 2002*
- c. use specific silvicultural techniques that are consistent with the definition of partial harvesting.

Table 2 The seven principles of ecologically sustainable forest management (ESFM)⁴.

| Principle number | Ecologically sustainable forest management principles |
|------------------|---|
| 1 | Maintain and enhance long-term socio-economic benefits. |
| 2 | Protect and maintain biodiversity. |
| 3 | Maintain the productive capacity and sustainability of forest ecosystems. |
| 4 | Maintain forest ecosystem health and vitality. |
| 5 | Protect soil and water resources. |
| 6 | Maintain forests' contribution to global carbon cycles. |
| 7 | Maintain natural and cultural heritage values. |

⁴ These principles were defined by the independent expert advisory group assembled as part of the Comprehensive Regional Assessment for the Regional Forest Agreement. The principles map directly to the criteria established in the Montréal Process. The Montreal process is a voluntary agreement on sustainable forest management. Australia is a member country.

7. Managing natural and cultural values

This section provides information on the special species, as well as the habitats and other natural and cultural values that may occur within areas likely to contain special species timber. It is intended that this section will assist land owners and other regulators of special species timber harvesting applications. It is also expected this information will assist applicants in preparing harvesting proposals.

7.1 Biology and ecology of the special species

All of the six special species timbers currently specified under the Forestry (RFI) Act are native non-Eucalypt species. A summary of the key parameters for each special species is provided at Table 3 (information on indicative resource availability is from Chapter 8).

Table 3 Summary of biological and ecological parameters, legislative status and indicative availability by special species⁵.

| Species | Distribution | Abundance | Growth rates | Listed species (state or commonwealth) | Indicative resource available | Fire sensitive? |
|------------------------|-------------------------|------------------|-----------------|--|-------------------------------|-----------------|
| Blackwood | widespread | abundant | relatively fast | not threatened | significant | No |
| Myrtle | moderately restricted | abundant | slow | not threatened | significant | Yes |
| Celery top pine | moderately restricted | abundant | slow | not threatened | somewhat limited | Yes |
| Sassafras | moderately restricted | somewhat limited | slow | not threatened | significant | Yes |
| Huon pine | restricted distribution | limited | very slow | not threatened | limited | Yes |
| Silver wattle | widespread | abundant | fast | not threatened | significant | No |

⁵ Additional information on identifying these and other Tasmanian tree species is available at http://cdn.forestrytasmania.com.au/uploads/File/pdf/tassies_trees_combined.pdf.

1. Blackwood

Blackwood occurs naturally in Tasmania, Victoria and New South Wales and has also been introduced as a plantation species in several other regions of the world. It is widespread throughout Tasmania's native forests, from sea level to 1000 metres in elevation.

Blackwood has a wide ecological range, growing well in many soil conditions. It is the dominant over-storey species in blackwood swamp forests in parts of north west Tasmania and is a common understorey component of wet sclerophyll forest, mixed forest and rainforest (especially disturbed rainforest) in many parts of the state. It can also occur in dry sclerophyll forest and woodlands.

Blackwood is relatively short-lived and fast growing compared to most other special species.



Blackwood (*Acacia melanoxylon*)

2. Myrtle

Myrtle is widely distributed in Tasmania and also occurs in Victoria. Its best development is in rainforest on fertile sites in northwest Tasmania. It occurs from sea level to 1200 metres elevation.

Myrtle is a dominant over-storey species in many of Tasmania's rainforests, including as pure stands. It also occurs in the understorey, or as an emergent species, in wet eucalypt forests, and as a shrub in subalpine and alpine vegetation at higher altitudes.

Myrtle is a slow growing species that can live for up to 500 years. It is highly susceptible to insect and fungal attack, particularly myrtle wilt, a parasitic fungus (*Chalara australis*) that attacks myrtle when the air-borne spores settle on open wounds. Myrtle wilt is a natural disease but can be exacerbated by mechanical disturbance such as logging and thinning (Forestry Tasmania, 1998).



Myrtle (*Nothofagus cunninghamii*)

3. Celery top pine

Celery top pine is endemic to Tasmania. It is Tasmania's most widespread and abundant native conifer (IUCN, 2017). It occurs over much of the forested area of the State, from wet areas in the drier forests of the north east to the rainforests of the south west, up to 800 metres elevation. The species shows its best development in Tasmania's north-west.

Celery top pine has a very slow growth rate and may live to 800 or 900 years. The species is highly sensitive to fire.



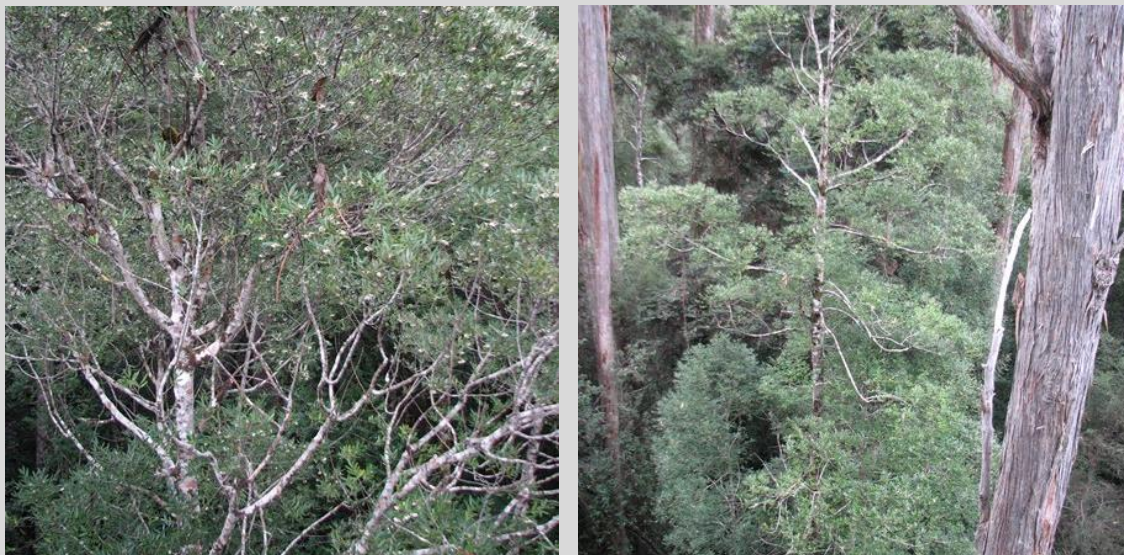
Celery top pine (*Phyllocladus aspleniifolius*).

4. **Sassafras**

Sassafras is an evergreen tree native to the cool temperate rainforests of Tasmania, Victoria, and New South Wales. It occurs from sea level to 800 metres elevation.

Sassafras is a component of wet eucalypt forest and rainforest. It generally reaches its best development in rainforest gullies that are dominated by myrtle.

It has a slower growth rate than myrtle, and may live for around 200 years.



Sassafras (*Atherosperma moschatum*)

5. **Huon pine**

Huon pine is endemic to Tasmania. It occurs in the state's west and southwest, from the Huon River catchment to the Pieman River catchment, mainly along the banks of rivers but also in several rainforest communities. It occurs from sea level to 800 metres elevation, but mainly below 150 metres.

Huon pine prefers moist and wet conditions, along riverbanks, lakeshores and swampy locations. It is very sensitive to fire and drought.

Huon pine is Australia's longest lived tree species. Individual trees up to 2 500 years old have been recorded. It has a very slow growth rate (from 0.3 to two millimetres per year in diameter). It is estimated to take an average of about 1 000 years to reach a height of 30 metres and a diameter of one metre.



Huon pine (*Lagarostrobos franklinii*)

6. Silver wattle

Silver wattle is abundant and widely distributed throughout eucalypt forests and woodlands in eastern Australia. In Tasmania, it prefers open forests up to 500 metres elevation.

While its growth rate is highly variable, silver wattle can grow very quickly. It has a life span of 70 to 100 years. Silver wattle regenerates readily after fire from soil-stored seed or root suckers.



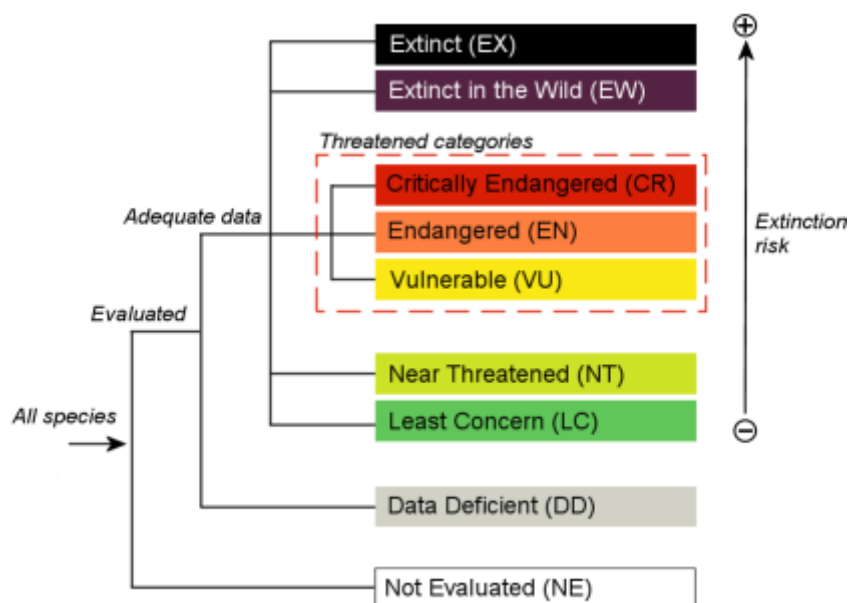
Silver Wattle (*Acacia dealbata*)

7.2 Species conservation status

None of the six special species are listed under the Tasmanian *Threatened Species Protection Act 1995* or the Australian *Environment Protection and Biodiversity Conservation Act 1999*.

None of the six species are listed under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). None are listed under the International Union for Conservation of Nature (IUCN) red list. Celery top pine and Huon pine are rated by the IUCN as 'least concern'; meaning they have been evaluated but do not qualify for any other classification category (see Figure 2).

Figure 2 Classification categories used by the IUCN



Individual observations of blackwood, celery top pine, Huon pine, myrtle and sassafras⁶ (available on the Natural Values Atlas⁷) have been analysed to determine the proportion of each species within reserves (see Table 4 refer to page 26). It should be noted that this analysis is indicative only and observations may, to some extent, be reflective of surveying bias for the species and/or the land tenure. Nevertheless, this analysis does provide an indication of the distribution of a species population, and the proportion that is protected within the reserve network.

Each of the species was well represented in reserves, ranging from 40 per cent of blackwood observations, to over 85 per cent of the Huon pine observations occurring within reserves. Huon pine, celery top pine and myrtle are well represented within the Tasmanian Wilderness World Heritage Area (TWWHA) with at least 30 per cent of the total observations for each of these species occurring within the TWWHA. The species with the least proportion of its population observed in reserves was blackwood.

⁶ Note silver wattle was not assessed in this method as it is a relatively abundant, widespread and fast growing species.

⁷ www.naturalvaluesatlas.tas.gov.au

Table 4 Per cent of species observations in Tasmania that occur in the Tasmanian Wilderness World Heritage Area (TWWHA), all reserves and reserves where special species harvesting is prohibited or inconsistent with the land management objectives.

| | Blackwood | Celery top pine | Huon pine | Myrtle | Sassafras |
|---|-----------|-----------------|-----------|--------|-----------|
| TWWHA | 6.8 | 35.2 | 38.2 | 30.3 | 21.9 |
| All reserves | 40.3 | 65.5 | 86.0 | 63.6 | 58.1 |
| Reserves (where harvesting is not permitted) | 12.2 | 37.8 | 48.4 | 33.0 | 26.0 |

7.3 Habitats

Special species occur within a range of habitats, including blackwood swamp forests, mixed forest⁸ and rainforest (Forestry Tasmania, 1998, 2009, 2010). Blackwood and silver wattle can also occur in dry forest and woodland habitat.

There are 39 vegetation communities in Tasmania which are listed as threatened native vegetation communities (TNVCs) under the *Nature Conservation Act 2002*. None of the TNVCs include a special species as the dominant component of the community. However, DPIPWE (2017) concluded that there is a likelihood of special species occurring in three TNVC's (see Table 5 refer to page 27) as a subdominant tree species.

Within the Forest Practices System, timber harvesting in TNVCs is acceptable as long as the TNVC is regenerated to maintain the same vegetation community into the future. Clearance and conversion of a TNVC is prohibited under the *Forest Practices Act 1985*.

TNVC are managed through the Forest Practices System. TNVC's are detected through desktop assessments, planning tools and on-ground surveys. State legislation, and the Code, require the protection and management of TNVC when planning and conducting forestry operations. Any requirements to manage or protect TNVC are specified in Forest Practices Plans.

⁸ Hickey and Savva (1992) noted that up to 20 per cent of Tasmania's wet eucalypt forest had an understorey dominated by rainforest species, that is, mixed forest.

Table 5 Threatened native vegetation communities likely to contain special species.

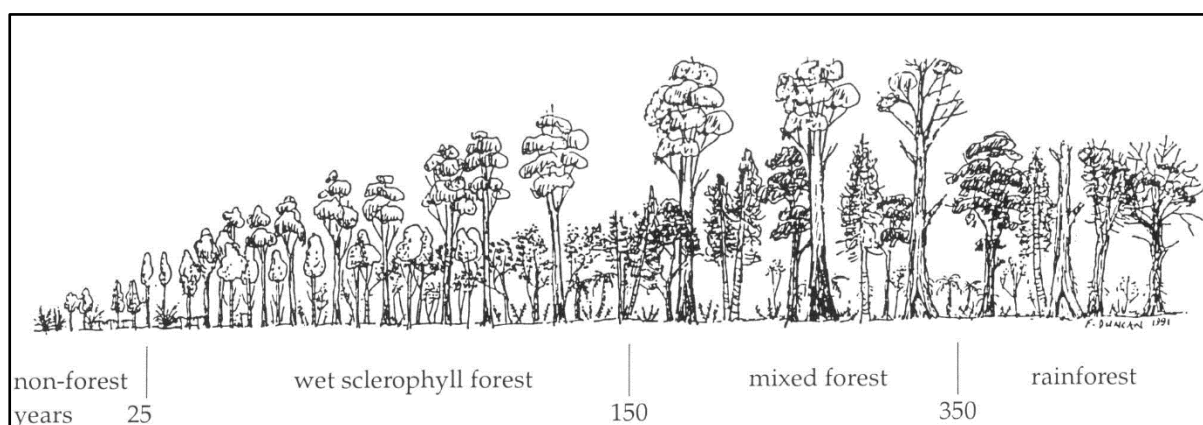
| Threatened vegetation community | Tasveg code | Comments |
|---|-------------|--|
| <i>Athrotaxis selaginoides</i> (King Billy pine) rainforest | RKP | Usually includes myrtle (<i>Nothofagus cunninghamii</i>) |
| <i>Eucalyptus brookeriana</i> wet forest | WBR | Blackwood (<i>Acacia melanoxylon</i>) and other rainforest special species can be sub-dominant in the east, north-west and west or adjacent to blackwood swamp forests |
| <i>Eucalyptus viminalis</i> wet forest on basalt | WVI | Blackwood (<i>Acacia melanoxylon</i>) and silver wattle (<i>A. dealbata</i>) can occur as sub-dominants |

There are 714 400 hectares of ‘rainforest and related scrub’ and 1.08 million hectares of ‘wet Eucalypt forest and woodland’ in Tasmania⁹ (DPIPWE, 2014). The majority (90 per cent) of rainforest and 65 per cent of the wet eucalypt forest and woodland occurs within the reserve network. Approximately eight per cent (62 000 hectares) of rainforest has been identified as belonging to a threatened vegetation community.

Wet eucalypt forests are classified as mature when they are around 110 years old and begin to develop structural features typically found in older forests. Features important for biodiversity that are found in mature forest include large spreading crowns, tree hollows and coarse woody debris (Wilkinson, 1994; Koch et al, 2012). Old-growth forest in wet eucalypt forest is part of ecological succession, it is not static and cannot be maintained indefinitely through reservation alone (JANIS, 1997). Old-growth wet eucalypt forest will eventually transition to rainforest in the absence of disturbance (Koch et al, 2012). Figure 3 shows the succession of wet Eucalypt forest.

Forestry Tasmania (2017) concluded that of the 3.5 million hectares of mapped forest in Tasmania, approximately 1.23 million hectares (or 35 per cent) is classified as old-growth¹⁰. Over 85 per cent of Tasmania’s old-growth forests occur within the reserve network.

Figure 3 The succession of lowland wet Eucalypt forest.



Source: *Vegetation of Tasmania, 1999*.

⁹ Only a portion of ‘rainforest and related scrub’ and ‘wet Eucalypt forest and woodland’ will contain special species.

¹⁰ Forest classified as ‘old-growth’ includes a wide range of forested communities, of which only a proportion will contain special species.

7.4 Listed natural and cultural values assessment

It is a requirement of the Forestry (RFI) Act (Section 12 (2)) that an assessment of the conservation values of any FPPF land, that the Minister intends to include in the plan, is undertaken prior to the plan being made. Consistent with the requirements of the Act, the assessment includes consideration of natural and cultural values. The conservation assessment was conducted by the Department of Primary Industries, Parks, Water and Environment (DPIPWE, 2017)¹¹.

The conservation assessment provides a systematic, desktop assessment of:

- listed natural and cultural values¹² known to occur on FPPF land
- listed natural and cultural values that occur within habitat likely to contain special species
- which values are managed through the Forest Practices System.

Whilst the conservation assessment was conducted for FPPF land only, FPPF land is dispersed throughout Tasmania. Hence, its findings may be broadly applicable to other land tenures. The conservation assessment should be used as a guide only as to natural and cultural values that may occur in special species habitats. It is a requirement of the Forest Practices System that on-ground assessments be conducted during the development of a Forest Practices Plan.

One hundred and sixteen threatened flora species and 48 threatened fauna species are known to occur on FPPF Land. Two places entered on the Tasmanian Heritage Register and 365 Aboriginal Heritage sites occur on FPPF land.

1. Flora

Of the 116 threatened flora species known from the FPPF land, eight were considered as likely to occur in habitats known to contain special species (see Table 6 refer to page 29). Three of the eight species are rainforest lichens; each are known from solitary records. It is noted that knowledge on the distribution of these species is very poor, and their apparent 'absence' from areas of potential habitat may reflect a lack of survey and/or identification issues.

Whilst not identified on FPPF land, an additional five threatened flora species are considered to have the potential to occupy habitat within the FPPF land areas suitable for special species timbers, namely:

- maidenhair spleenwort *Asplenium hookerianum*
- two unnamed lichens *Hypotrachyna laevigata* and *Menegazzia minuta*
- myrtle elbow orchid *Thynniorchis nothofagicola*
- scrambling groundfern *Asplenium hookerianum*.

The Forest Practices System requires that expert advice and/or management recommendations be utilised to form management prescriptions within Forest Practices Plans. A decision-support tool, the Threatened Plant Adviser, is currently under development to streamline this process.

¹¹ The full method used for searching for each of the listed values is described in the Assessment.

¹² Listed values include those listed under the Tasmanian *Threatened Species Protection Act 1995*, *Historic Cultural Heritage Act 1995*, and the *Aboriginal Relics Act 1975*. Species and Aboriginal values listed under the Australian *Environment Protection and Biodiversity Conservation Act 1999* were also assessed.

Table 6 Threatened flora known to occur in habitats likely to contain special species on FPPF land.

| Flora species | Common name | TSP Act | EPBC Act | NVA Records in FPPF land | Bioregion (IBRA 5.0) |
|--|--------------------|---------|----------|--------------------------|-----------------------------------|
| <i>Blechnum spinulosum</i> | small raspfern | e* | – | 3 | Northern slopes |
| <i>Bunodophoron notatum</i> | lichen | e | – | 1 | West |
| <i>Cyathea cunninghamii</i> | slender treefern | e | – | 4 | South east and northern slopes |
| <i>Erioderma solediatum</i> | lichen | e | – | 1 | West |
| <i>Hypolepis muelleri</i> | harsh groundfern | r** | – | 2 | Flinders and Ben Lomond Bioregion |
| <i>Persoonia muelleri</i> subsp. <i>angustifolia</i> | narrowleaf geebung | r | – | 2 | West |
| <i>Roccellinastrum neglectum</i> | lichen | e | – | 1 | West |
| <i>Thismia rodwayi</i> | fairy lanterns | r | – | 5 | Ben Lomond region and South East |

* endangered

** rare

2. Fauna

Forty-eight threatened fauna species are known from the FPPF land. Thirty-eight of these are considered likely to occupy habitats likely to contain special species.

Twenty-one of the 38 threatened fauna species identified are either fully aquatic or riparian-dependent. DPIPWE (2017) concluded that ‘partial’ harvesting for special species undertaken consistent with the requirements of the Forest Practices System is unlikely to have a significant impact on fully-aquatic or riparian-dependent species. Additional management recommendations over and above the soil and water requirements of the Forest Practices Code may be required in some cases. The Threatened Fauna Adviser delivers recommended actions for all threatened aquatic species for all native forest silvicultural methods.

Nine of the 38 threatened fauna species are terrestrial invertebrates, which occupy a range of forest types. Whilst not restricted to habitats likely to contain special species, wet eucalypt forests provide optimal habitat for many of these species.

Of the 38 threatened fauna species, eight are vertebrates; comprising five bird and three mammal species. All eight species are wide-ranging, with individual habitat requirements.

DPIPWE (2017) concluded that the key risk to listed threatened fauna from special species timber harvesting was likely to be to the several denning and nesting vertebrate fauna species. Specifically, these species are the:

- wedge-tailed eagle (*Aquila audax fleayi*)
- masked owl (*Tyto novaehollandiae castanops*)
- spotted-tailed quoll (*Dasyurus maculatus maculatus*)
- eastern quoll (*Dasyurus viverrinus*)
- swift parrot (*Lathamus discolor*)

- grey goshawk (*Accipiter novaehollandiae*)
- white-bellied sea eagle (*Haliaeetus leucogaster*)
- Tasmanian devil (*Sarcophilus harrisii*).

Disturbances to these fauna may be visual, aural or physical, such as the removal of nesting or denning resources.

Management of threatened fauna species in timber harvesting areas is governed by prescriptions delivered through the Forest Practices System. Management recommendations, for all of these forest-dependent fauna species, have been developed for all operations, which meet the definition of a 'forest practice' under the *Forest Practices Act 1985*. The management recommendations have been developed in accordance with procedures agreed between the Forest Practices Authority and DPIPW and are delivered through the Threatened Fauna Adviser (D3.3 Forest Practices Code, 2015).

3. Cultural values

Two places entered on the Tasmanian Heritage Register (THR) were located on FPPF land. One place was on Bruny Island and is located in an area not thought to contain special species. The second is the Balfour Cemetery located in Balfour in Tasmania's north-west (the specific location of the site is provided in DPIPW, 2017).

Management of both Tasmanian and Australian listed cultural sites are governed by prescriptions delivered through the Forest Practices System. The Forest Practices Authority has prepared *Procedures for Managing Historic Cultural Heritage* (in consultation with the Tasmanian Heritage Council).

4. Aboriginal values

There are 365 Aboriginal Heritage (AH) sites listed in the Aboriginal Heritage Register (AHR), maintained by Aboriginal Heritage Tasmania (AHT) within DPIPW, which occur on FPPF land. These sites are summarised in Table 7 (refer to page 31).

Thirty-eight percent of site types within FPPF land are isolated artefacts, with approximately 30 per cent of sites being artefact scatters (generally two or more artefacts). These are usually stone artefacts which represent tangible evidence of past-Aboriginal living areas on FPPF land.

The other key site-types within FPPF land are Aboriginal occupied rock shelters. An Aboriginal occupied rock shelter is an overhang or cave that contains evidence of use and occupation by Aboriginal people. Cultural material, such as artefacts, can be visible on the ground and archaeological features, such as rock markings or subsurface archaeological deposits, can be present.

While some unoccupied rock shelters may not contain any visible surface evidence of human occupation, they may contain accumulated sediment beyond the entrance, including buried archaeological material. Other significant sites are Aboriginal quarries, which are important sources of stone raw material and are very significant both to the Aboriginal community and archaeologically. The AHR search identified no rock marking sites in FPPF land.

A relatively small area of FPPF land is known to be located within the Western Tasmania Aboriginal Cultural Landscape. This cultural landscape is on the National Heritage List (NHL) under the *Environment Protection and Biodiversity Conservation Act 1999*. The management of this site will continue to be through the Forest Practices System and specifically the Forest Practices Authority's *Procedures for managing Aboriginal cultural heritage when preparing forest practices plans*.

Table 7 Aboriginal Heritage Sites registered within FPPF land as at 31 March 2017.

| Site types | Number | Percentage of total |
|--|--------|---------------------|
| Artefact scatter | 112 | 30.7 |
| Artefact scatter, shell midden | 4 | 1.1 |
| Artefact scatter, stone quarry | 3 | 0.8 |
| Hut depression, shell midden | 1 | 0.3 |
| Isolated artefact | 140 | 38.4 |
| Not a site | 1 | 0.3 |
| Occupied rock shelter | 33 | 9.0 |
| Shell midden | 15 | 4.1 |
| Stone quarry | 18 | 4.9 |
| Unoccupied rock shelter | 38 | 10.4 |
| Total number of sites within FPPF land | 365 | 100 |

Management of both Tasmanian and Australian listed Aboriginal cultural sites are covered by prescriptions delivered through the Forest Practices System. This procedure is outlined in the FPA's *Procedures for managing Aboriginal cultural heritage when preparing forest practices plans*.

8. Established supply level of special species timbers

The Forestry (RFI) Act requires that the plan establishes the supply level of each species of special species timber in relation to the land, taking into account the management of conservation, environmental, cultural and heritage values.

The established supply level, for the purposes of the plan, is the maximum volume of timber that may be supplied from land to which the plan applies, on an ongoing basis, without depleting future resource availability. This volume is described as a maximum annual harvesting quantity, expressed in cubic metres.

In order to determine an established supply level of each of the listed special species timbers, a strategic-level assessment was undertaken of:

- future potential production of special species timbers from couped-up areas of the PTPZ land¹³
- current potential standing volume of special species timbers on
 - PTPZ land (Informal Reserves and Outside Provisional Couped-up Areas)
 - FPPF land
 - Conservation Areas
 - Regional Reserves.

The resource assessments utilised existing best available information, including aerial photo-interpreted forest class mapping, inventory and LiDAR¹⁴-based imputation models to estimate current standing timber volumes.

A full summary of the methods used to undertake the resource assessment is provided in two Forestry Tasmania (now Sustainable Timber Tasmania) reports (2015 and 2017).

A separate assessment of the blackwood resource on areas of PTPZ land managed for wood production was prepared by Forestry Tasmania in 2013 and was utilised in development of potential supply levels from PTPZ land.

It is noted that a strategic assessment of the Huon pine resource was only conducted on couped-up PTPZ land. It was not assessed on other public land as part of the 2016 resource assessment. Historic work undertaken by Sustainable Timber Tasmania indicated the widespread dispersal of Huon pine through river systems in western Tasmania, in areas now predominantly located within Tasmania's formal reserve system.

¹³ Within the PTPZ Land, Sustainable Timber Tasmania defines three different zones:
- PTPZ Land within provisional couped-up areas
- PTPZ Land within informal reserves
- PTPZ Land outside provisional couped-up areas (and not within informal reserves).

¹⁴ LiDAR is an airborne remote sensing technology that uses laser range finding to precisely measure forest canopy structure and the underlying terrain.

8.1 Sawlog characteristics

Special species logs are described by four grades:

- category 4 – first grade logs, which include logs suitable for milling for highest value applications
- utility – logs suitable for milling but of insufficient quality to meet category 4 standards
- outspec – logs that fall below specification for either category 4 or utility but may still be suitable for milling
- craftwood – logs and other wood (including burls, poles, stumps and limbs) suitable for use in the craftwood sector.

Estimates of established supply levels in the plan are provided for category 4, utility and outspec logs only. Values for outspec log figures are calculated from derived estimates, based on recent harvesting records from PTPZ land.

With the exception of the acacia species (silver wattle and blackwood), special species timbers are comparatively slow growing species. The considerable length of time required for a tree to grow to a sufficient diameter to provide a millable-grade log is of highest relevance for forest management and sustainable production. Table 8 shows assessed growth rates for each species based on expert opinion and published and unpublished data (Forestry Tasmania, 2015). When combined with the desired log diameter, growth rate can be used to determine the length of time needed to grow a commercial log, also known as the rotation length (Forestry Tasmania, 2015). Rotation lengths were not calculated for Huon pine due to the species' very slow growth rate.

Table 8 Desired log diameters and growth rates used to calculate rotation lengths (source Forestry Tasmania, 2015).

| Species | Desired log diameter at large end (cm) | Growth rate (cm/year) | Rotation length (years) |
|-----------------|--|-----------------------|-------------------------|
| Myrtle | 90 | 0.3 | 300 |
| Sassafras | 45 | 0.15 | 300 ¹⁵ |
| Celery top pine | 45 | 0.15 | 300 |
| Blackwood | 50 | 0.5 | 100 |
| Silver wattle | 50 | 0.62 | 80 |

¹⁵ Note sassafras tends to occur with myrtle and celery top pine. The 300 year rotation length is determined by the age of myrtle and celery top pine, rather than sassafras (which only lives for around 200 years), assuming a mixture of age classes within a forested area.

8.2 Potential future resource from ‘couped-up’ areas of permanent timber production zone land

For ‘provisionally couped up’ areas of PTPZ land, estimates have been developed of the potential volume of sawlogs available for blackwood, myrtle, sassafras and celery top pine on a sustainable basis. These are areas that Sustainable Timber Tasmania expects to be available for harvesting through its existing forest management model. A substantial proportion of PTPZ land is not currently managed for wood production, instead being managed for conservation values or being deemed unsuitable for wood production.

The assessment includes discounts on the volume of timber that may be sourced from couped-up areas to:

- reflect the area within provisional coupes that are deemed to be suitable for harvesting – obvious steep slopes, streamside reserves and areas set aside for protection of conservation and environmental values were excluded
- take into account a log product recovery factor, in order to account for undetected internal defects in logs.

The estimated average availability of category 4, utility and outspec sawlogs from PTPZ land within provisional couped up areas (cubic metres per year) is shown in Table 9.

Table 9 Estimated potential production of sawlogs from couped-up PTPZ land.

| Period | Sawlog category | 2015-16 to 2026-27 | 2027-28 onwards |
|-----------------|--|--------------------|-----------------|
| Blackwood | Category 4 / utility (m ³) | 4275 | 3095 |
| | Outspec (m ³) | 5030 | 3010 |
| Myrtle | Category 4 / utility (m ³) | 270 | 225 |
| | Outspec (m ³) | 480 | 400 |
| Celery top pine | Category 4 / utility (m ³) | 130 | 10 |
| | Outspec (m ³) | 160 | 10 |
| Sassafras | Category 4 / utility (m ³) | 90 | 50 |
| | Outspec (m ³) | 60 | 35 |
| Silver wattle | Category 4 / utility (m ³) | 70 | 0 |
| | Outspec (m ³) | 0 | 0 |

The resource assessment indicates that the supply of all special species from the PTPZ land is likely to reduce after 2027 (the likely reasons for the reduction are discussed further in Section 2.3). This includes a predicted decline in potential production of silver wattle to zero. The apparent reduction in supply for this species is not indicative of availability but instead an artefact of the areas and species that form the focus of Sustainable Timber Tasmania’s harvesting operations on PTPZ land.

Additionally, there is an estimated 5 315 m³ of Huon pine sawlog and craftwood estimated to be available in 'Accessible' areas in the Huon pine management zone on PTPZ land (see Table 10). If this resource was salvage harvested over the next 12 years (up to 2026-27), then 295 m³ of all log grades could be salvage-harvested each year (Forestry Tasmania, 2015). Alternatively, if the rate of salvage harvest remains similar to that over the past 10 years (~168 m³/year), 'accessible' volumes of Huon pine timber will last for 21 years (Forestry Tasmania, 2015).

Table 10 Estimated volume of Huon pine sawlogs and craft-wood available from couped-up PTPZ land.

| Access | Sawlogs (m ³) | Craftwood (m ³) | Total (m ³) |
|------------|---------------------------|-----------------------------|-------------------------|
| Accessible | 3545 | 1770 | 5315 |
| Difficult | 1575 | 790 | 2365 |
| Steep | 1340 | 670 | 2010 |

Based on recent and historic levels of demand for special species timbers, it is apparent that supply from couped-up areas of the PTPZ land will be insufficient to meet ongoing demand for special species sawlogs.

8.3 Potential resource from other land tenures

An assessment was undertaken to estimate the standing volume of special species timbers available on the following land tenures/classes to which the plan applies, noting that they were considered the most likely to hold a significant resource volume:

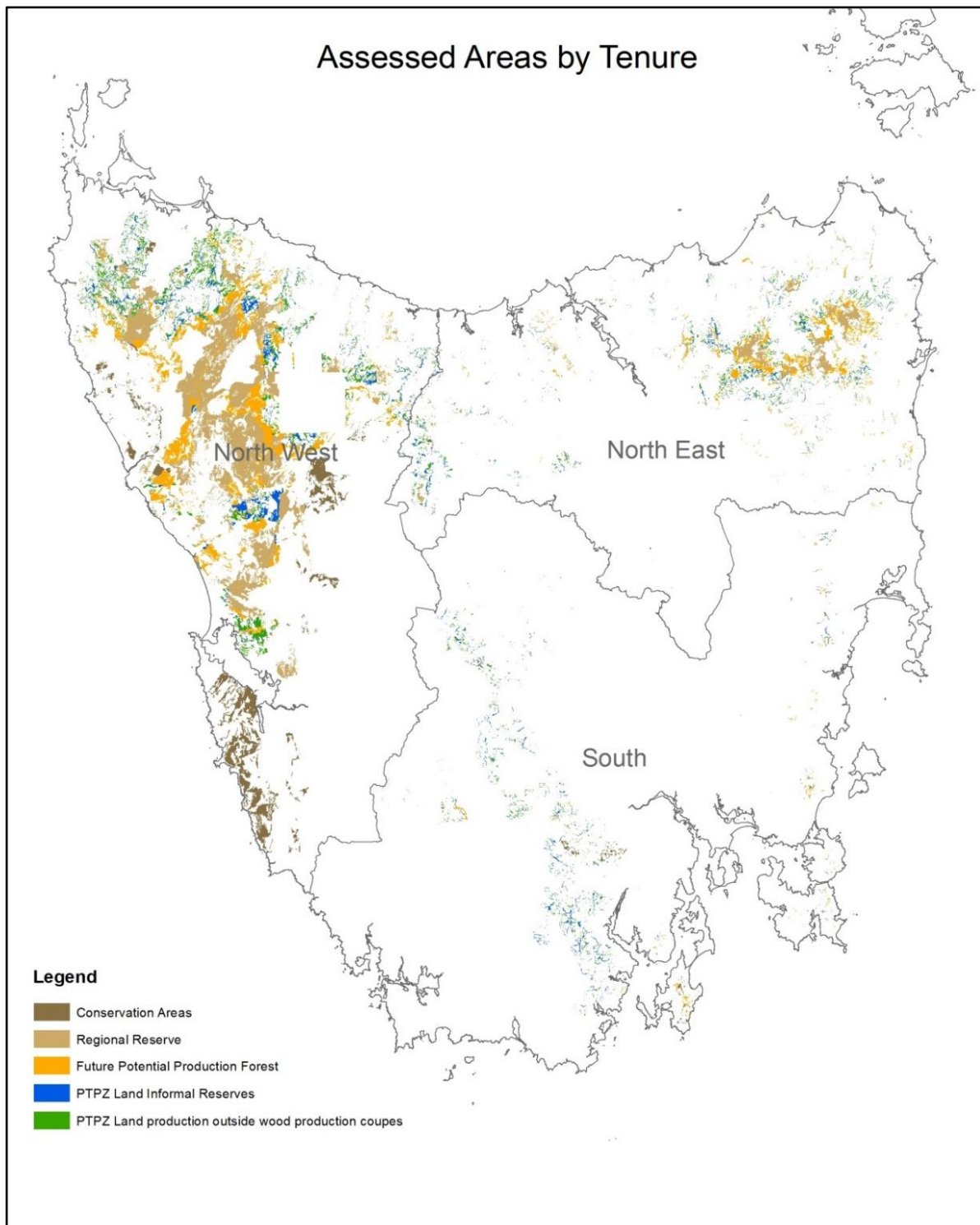
- PTPZ land (Informal Reserves and Outside Provisional Couped-up Areas)
- FPPF land
- Conservation Areas
- Regional Reserves.

Preliminary work, based on aerial photo-interpreted forest type, determined that there were approximately 420 000 hectares of rainforest and other non-eucalypt forest across the assessed tenures expected to contain special species (see Figure 4 refer to page 36).

The 420 000 hectares was made up of:

- 98 000 hectares occurred within PTPZ land (within Informal Reserves or Outside Provisional Couped-up Areas)
- 99 000 hectares within FPPF land
- 170 000 hectares within Regional Reserves
- 55 000 hectares within Conservation Areas.

Figure 4 Areas outside couped-up PTPZ land expected to contain special species timbers.



Analysis using similar methodology to that employed for couped-up areas of PTPZ land provided an estimate of standing volume of timber by species and tenure (see Table 11 and Table 12).

The standing volume estimates take into account a log product recovery factor, in order to account for undetected internal defects in logs not able to be observed during field based forest assessments.

Table 11 Estimated standing volume (m³) of category 4/utility sawlogs, outspec logs and total volume by species.

| Species | Category 4/utility | Outspec | Total volume |
|-----------------|--------------------|------------------|-------------------|
| Blackwood | 947 000 | 1 620 000 | 2 567 000 |
| Myrtle | 3 310 000 | 5 810 000 | 9 120 000 |
| Celery top pine | 284 000 | 366 000 | 650 000 |
| Sassafras | 1 170 000 | 822 000 | 1 992 000 |
| Total | 5 711 000 | 8 618 000 | 14 329 000 |

Table 12 Estimated standing volume (m³) of category 4 and utility sawlogs by public land categories.

| Species | PTPZ IR ¹ | PTPZ OPCA ² | FPPF | RR | CA | Total |
|-----------------|----------------------|------------------------|------------------|------------------|----------------|------------------|
| Blackwood | 77 000 | 160 000 | 180 000 | 410 000 | 120 000 | 947 000 |
| Myrtle | 240 000 | 300 000 | 800 000 | 1 600 000 | 370 000 | 3 310 000 |
| Celery top pine | 27 000 | 43 000 | 59 000 | 110 000 | 45 000 | 284 000 |
| Sassafras | 90 000 | 110 000 | 300 000 | 540 000 | 130 000 | 1 170 000 |
| Total | 434 000 | 613 000 | 1 339 000 | 2 660 000 | 665 000 | 5 711 000 |

¹ PTPZ IR denotes Informal Reserve

² PTPZ OPCA denotes Outside Provisional Couped-up Areas

The findings of the resource assessment suggest that there is a significant resource of special species on Regional Reserves, FPPF land, PTPZ land (outside of couped-up areas) and Conservation Areas respectively. The majority of the resource is located in north west Tasmania.

8.4 Established supply levels

In assessing an application to harvest special species timbers on FPPF land, the Crown Lands Minister must be satisfied that the harvesting will be consistent with the plan. Therefore an established supply level has been provided for both FPPF land only and an overall established supply level is provided for all other land to which the plan applies, and for which the resource assessment work was undertaken. The overall established supply level does not include 'other public land' as the potential volume on this land is expected to be minimal.

In assessing an application to harvest special species timbers on FPPF land, the Crown Lands Minister must be satisfied that the harvesting will be consistent with the plan.

The established supply level, for the purposes of the plan, is the maximum volume of timber that may be supplied from land covered by the plan, on an ongoing basis, without depleting future resource availability. This volume is described as a maximum annual harvesting quantity, expressed in cubic metres. It is not presented as a target. In practice, annual harvest quantities will be influenced by a number of factors, including:

- land owner approvals, particularly that land tenures classes will be managed to different objectives
- the requirement that only partial harvesting is permitted on FPPF land, Conservation Areas and Regional Reserves
- accessibility of the resource.

The maximum annual harvest quantity will be monitored and reviewed on an ongoing basis (see Section 10 Management actions).

In determining an established supply level from these areas, the following are taken into consideration:

- the estimated standing volumes described in Table 11
- the growth rates and rotation lengths described in Table 8
- a discount factor is applied to represent the proportion of standing volume contained within areas available for harvesting, but which is not expected to be harvested due to its location within coupes, including steep slopes, streamside reserves and areas set aside for protection of conservation and environmental values. The discount applied is 10 per cent¹⁶.

The maximum annual harvest quantity is calculated by dividing the assessed available volume of each species by the rotation length for that species and applying the discount factor (see Table 13a and Table 13b on page 39).

¹⁶ It is important to note that this discount reflects the amount of sawlogs potentially harvestable not the total area of forest.

Table 13a Maximum annual harvest quantity of Category 4 and utility sawlogs – FPPF land only.

| Species | Maximum annual harvest quantity (m ³ /pa) | |
|------------------------|--|---------|
| | Category 4/utility | Outspec |
| Blackwood | 1 620 | 2 700 |
| Celery top pine | 180 | 230 |
| Sassafras | 900 | 630 |
| Myrtle | 2 400 | 4 200 |

Table 13b Maximum annual harvest quantity of category 4 and utility sawlogs – all tenures (excluding couped-up PTPZ land).

| Species | Maximum annual harvest quantity (m ³ /pa) | |
|------------------------|--|---------|
| | Category 4/utility | Outspec |
| Blackwood | 8 525 | 14 580 |
| Celery top pine | 850 | 1 100 |
| Sassafras | 3 510 | 2 470 |
| Myrtle | 9 930 | 17 430 |

When compared with predicted future volumes currently coming from PTPZ couped-up land (see Table 9 on page 34) the calculated maximum harvesting rates for all land tenures provide for a potential volume at or greater than present levels.

These yields have been prepared from best available information and represent a strategic-level assessment of the volumes at which timber harvesting may be sustained across different tenures, without depleting long-term availability of that supply.

8.5 Other sources of timber

In addition to PTPZ land, the other major current source of special species, particularly Huon pine, is salvage. A particular source of salvage wood is from Hydro impoundments.

Salvage wood is a finite resource and cannot form the basis of long-term supply planning (which is the intent of the plan). The plan assumes that the salvage of wood from hydro storages will continue in parallel with terrestrial harvesting operations, at least in the medium term. It is expected that the levels of recovery of wood from hydro storages, and terrestrial harvesting, will be driven by market demand. It is beyond the scope of the plan to seek to influence market outcomes.

Further work is required to refine understanding of the potential scale of the Huon pine resource on other public land tenures.

The supply of special species timbers from private land is small and, with the possible exception of blackwood and silver wattle, it is considered that there is limited opportunity to expand supply from private land. As previously noted, blackwood and silver wattle also occur in dry woodland forests and these habitats were not assessed. Hence, sustainable harvesting rates for these species are likely to significantly underestimate the actual sustainable harvesting level.

8.6 Dispersal of harvesting activity

As demonstrated in Section 7, the special species considered within the plan are not threatened and are well represented (albeit to varying degrees) within the reserve system. Maximum harvest quantities, along with current regulatory constraints will ensure that it is not possible to overharvest these species at a state-wide level. However, regional or local over-harvesting of a particular special species could occur if no consideration is given to an appropriate geographic harvesting framework.

It is considered that areas in closest proximity to existing roads will, initially, present the most likely areas of interest for harvesting operations. Work by Sustainable Timber Tasmania confirms the significant impact road-building costs can have on the economics of harvesting relatively small timber volumes, as is likely to be the case for special species timbers harvesting (Forestry Tasmania, 2014).

An investigation on the ‘accessibility’ of the resource has been conducted for FPPF land only. Information on the accessibility of special species timber on the FPPF land is shown in Table 14. Approximately 40 per cent of the myrtle and sassafras is expected to occur within 500 metres of a road, and approximately 25 per cent of both species within 500 metres of a road is on land with minimal slope. A smaller proportion of celery top pine and blackwood (under 10 per cent for both species) is considered to be accessible.

Table 14 Accessibility of special species timbers on FPPF land

| | Within 500 metres of a road (per cent) | Within 500 metres of a road and on less than a 20 degree slope (per cent) |
|-----------------|--|---|
| Myrtle | 42.2 | 25.6 |
| Sassafras | 44.9 | 27.1 |
| Celery top pine | 8.0 | 5.1 |
| Blackwood | 10.3 | 6.0 |

Particular consideration will need to be given by land owners and potential harvesters to the effective dispersal of harvesting operations to minimise local-level depletion of sawlog quality timber and potential future sawlog quality timber.

This, in turn, will require more detailed field work to determine more precise estimates of wood volumes in preferred locations, and potential restrictions on the harvesting of such timber, reflecting environmental, conservation and cultural heritage considerations. It will also require consideration of management approaches to ensure that harvesting in those areas can proceed in a manner consistent with other management objectives for the relevant land tenure.

Initial work also confirms that, to maintain an ongoing supply at or near recent historic levels, strategies will need to be developed to disperse harvesting beyond the range of the existing road network. This will ultimately be a commercial matter for harvesters, with strategies developed in conjunction with land owners.

9. Management strategies

9.1 Overview

It is critical to the implementation of the plan that special species are harvested utilising appropriate techniques. Applying appropriate harvesting techniques will:

1. minimise impacts to natural and cultural values
2. ensure that special species are harvested sustainably and consistent with the objectives of the plan
3. allow for a reliable regeneration pathway
4. minimise the impacts of windthrow (trees uprooted or broken by wind), myrtle wilt and other threats.

The Forestry (RFI) Act defines ‘special species timber harvesting’ to mean the harvesting of special species timber by partial harvesting. Under the Forestry (RFI) Act, partial harvesting is defined as, ‘*the harvesting of single trees or groups of trees whilst retaining other trees including advance growth trees, seed trees and shelterwood trees*’.

Harvesting of special species timber is restricted to ‘partial harvesting’ on FPPF land, Conservation Areas and Regional Reserves.

The following section sets out specific silvicultural techniques that are considered to be consistent with the definition of partial harvesting in the Forestry (RFI) Act. The full set of Native Forest Technical Bulletins, and further information on the various types of silvicultural techniques, are available at Sustainable Timber Tasmania’s website¹⁷.

9.2 Silvicultural techniques by vegetation community

Special species predominantly occur within blackwood swamp forests, rainforest and mixed forest (wet eucalypt forest with a rainforest understorey). On the ground, habitats are not discrete units, but more commonly intergrade with each other (Forestry Tasmania, 2009). For instance, mixed forests form a continuum with rainforests following a gradient of increasing time since the last fire event (Forestry Tasmania, 2009). For these reasons, selecting an appropriate harvesting technique for a particular site can be complex, and the specific technique selected will depend on the site characteristics and expert advice.

¹⁷ <https://www.sttas.com.au/about-us/publications>.

Three silvicultural techniques, extensively trialled and researched in Tasmania are considered to be consistent with the definition of partial harvesting¹⁸. These are:

- over-storey retention
- selective sawlog removal
- group selection.

1. Over-storey retention

Over-storey retention harvesting is a harvesting technique most suitable for myrtle dominated rainforest.

The key prescriptions of over-storey retention harvesting are to:

- retain an over-storey of 30 healthy, evenly spaced trees per hectares, with at least 50 per cent to be evenly spaced myrtles, and the remainder to include all tree species such as sassafras and leatherwood
- avoid damage to retained stems to minimise myrtle wilt
- survey 2 - 5 years after harvest to monitor establishment of regeneration.

Further information on over-storey retention harvesting is provided in Forestry Tasmania (1998) *Rainforest Silviculture* Technical Bulletin No. 9 Native Forest Silviculture.

2. Selective sawlog removal

Selective sawlog removal is a harvesting technique where individual trees are selected for harvesting. Through this technique scattered individual trees of multiple age classes, whose canopies are not touching, are harvested. This type of selection system retains the original stand structure and produces small canopy openings especially conducive to the establishment and growth of special species. Selective sawlog removal is the preferred harvesting technique for all special species timber harvesting operations in rainforest habitat, other than myrtle-dominated rainforest.

The key prescriptions are to:

- retain all non-sawlog trees to provide seed and shelter for regeneration
- avoid disturbance to areas containing non-sawlog stems
- avoid canopy gaps greater than 30 metre in diameter
- retain myrtle seed-trees on a 15-20 metre spacing
- survey 2-5 years after harvesting to monitor establishment of regeneration (note where single stem selection has been used, post-harvest monitoring may not be required).

¹⁸ Note this list of silvicultural techniques is not comprehensive. New silvicultural techniques may be considered by regulators to meet the definition of partial harvesting.

Further information on selective sawlog removal is provided in:

- Forestry Tasmania (1998) *Rainforest Silviculture* Technical Bulletin No. 9 Native Forest Silviculture
- Forestry Tasmania (2010) *Silvicultural systems for native eucalypt forests* Technical Bulletin No. 5 Native Forest Silviculture.

3. Group selection

Group selection is an appropriate technique for wet eucalypt forests rich in special species timbers. The general aim is to harvest approximately 30 per cent of the coupe at each of three stages, such that by the end of the rotation no more than 90 per cent of the coupe has been harvested, with at least 10 per cent of the coupe retained for maintenance of late successional species and structures.

The key prescriptions are that:

- the emphasis should be on harvesting mature trees
- >70 per cent of the forest canopy should be retained after each harvesting
- potential crop trees should be retained undamaged
- harvesting fairways approximately 80 metre, or about two tree lengths, wide
- leatherwood rich patches should be retained undamaged
- individual sound and safe eucalypts may be retained within the fairways, where practicable and at the contractors discretion, at an approximate spacing of two tree lengths to improve aesthetics, seed source, habitat and longer rotation eucalypt sawlog
- a seedling regeneration survey should be carried out in late summer/early autumn, three years after regeneration treatment.

Further information on Group Selection is provided in:

- Forestry Tasmania (2009) *Lowland wet eucalypt forests* Technical Bulletin No. 8 Native Forest Silviculture.
- Forestry Tasmania (2010) *Silvicultural systems for native eucalypt forests* Technical Bulletin No. 5 Native Forest Silviculture.

9.2 Additional species specific techniques

Information on indicative biological and ecological parameters and resource availability is outlined in Section 7 and 8 and summarised in Table 3. From this information, and considering how the silvicultural techniques are likely to be applied at the vegetation community level, it is concluded that myrtle require additional species specific management.

Myrtle wilt requires specific management even when appropriate silvicultural techniques are used to harvest myrtle. Specific prescriptions to manage myrtle wilt are provided at Table 15.

Table 15 Myrtle wilt management prescriptions (based on Forestry Tasmania, 1998).

Pre-harvest

- all patches of existing regeneration and advance growth should be retained as they represent many valuable years of seedling establishment and growth
- good crown health and sound footing is important when selecting seed-trees, as the trees must be able to survive for up to four years to provide seed

Harvest

- damage to retained trees should be minimised to reduce mortality due to myrtle wilt, disturbed seedbed should be created where regeneration is required
- fire should be excluded

Post-harvest

- Myrtle wilt levels are considered high if the number of myrtles with brown leaves in the undisturbed stand is greater than three per hectare.

9.3 Other management strategies

Other management strategies may be required to manage specific risks. For instance, a 'cumulative impact' may occur if too many special species timber harvests occur within a region, or if harvesting operations are concentrated in a small geographic area. Monitoring will be undertaken to determine whether cumulative impacts are occurring (see Section 10 Management actions). If needed, specific management actions will be determined through ongoing consultation with regulators.

10. Management actions

This section outlines some of the key management actions to be delivered once the plan is made.

Goal 1: Adaptive management

The principles and management strategies underpinning this plan are delivered and reviewed to reflect new scientific information and harvesting data.

Actions

- Review and refine prescriptions for special species partial harvesting management to reflect new scientific information and harvesting data, consistent with principles of continuous improvement and adaptive management.
- Monitoring of special species harvest data to determine how actual harvest rates compare with the maximum annual harvest quantities specified in the plan.
- Five-yearly review of the maximum annual harvest quantity, informed by annual monitoring.
- Monitor the spatial distribution of special species harvest applications and manage potential cumulative impacts.

Goal 2: Resource accessibility and location

Undertake tactical-level analysis of resource accessibility and distribution, with particular reference to celery top pine and Huon pine resources.

Actions

- Complete strategic-level accessibility analysis of special species timbers on public land tenures.
- Prioritise and implement field-based analysis of special species timbers in potential harvest areas.

11. Approvals and process

There are three potential approvals required in order to conduct a special species timber harvesting operation, namely:

- approval from local government
- a Forest Practices Plan
- approval from the relevant land owner.

11.1 Local government approval

Forest operations may need approval from local government, particularly those on private land if the land is not a private timber reserve. Councils may impose conditions on the proposed operation.

Although local government approval is not likely to be required for the majority of special species timber harvesting proposals, it is still recommended that the applicant check the requirements of the local Planning Scheme.

11.2 Forest practices plans

The *Forest Practices Act 1985* (s. 17) describes restrictions on harvesting timber on any land. Forest Practices Plans (FPPs) are required for all forest practices on public and private land, unless an exemption, under regulation 4 of the *Forest Practices Regulations 2017* (the Regulations), applies. One exemption includes small-scale harvesting. An FPP is not required if the volume is less than 100 tonnes for each area of applicable land per year, or if the area is less than one hectare for each area of applicable land per year. This exemption does not apply to vulnerable land, which is defined under the Regulations. FPP exemptions also do not apply to special species timber harvesting on FPPF land.

The requirements for an application for certification of an FPP are described in section 18 of the *Forest Practices Act 1985*. An FPP provides details of the operation area, boundaries, roads, snig tracks, landings, bridges, streams and forest areas retained for conservation purposes. During the preparation of the FPP, a Forest Practices Officer (FPO) is required to identify natural and cultural values that may be impacted by proposed operations.

The *Forest Practices Code*, and associated approved guidelines, prescribe measures to be incorporated into FPPs to protect certain natural or cultural values, or manage risks associated with forestry operations around them. For complex issues, FPOs may seek advice from FPA specialists. In some circumstances, the *Forest Practices Code* and its associated guidelines may require that advice is sought. Under Agreed Procedures with the FPA and DPIPWVE, some FPPs require referral to DPIPWVE if the agreed management advice cannot be applied. The advice received from DPIPWVE may result in some areas being excluded from harvesting or forest management being changed. Essentially, the preparation, and certification, of an FPP requires a full assessment of soil, water, fauna, flora, cultural heritage and landscape matters.

Before operations begin, FPPs must be certified and applicants must notify immediate neighbours and the relevant local government organisations.

Where an FPP is being prepared by a person who is not the landowner (including both public and private land), then the FPA cannot certify the FPP until land owner consent has been provided.

11.3 Land owner approval

On public land, the land owner (as specified in Section 4.2) may require an assessment and approval process separate to, or additional to, that of an FPP. This section details the different land owner approvals, for the variety of public land on which special species timber harvesting applications may be made, and has been designed in consultation with relevant land owners.

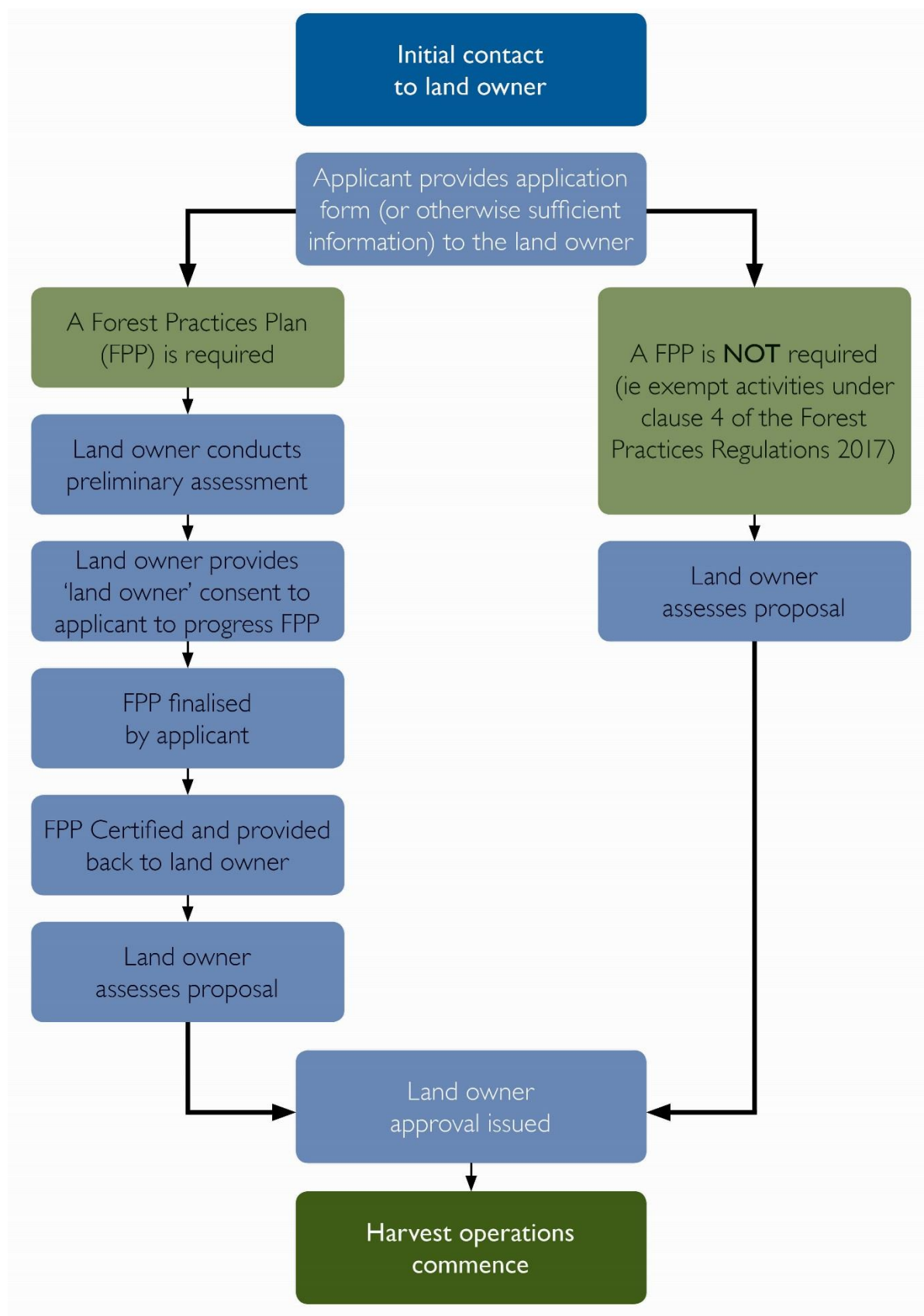
A flow chart which summarises the general steps involved in the land owner approval processes is provided at Table 16 (refer to page 48). Note that Appendix 2 provides more detail on individual land owner's approval processes as at 2017, and should be used as a guide only. This plan does not mandate these processes and they may change over time. Applicants should check with the relevant land owner at the time of making the application.

Important considerations:

- Sustainable Timber Tasmania is considered as the land owner of the PTPZ land and is responsible for harvesting operations on that land on behalf of customers
- for land other than FPPF land, the plan represents a guidance document only and does not constrain a land owner's decision in regard to a particular proposal
- a land owner may charge a range of fees, including but not limited to, the lodgement of an application and/or the issuance of an appropriate approval
- all forestry operations on public land must be conducted consistent with WorkSafe Tasmania's *Forest Safety Code (Tasmania) 2007*¹⁹
- it should be noted that some public land owners may have a public comment period as part of their assessment process
- it is expected that an FPP is likely to be required for all special species timber harvesting applications on public land.

¹⁹ http://worksafe.tas.gov.au/_data/assets/pdf_file/0009/81873/Forest_Safety_Code.pdf

Table 16 Overview of general steps in the approval process for special species timber harvesting applications on public land.



12. Implementation and amendment process for the plan

12.1 Implementation of the plan

The Forestry (RFI) Act requires that the Minister must:

- cause the plan to be made, within 3 years of the commencement of the Act, that is the plan must be made by 21 October 2017
- advertise that the draft has been made available for public comment
- cause a draft of the plan to be made available for public comment for a period of 42 days
- consider the representations and accept the draft Plan or accept the draft Plan with such modifications that the Minister considers appropriate having regard to the representations
- publish notice in the *Gazette* of the Minister's acceptance of the draft and make the plan publicly available.

The Special Species Management Plan accepted by the Minister takes effect as a Special Species Management Plan on the date of the notice published in the *Gazette*.

12.2 Amendments to the plan

The Forestry (RFI) Act (section 13) sets out the process by which the Minister may amend the plan. To amend the plan the Minister must:

- cause a draft of the amended Plan to be prepared
- cause a draft of the amended Plan to be made available for public comment for a period of 42 days
- advertise that the draft has been made available for public comment
- consider the representations and accept an amended Plan, or accept with such amendments that the Minister considers appropriate
- publish notice in the *Gazette* of the Minister's acceptance of the amended plan.

12.3 Review of the plan

The Act does not specify a formal time frame for review of the plan. As stated, the Minister can amend the plan at any time. However, the following regular review period will be adopted:

- operational aspects of the plan will be reviewed five yearly (to align with five yearly reviews of the Tasmanian Regional Forest Agreement)
- a full review of the plan will be undertaken every 10 years.

13. Definitions and acronyms

Applicant for the purposes of the plan, an applicant is a person who makes an application to harvest special species timbers.

CAR reserve system means Tasmania's Comprehensive, Adequate and Representative reserve system, established and maintained in accordance with the RFA.

Crown Lands Minister means the Minister administering the *Crown Lands Act 1976*.

Forest Management System is Tasmania's suite of legislation, policy, codes, plans and management practices relevant to forestry in Tasmania.

Forest Practices Plan as defined under the *Forest Practice Act 1985*.

Forest Practices System is the system established pursuant to the objectives set out in Schedule 7 of the *Forest Practice Act 1985*.

Forestry (RFI) Act means the *Forestry (Rebuilding the Forest Industry) Act 2014 (Tas)*.

FPPF Land means Future Potential Production Forest Land, as defined by the *Forestry (Rebuilding the Forest Industry) Act 2014 (Tas)*.

HEC Land means Crown Land vested in, or owned by, the Hydro Electric Corporation under the *Hydro-Electric Corporation Act 1995 (Tas)* including any land within the full supply level of any impoundment managed by the Hydro Electric Corporation.

Huon pine management zone means Sustainable Timber Tasmania's Special Timbers Huon Pine Zone, as defined in its Special Timbers Resource Assessment on Permanent Timber Production Zone Land (Forestry Tasmania, 2015).

Hydro Tasmania means the Hydro Electric Corporation under the *Hydro-Electric Corporation Act 1995 (Tas)*.

Land owner is the owner of the land, as defined under *Forest Practice Act 1985*. On public land, the term land owner refers to the relevant Agency or entity responsible for management of the land.

(the) plan means the Tasmanian Special Species Management Plan.

PTPZ Land means Permanent Timber Production Zone Land, as defined by the *Forest Management Act 2013 (Tas)*. Within the PTPZ Land, there are, for the purposes of the plan, three different zones:

- PTPZ Land within provisional coupé-up areas
- PTPZ Land within informal reserves
- PTPZ Land outside provisional coupé-up areas (and not within informal reserves).

RFA means the Tasmanian Regional Forest Agreement.

Special species and **special species timber(s)** has the same meaning as special species timber under the *Forestry (RFI) Act*.

14. References

- ABARES 2013. *Australia's State of the Forests Report*, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra.
- Commonwealth of Australia 1997. *Tasmanian Regional Forest Agreement*, Commonwealth of Australia, 134pp (excluding appendices).
- DPIPWE 2014. *Reservation Analyses of Native Vegetation and Native Plants based on the Tasmanian Reserve Estate*, Department of Primary Industries, Parks, Water and Environment.
- DPIPWE 2016a. *Tasmanian Wilderness World Heritage Area Management Plan*, Department of Primary Industries, Parks, Water and Environment.
- DPIPWE 2016b. *Report from the Director of National Parks and Wildlife to the Tasmanian Planning Commission, public representations received on the draft Tasmanian Wilderness World Heritage Area Management Plan 2014*, Department of Primary Industries, Parks, Water and Environment.
- DPIPWE 2017. *Conservation Assessment of Future Potential Production Forest Land (FPPF land)*, Department of Primary Industries, Parks, Water and Environment.
- Farley, Farley and Bishop 2009. *A review of the Tasmanian Woodcraft special species timber sector for The Woodcraft Guild of Tasmania Inc & Forestry Tasmania*, Preferred Futures.
- Farley 2016. *Special Species Timber Demand Analysis*, Preferred Futures.
- Forestry Tasmania 1998. *Rainforest Silviculture*, Technical Bulletin No. 9 Native Forest Silviculture.
- Forestry Tasmania 2009. *Lowland wet eucalypt forests*, Technical Bulletin No. 8 Native Forest Silviculture.
- Forestry Tasmania 2010a. *Special Timbers Strategy*, Forestry Tasmania.
- Forestry Tasmania 2010b. *Silvicultural systems for native eucalypt forests* Technical Bulletin No. 5 Native Forest Silviculture.
- Forestry Tasmania 2013. *A review of the sustainable sawlog supply from the blackwood management zone*, Forestry Tasmania.
- Forestry Tasmania 2014. *Report of EP048C Celery top Pine Harvesting and Sawmilling Trial*, Forestry Tasmania.
- Forestry Tasmania 2014a. *Sustainable high quality eucalypt sawlog supply from Tasmania's Permanent Timber Production Zone Land, Review no. 4*, Forestry Tasmania.
- Forestry Tasmania 2015. *Special Timbers Resource Assessment on Permanent Timber Production Zone Land*, Forestry Tasmania.
- Forestry Tasmania 2016a. *Forest Management Plan*, Forestry Tasmania.
- Forestry Tasmania 2016b. *Special Timbers Resource Assessment on Permanent Timber Production Zone Land, Future Potential Production Forest Land, Regional Reserves and Conservation Areas*, Forestry Tasmania.
- Forestry Tasmania 2016c. *2015-16 Annual Report*, Forestry Tasmania, Hobart.

Forestry Tasmania 2017, *draft High Conservation Values Assessment and Management Plan*, Forestry Tasmania.

Indufor 2015. *Market Demand Analysis for Tasmania's Special Timbers*, Report by Indufor for the Department of State Growth.

IUCN 2017. <http://www.iucnredlist.org>, International Union for the Conservation of Nature.

JANIS 1997. *Nationally agreed criteria for the establishment of a Comprehensive, Adequate and Representative Reserve System for Forests in Australia*, Joint ANZECC/NCFFA National Forests Policy Statement Implementation Sub-Committee.

Koch, A., Chuter, A., Munks, S. 2012 *Defining and managing old-growth forests*, Independent Verification Group, Forest Conservation Report 4.

UNESCO 1972, *Convention concerning the Protection of the World Cultural and Natural Heritage*, United Nations Educational, Scientific and Cultural Organisation.

University of Tasmania 1999. *Vegetation of Tasmania*, Editors Reid, Hill, Brown and Hovenden, University of Tasmania.

Wilkinson, G. 1994 *Native Forest Silviculture*, Technical Bulletin No. 5 Forestry Commission, Tasmania.

15. Appendices

The appendices do not form part of the statutory plan, but are provided as additional information to assist in management.

Appendix I Objectives for the management of relevant land tenures/classes

Conservation Area (Schedule 1, *National Parks and Reserves Management Act 2002*):

1. to conserve natural biological diversity
2. to conserve geological diversity
3. to preserve the quality of water and protect catchments
4. to conserve sites or areas of cultural significance
5. to provide for the controlled use of natural resources including special species timber harvesting, and including as an adjunct to utilisation of marine resources
6. to provide for exploration activities and utilisation of mineral resources
7. to provide for the taking, on an ecologically sustainable basis, of designated game species for commercial or private purposes, or both
8. to provide for other commercial or industrial uses of coastal areas
9. to encourage education based on the purposes of reservation and the natural or cultural values of the Conservation Area, or both
10. to encourage research, particularly that which furthers the purposes of reservation
11. to protect the Conservation Area against, and rehabilitate the Conservation Area following, adverse impacts such as those of fire, introduced species, diseases and soil erosion on the Conservation Area's natural and cultural values and on assets within and adjacent to the Conservation Area
12. to encourage appropriate tourism, recreational use and enjoyment (including private uses) consistent with the conservation of the Conservation Area's natural and cultural values
13. to encourage cooperative management programs with Aboriginal people in areas of significance to them in a manner consistent with the purposes of reservation and the other management objectives.

Regional Reserve (Schedule 1, *National Parks and Reserves Management Act 2002*):

1. to provide for mineral exploration activities and utilisation of mineral resources
2. to provide for the controlled use of other natural resources, including special species timber harvesting
3. to conserve natural biological diversity
4. to conserve geological diversity
5. to preserve the quality of water and protect catchments
6. to conserve sites or areas of cultural significance

7. to encourage education based on the purposes of reservation and the natural or cultural values of the Regional Reserve, or both
8. to encourage research, particularly that which furthers the purposes of reservation
9. to protect the Regional Reserve against, and rehabilitate the Regional Reserve following, adverse impacts such as those of fire, introduced species, diseases and soil erosion on the Regional Reserve's natural and cultural values and on assets within and adjacent to the Regional Reserve
10. to encourage tourism, recreational use and enjoyment consistent with the conservation of the Regional Reserve's natural and cultural values
11. to encourage cooperative management programs with Aboriginal people in areas of significance to them in a manner consistent with the purposes of reservation and the other management objectives
12. to provide for the taking, on an ecologically sustainable basis and where appropriate, of designated game species for commercial or private purposes, or both.

Public reserve (Schedule 4, Crown Lands Act 1976):

1. to conserve natural biological diversity
2. to conserve geological diversity
3. to preserve the quality of water and protect catchments
4. to conserve sites or areas of cultural significance
5. to encourage education based on the purposes of reservation and the significance of the public reserve
6. to encourage research, particularly that which furthers the purposes of reservation
7. to protect the public reserve against, and rehabilitate the public reserve following, adverse impacts such as those of fire, introduced species, diseases and soil erosion on the public reserve's natural and cultural values and on assets within and adjacent to the public reserve
8. to encourage tourism, recreational use and enjoyment consistent with the conservation of the area's natural and cultural values
9. to encourage cooperative management programs with Aboriginal people in areas of significance to them in a manner consistent with the purposes of reservation and the other management objectives
10. to provide for the taking, on an ecologically sustainable basis, of designated game species for commercial or private purposes, or both
11. to provide for the controlled use of natural resources
12. to provide for exploration activities and utilisation of mineral resources
13. to allow for private, commercial or industrial uses.

Future Potential Production Forest Land (Schedule 4, Forestry (Rebuilding the Forest Industry) Act 2014):

1. to conserve natural biological diversity
2. to conserve geological diversity
3. to preserve the quality of water and protect catchments
4. to conserve sites or areas of cultural significance
5. to encourage education and research, consistent with the land's natural and cultural values
6. to protect the future potential production forest land against, and rehabilitate that land following, adverse impacts such as those of fire, introduced species, diseases and soil erosion on that land's natural and cultural values and on assets within and adjacent to that land
7. to encourage tourism, recreational use and enjoyment consistent with the conservation of the land's natural and cultural values
8. to encourage cooperative management programs with Aboriginal people in areas of significance to them in a manner consistent with the other management objectives
9. to provide for the taking, on an ecologically sustainable basis, of designated game species for commercial or private purposes, or both
10. to provide for the controlled use of natural resources including special species timber harvesting
11. to provide for exploration activities and utilisation of mineral resources
12. to allow for private, commercial or industrial uses.

Appendix 2 Land owner approval processes

1. PTPZ Land

Sustainable Timber Tasmania is a forest manager and manages this land for the sustainable supply of wood products. Sustainable Timber Tasmania should be contacted for the supply of special species wood products from the PTPZ land.

2. FPPF Land

This process is designed to be consistent with the requirements of s. 11, *Application for approval to undertake special species timber harvesting on FPPF Land*, of the Forestry (RFI) Act. The Forestry (RFI) Act, provides for applications for special species timber harvesting on FPPF land to be made no earlier than 21 October 2017.

Process

Step 1 Contact Crown Land Services (CLS) within DPIPWE to discuss the application.

Step 2 The Manager CLS will direct the applicant to complete an application form.

DPIPWE will conduct a preliminary assessment and, subject to the outcome of that assessment, DPIPWE will provide 'landowner consent' for the FPP.

Step 3 Lodge an application (in the form of a letter) with the Crown Lands Minister (as required under section 11 of the Forestry (RFI) Act). The letter to the Minister must contain the certified FPP.

Step 4 (Government internal process) Upon receipt of an application, the Crown Lands Minister must seek advice from the Minister that administers the *Forest Management Act 2013* as to:

- a. whether the special species timber that is the subject of the application can be supplied, at the time of the making of the application, from the PTPZ land
- b. whether the proposed harvesting will be consistent with the plan.

An FPP²⁰ requires a comprehensive assessment of both natural and cultural values within the proposed operation area. Assessment of a harvesting application by DPIPWE will include the additional consideration of the following matters:

- a. consistency with the Objectives for which the land is managed (i.e Schedule 3 of the Forestry (RFI) Act)
- b. potential impact on any existing, approved user of the land

²⁰ A Forest Practices Plan is required for any forestry operation on FPPF land

Step 5 The Crown Lands Minister makes a determination as to whether to approve the application. If the application is approved, the Crown Lands Minister will instruct DPIPWWE to issue an approval. An approval will generally take the form of a licence where longer-term or commercial activities are proposed, or, a works authority in the event of a short-term activity.

The approval may have conditions additional to those imposed under the FPP. This will be an outcome of either the assessment conducted by DPIPWWE, or at the instruction of the Crown Lands Minister.

3. Conservation Areas and Regional Reserves

The Parks and Wildlife Service (PWS) within DPIPWWE has an Environmental Management System modelled on the international ISO 1400 and 1300 environmental and safety systems and incorporates an Environmental Management Policy. A key element is the impact assessment process, implemented through the Reserve Activity Assessment (RAA) System. The RAA process is used to assess potential impacts on natural, cultural and social values of new proposals. It enables informed decisions to be made about whether a proposal should proceed and, if so, under what conditions in order to avoid or mitigate potential impacts on reserve values.

The RAA process has four different levels of assessment depending on the activity and the level of risk involved. A RAA Level Guide²¹ has been developed to assist in determining which level of assessment is appropriate, consistent with the issues and risk level. Due to the variety and range of factors to be considered, it is a guide only. The final decision for RAAs rests with the relevant PWS Regional Manager (for level 1- 3 RAAs) or the General Manager (for level 4 RAAs). Activities proposed that are contrary to the relevant management plan will usually be rejected as the *National Parks and Reserves Management Act 2002* requires that DPIPWWE manage in a way that is consistent with any approved plan.

Process

Step 1 Contact the Manager Crown Land Services within DPIPWWE to discuss the application.

Step 2 The Manager Crown Land Services will direct the applicant to complete a RAA application form.

DPIPWWE will conduct a preliminary assessment and, subject to the outcome of that assessment, DPIPWWE will provide 'landowner consent' for the FPP.

Step 3 Applicant to provide the certified FPP to DPIPWWE. DPIPWWE undertakes an RAA which will also include consideration of the following matters additional to those addressed in the FPP:

- a. consistency with the Objectives for which the land is managed that is Schedule 1 of the *National Parks and Reserves Management Act 2002*
- b. consistency with any approved management plan for that land
- c. potential impact on any existing and approved user of the land
- d. whether the targeted resource can reasonably be obtained from a Regional Reserve (relevant for applications within Conservation Areas only)
- e. any other matter considered relevant by DPIPWWE.

²¹ <http://dpiuwe.tas.gov.au/Documents/RAA%20Overview.pdf>

Step 4 Approval under the *National Parks and Reserves Management Act 2002* issued. An approval will generally take the form of a lease where longer-term or commercial activities are proposed, or, a licence or works authority in the event of a short-term activity.

The approval may have conditions additional to those imposed under the FPP. This will be an outcome of the assessment conducted by DPIPWE at step 3.

4. Other public land

There are two approval processes considered under this section:

- a. an approval from DPIPWE for applications on Crown Land that is not FPPF land, and is managed under the *Crown Lands Act 1976*
- b. an approval from Hydro Tasmania for application on land vested in the Hydro Electric Corporation under the *Hydro-Electric Corporation Act 1995*²².

Process for A

Step 1 Contact the Manager Crown Land Services (CLS) within DPIPWE to discuss the application.

Step 2 The Manager CLS will direct the applicant to complete an application form.

DPIPWE will conduct a preliminary assessment and, subject to the outcome of that assessment, DPIPWE will provide 'landowner consent' for the FPP.

Step 3 Applicant to provide the certified FPP to DPIPWE. DPIPWE undertakes an Assessment, which will also include consideration of the following matters additional to those addressed in the FPP:

- a. consistency with the Objectives for the management of a public reserve (i.e Schedule 4 of the *Crown Lands Act 1976*) if the land is a public reserve
- b. potential impact on any existing user of the land
- c. any other matter considered relevant by DPIPWE.

Step 4 Approval under the *Crown Lands Act 1976* issued. An approval will generally take the form of a lease where longer-term or commercial activities are proposed, or a licence or works authority in the event of a short-term activity).

The approval may have conditions additional to those imposed under the FPP. This will be an outcome of the assessment conducted by DPIPWE at step three.

Process for B

Hydro Tasmania have an internal environmental management system and assessment process to assist their decision making in determining whether to approve activities on HEC Land. Hydro Tasmania's application form and contact details are available at

(www.hydro.com.au/community/safety-and-access-hydro-tasmania-land).

²² Note, Hydro Tasmania also manages some freehold land. Hydro Tasmania has advised that it will apply the same process to their freehold land as their vested public land.

Step 1 Contact Hydro Tasmania (Property and Facilities division) to discuss the application that is prior to progressing an FPP, if required.

Note: if an FPP is not required then issues normally considered through the FPP assessment process will be considered through the Hydro Tasmania's assessment process.

Step 2 Hydro Tasmania requires completion of an application and will consider the proposal through its own assessment process. Assessment of a harvesting application by Hydro Tasmania will include the additional consideration of the following matters:

- a. consistency with Hydro Tasmania's management of the land in question
- b. potential impact to Hydro Tasmania's existing or future operations
- c. consistency with all relevant Hydro Tasmania policies and procedures
- d. potential impact to any existing user of Hydro Tasmania managed land
- e. any other matter considered relevant by the Hydro Tasmania.

Step 3 Once the assessment is complete, and it is determined that the application can progress, Hydro Tasmania will provide landowner consent and the applicant can finalise the certification of the FPP. The applicant should then provide the certified FPP to Hydro Tasmania who will issue an approval.

The approval may have conditions additional to those imposed under the FPP. This will be an outcome of the assessment conducted by Hydro Tasmania.

5. Access for the salvage of special species timbers

Any person wishing to salvage special species timbers should seek the approval of the relevant land owner.



Department of State Growth

GPO Box 536

Hobart TAS 7001 Australia

Phone: 03 6166 3486

Email: speciesspecies@stategrowth.tas.gov.au

Web www.stategrowth.tas.gov.au/speciesspeciesmanagementplan