

Forest Management Plan

October 2019



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Forest Management System WIKI.**

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1 Introduction

Sustainable Timber Tasmania is a Government Business Enterprise that manages all Permanent Timber Production Zone (PTPZ) land in Tasmania. This plan provides an overview of Sustainable Timber Tasmania's forest management system, in particular, the way it manages social, economic and environmental values while meeting statutory and contractual log supply obligations.

Sustainable Timber Tasmania manages Tasmania's public production forests responsibly and professionally for the long term, and recognises that there is a strong public interest in it doing so. It transparently communicates its objectives and how it conducts its activities. In addition, independent third party certification schemes require that the forest manager adopts a systematic approach that includes a public summary of a forest management plan.

This plan replaces the 2008 forest management plan, known as the *Sustainability Charter*, which was originally designed to have a ten-year life span. However, recent significant changes in State legislation, Sustainable Timber Tasmania's operating environment, stakeholder expectations, and the area of land that it manages, created the need to undertake a major review of that plan.

It is intended to review this plan on a five-yearly cycle, or earlier if required. The next major review is currently scheduled for 2019.

The forest management plan complements the *Statement of Corporate Intent* that Sustainable Timber Tasmania is required to produce annually under the *Government Business Enterprises Act 1995*. Although there is some overlap, the Statement of Corporate Intent provides an overview of Sustainable Timber Tasmania's business situation and has a strong financial focus, while the forest management plan aims to describe the forest management system and how the relevant strategic objectives are achieved.

1.1 Structure of this plan

This plan is divided into three main sections:

- **Functions and obligations** describe what Sustainable Timber Tasmania is, the legislative framework under which it operates, its main functions, and the land that it manages.
- **Sustainable forest management policy and strategic objectives** describes Sustainable Timber Tasmania's commitment to sustainable forest management and sets out its strategic objectives.
- **Forest management system** describes how Sustainable Timber Tasmania conducts its activities. It is the major component of this plan. The section describes and summarises:
 - How Sustainable Timber Tasmania plans and conducts operations.
 - The broad forest types on PTPZ land, and how they are managed.
 - The range of forest products, and how Sustainable Timber Tasmania works with customers.

- How Sustainable Timber Tasmania manages environmental and social values.
- How Sustainable Timber Tasmania manages the threats of pests, diseases and bushfire.
- How Sustainable Timber Tasmania works with other users of PTPZ land.
- Sustainable Timber Tasmania's stakeholder engagement mechanisms.
- Sustainable Timber Tasmania's organisational capacity.
- Sustainable Timber Tasmania monitoring and reviewing systems.

The forest management plan is a summary document. Through the plan, hyperlinks to a range of supporting documents, such as policies and codes of practice and to some external websites have been provided.

This plan contains a single map that shows the location of PTPZ land (Figure 3). The complexity and scale of Sustainable Timber Tasmania's operations makes it unfeasible to provide all relevant maps in this plan. Further maps (in pdf format) and an [interactive map viewer](#) are available on Sustainable Timber Tasmania's [website](#).

2 Functions and obligations

Sustainable Timber Tasmania is a statutory authority established under the *Government Business Enterprises Act 1995*. Sustainable Timber Tasmania's principal purpose as identified in the *Forest Management Act 2013* is to manage and control all Permanent Timber Production Zone land (PTPZ land) and to undertake forest operations on PTPZ land for the purpose of selling forest products. This Act specifies that Sustainable Timber Tasmania is required to make available at least 137,000 cubic metres of high-quality eucalypt sawlog each year.

In accordance with the *Government Business Enterprises Act 1995*, a Ministerial Charter that describes the operational scope and Government's broad expectations of Sustainable Timber Tasmania is in place. The charter identifies Sustainable Timber Tasmania's core commercial activities as land and forest management, harvesting and sales of forest products, fire management, roading, and other activities as agreed. The charter also allows for Sustainable Timber Tasmania to efficiently undertake identified and agreed non-commercial activities.

In carrying out the activities that Sustainable Timber Tasmania is authorised to undertake, Government expects Sustainable Timber Tasmania to:

- Manage wood production forests based on sustainable forest management principles, while maximising the recovery, utilisation and value of harvested products.
- Provide input to forest policy development and implementation.
- Retain Australian Forestry Standard (AFS) and achieve Forest Stewardship Council® (FSC®) independent third party certification.
- Work with the Department of State Growth to encourage economic forest industry development in the State.
- Facilitate a successful Tasmanian forest industry.
- Manage existing tourism activities on PTPZ land.
- Continually improve business operations, systems and processes.
- Be socially responsible and take all reasonable steps to reduce the risk of adverse environmental effects from Sustainable Timber Tasmania activities.
- Operate in accordance with sound commercial practice and as efficiently as possible.
- Comply with Government policies.

2.1 Area to which this plan applies

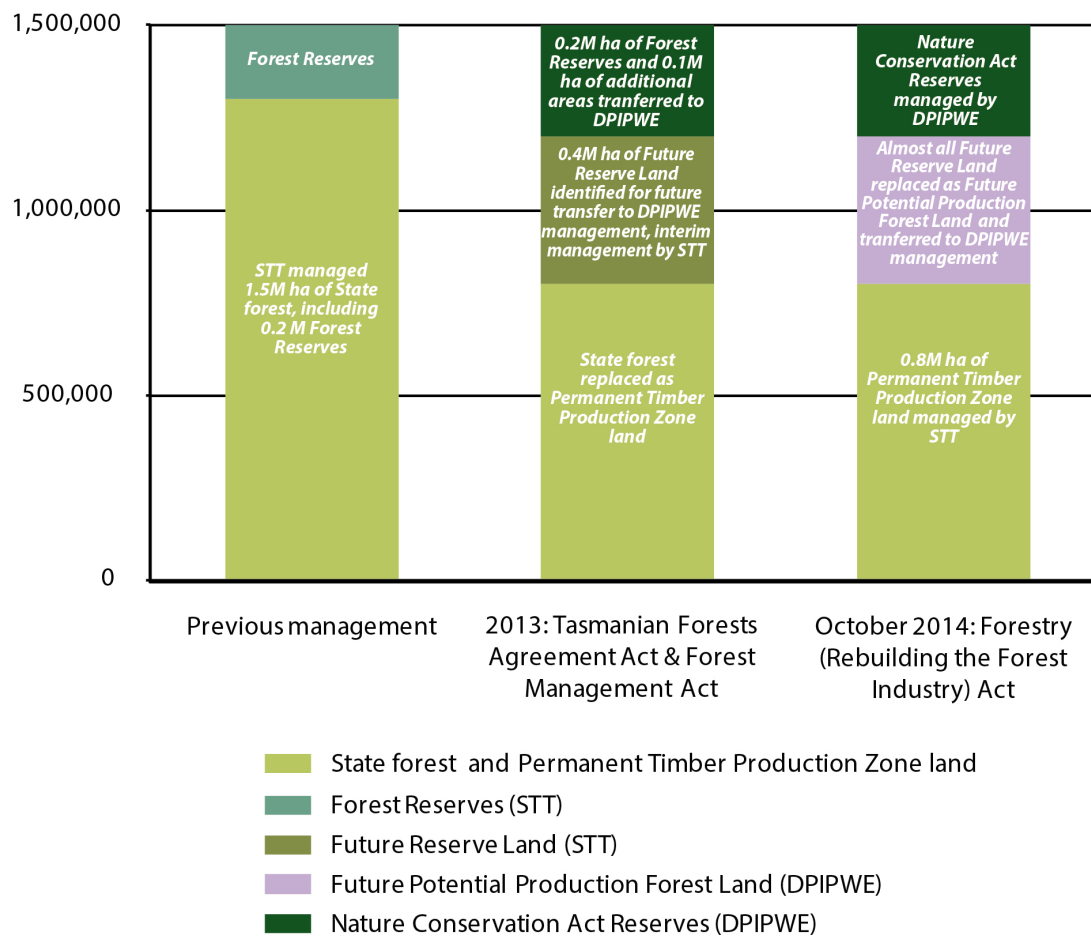
This plan applies to the area of land managed by Sustainable Timber Tasmania. This area is primarily comprised of PTPZ land but also includes 9,000ha of additional land. The *Forest Management Act 2013* identifies Sustainable Timber Tasmania as the manager of PTPZ land

Significant policy and legislative changes have changed the tenure and management responsibility for almost half of the land Sustainable Timber Tasmania previously managed (Figure 1). These changes commenced with the *Forest Management Act 2013* and the *Tasmanian Forests Agreement Act 2013* as repealed by the *Forestry (Rebuilding the Forest Industry) Act 2014*, which provided further change.

The changes have had significant implications for the management of the area included within the scope of this forest management plan. Appendix 1 provides a summary of these recent legislative changes and their implications for the land previously managed by Sustainable Timber Tasmania.

This plan applies only to the land that is now managed by Sustainable Timber Tasmania. If any future change occurs to this area of land, this plan will be reviewed to determine whether any consequent changes are required.

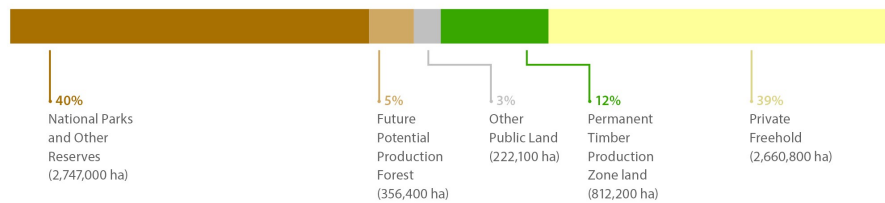
Figure 1: Summary of changed status of former State forest



2.2 Description of Permanent Timber Production Zone land

The PTPZ land comprises 12% of the Tasmanian land area. Other significant land tenures within Tasmania are National Parks and other reserves, private freehold, Future Potential Production Forest, and other public Land (Figure 2).

Figure 2. Summary of Land Tenure in Tasmania



The approximately 812,000 hectares and contains 17 per cent of Tasmania’s native forested land area. The land is distributed across Tasmania. A summary of PTPZ land use is shown in Figure 3 and a map of this land is provided in Figure 4. Sustainable Timber Tasmania’s [interactive map viewer](#) provides a more detailed spatial view of the PTPZ land and surrounds.

Figure 3: Summary of PTPZ land use

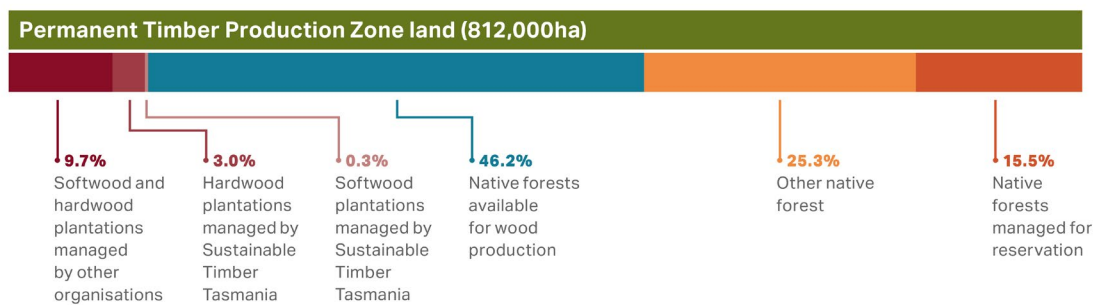
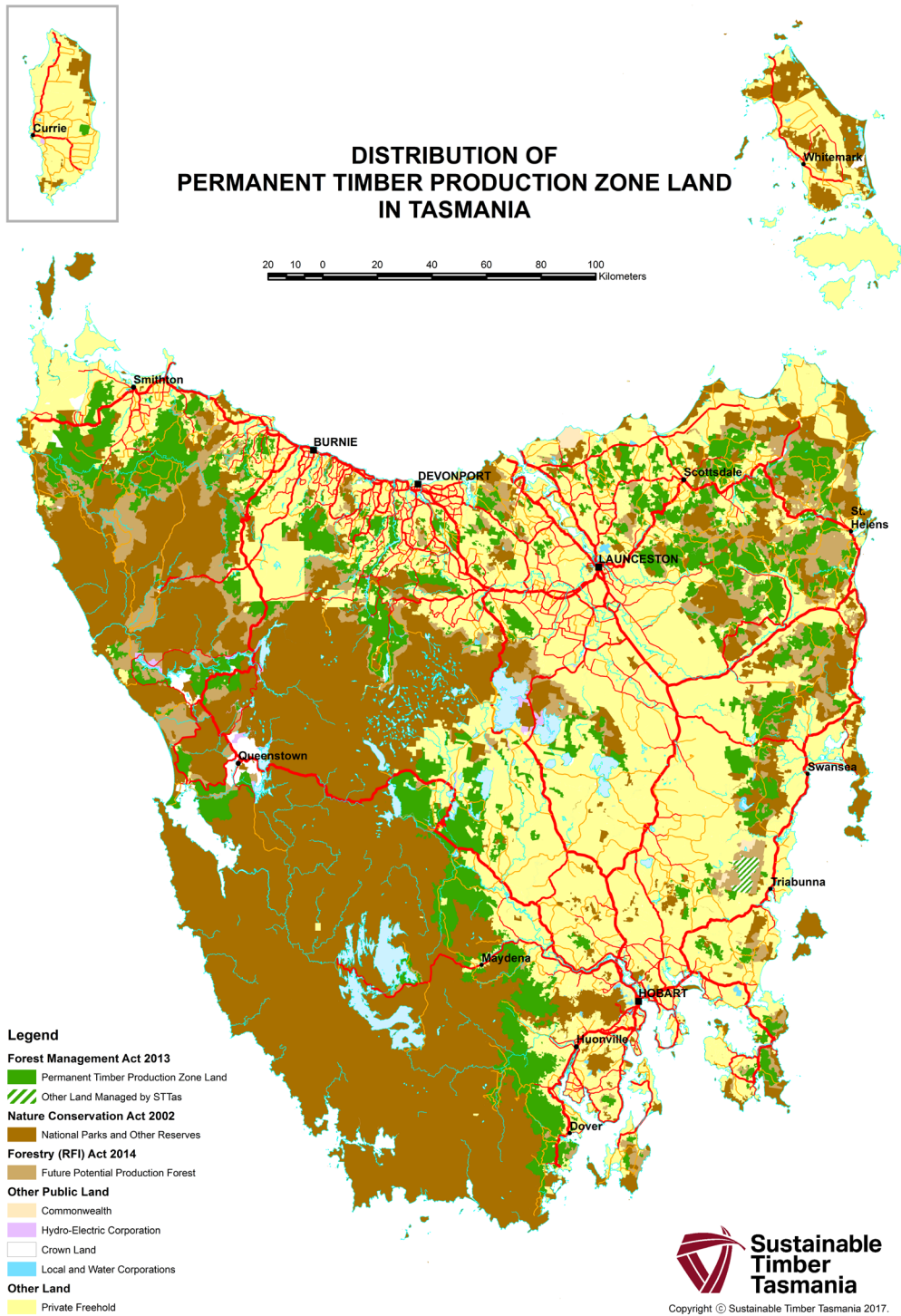


Figure 4. Map of PTPZ land in Tasmania



PTPZ land is predominantly comprised of natural vegetation. Of this natural vegetation, approximately 365,000 hectares are presently allocated for wood production. There is also an unreserved 'non-productive' area of approximately 200,000 hectares, the majority of which is unlikely to ever be harvested due to operational constraints.

About 120,000 hectares of PTPZ land is in informal reserve and is not available for timber production. This does not include any of the previous informal reserve that is now included in future potential production forest land, which has been transferred to the Crown Lands Service.

PTPZ land also features a substantial plantation area (108,000 hectares) comprising both hardwood eucalypts and softwoods. Sustainable Timber Tasmania manages 28,000 hectares of this plantation area, which is predominantly comprised of hardwoods. About 80,000 hectares of land associated with the plantation estate is managed by external parties under lease and forestry rights agreements with Sustainable Timber Tasmania and is not subject to this plan.

PTPZ land adjoins land managed by other landowners and managers, including other government authorities and private landowners. Areas adjoining PTPZ land are managed for a variety of purposes, including but not limited to private residential areas, reserves (including national parks and World Heritage Areas), a variety of agricultural uses, other forestry operations, and mining operations.

2.3 Other land to which this plan applies

In addition to PTPZ land, Sustainable Timber Tasmania has partial management responsibility for forests on other land that are owned or managed by other agencies or individuals. This includes the Buckland Military Training Area (approximately 8000 hectares) and approximately 1,000 hectares of plantations on private property. Sustainable Timber Tasmania's activities on these lands are temporary and are authorised by the issue of leases, agreements, contracts, or registered forestry rights under the *Forestry Rights Registration Act 1990*.

Sustainable Timber Tasmania's intention is that, wherever possible and with the agreement of the relevant landowner, the management principles embodied in this management plan will be applied to the lands outside PTPZ land over which Sustainable Timber Tasmania has partial management control.

2.4 Area to which independent third party forest management certification applies

Sustainable Timber Tasmania seeks certification of its practices by independent third parties against criteria developed by international forest certification schemes. Certification standards require delineation of areas included in the scope of certification, from which forest products can be tracked. Each certification standard has its own rules to define which lands and forests are eligible for certification. In some instances, the rules governing the areas that can be included in the scope of such certification schemes do not fully correspond with Sustainable Timber Tasmania's statutory land base or areas over which Sustainable Timber Tasmania has forest management control. To avoid confusion and duplication, Sustainable

Timber Tasmania has developed a single management plan for the whole area it has management control over. Maps and descriptions of the areas covered by the different certification standards are provided on the Sustainable Timber Tasmania [interactive map viewer](#).

3 Sustainable Forest Management Policy and strategic objectives

3.1 Sustainable Forest Management Policy

Sustainable Forest Management Policy



Sustainable Timber Tasmania (STT) is a State Government Business Enterprise that has a statutory responsibility to manage and control the Permanent Timber Production Zone land and to undertake forest operations on this land for the purposes of selling forest products. Sustainable Timber Tasmania is required to perform these functions in a manner that is consistent with the principles of forest management set out in the *Forest Practices Code* as a contribution to sustainable management of Tasmania's forests.

Under this policy, Sustainable Timber Tasmania will:

- Operate in an environmentally, socially and economically responsible manner.
- Actively engage with stakeholders.
- Strive to maximise recovery and value of our forest products.
- Implement measures that aim to protect the environment, minimise waste and prevent pollution.
- Undertake and support research so that operational practices are underpinned by sound science.
- Meet all relevant compliance obligations (including relevant legislation) applicable to the organisation.
- Maintain a forest management system and conduct forest management in a manner that is certified to be compliant with *ISO 14001*, *AS 4801* and the *Australian Forestry Standard*.
- Commit to and actively work towards long-term incorporation of *Forest Stewardship Council Principles and Criteria* into the Forest Management System.
- Develop objectives and targets that assist in achieving STT's strategic objectives identified in the *Forest Management Plan*.
- Equip staff and contractors with sufficient information, skills, training and/or resources to implement this policy.
- Regularly monitor, audit, review and publically report on our performance.
- Commit to continual improvement of the forest management system to enhance environmental and sustainability performance.
- Communicate this policy and make it publically available.


Steve Whiteley
Chief Executive Officer
February 2018



3.2 Strategic objectives

Sustainable Timber Tasmania has four strategic objectives. These objectives have been developed by taking into account good business practice, legislative requirements, stakeholder feedback and expectations, and Sustainable Timber Tasmania forest certification commitments.

Sustainable Timber Tasmania will develop annual short-term objectives, targets and work programs that are aligned with these strategic objectives, and will report on performance outcomes in its [Annual Report](#).

The strategic objectives are:

- Achieve and maintain financial stability for Sustainable Timber Tasmania;
- Efficiently and effectively make available agreed wood volumes and other services to our customers;
- Professionally manage public production forest to maintain wood resource and other environmental, cultural and economic values; and
- Achieve zero harm to our people and contractors.

This Forest Management Plan details the systems and strategies that Sustainable Timber Tasmania has in place to achieve these strategic objectives. In particular, the plan describes how Sustainable Timber Tasmania aims to make available agreed wood volumes (see sections 3.1, 3.2 and 3.3), maintain environmental, cultural and economic values, (3.4, 3.5, 3.6 and 3.7), and achieve a healthy and productive workplace (3.8).

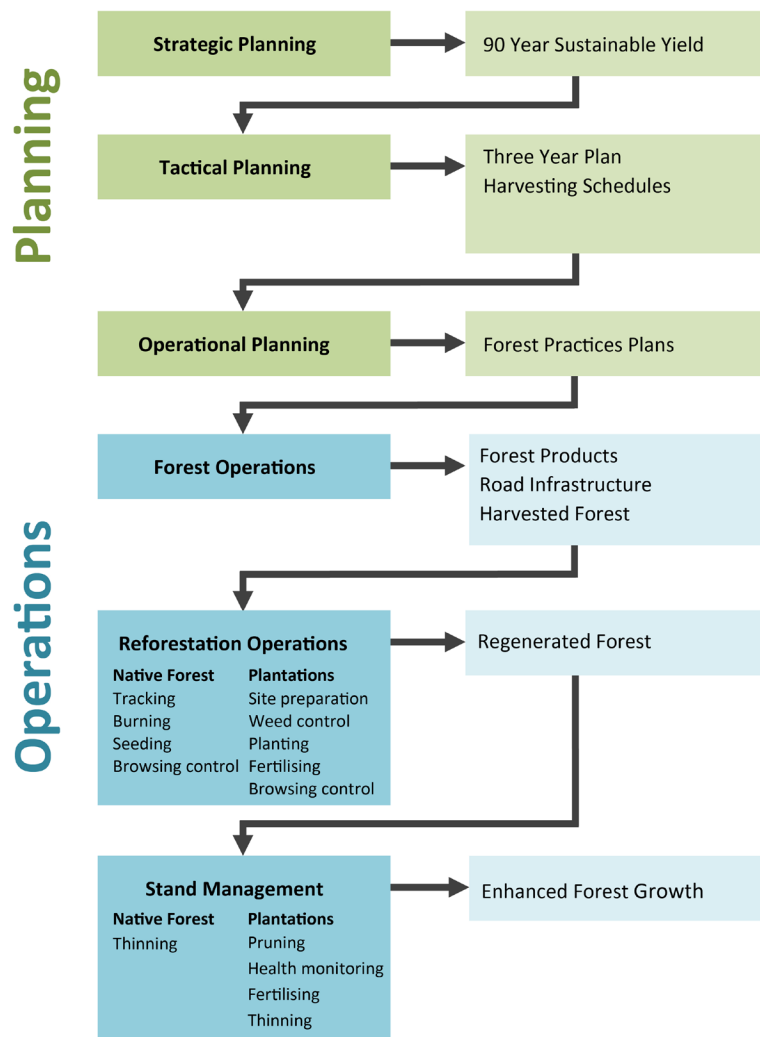
Sustainable Timber Tasmania implements the systems and strategies outlined in this plan to meet these objectives, while also seeking to meet its objective of achieving financial stability. Sustainable Timber Tasmania produces a *Statement of Corporate Intent*, which describes the organisation's financial performance targets as agreed by its Board and shareholder Minister. Sustainable Timber Tasmania aims to achieve financial stability by optimising returns from harvested wood products and provision of services, while also seeking opportunities to increase operational efficiency and reduce costs.

4 Forest management system

4.1 Forest planning and operational framework

Sustainable Timber Tasmania uses a planning and operational framework (Figure 5) to supply forest products and to regrow and maintain PTPZ land. The framework involves strategic, tactical and operational planning, implementation of these plans in order to generate forest products, and subsequent regeneration and stand maintenance activities to maintain the forest's productive capacity. The framework provides for a structured and scale-appropriate approach to the consideration of environmental, economic and social issues. A summary of each aspect of the framework is described in the following text. Sustainable Timber Tasmania's approach to monitoring forest growth is also described.

Figure 5: Sustainable Timber Tasmania's wood production planning and operations framework



4.1.1 Strategic planning and sustainable yield

Strategic planning involves planning forest production over a long-term time period. Sustainable Timber Tasmania generally uses a 90-year horizon for strategic planning. This time period matches the nominal rotation length for eucalypt native forest, or at least three rotations for eucalypt plantations managed for sawlog production.

Sustainable Timber Tasmania manages PTPZ land under the Forest Management Act to make available at least 137,000 cubic metres of high-quality eucalypt sawlogs annually to the veneer and sawmilling industries. Lower quality sawlogs, peeler and pulp logs are secondary products arising from high-quality eucalypt sawlog harvest.

The sustainable yield of a forest is the level of commercial timber (or product mix) that can be maintained under a given management regime, without reducing the long-term productive capacity of the forest.

Sustainable Timber Tasmania uses eucalypt forest estate models to calculate sustainable yield, which is primarily based on the yield of high-quality eucalypt sawlogs from both native forest and plantations. These models are based on a 90-year period and have the following elements:

- A network of forest inventory and growth plot measurements.
- A computer-based modelling and growth projection system.
- Incorporation of environmental constraints.
- Estimations of both eucalypt native forest and eucalypt plantation yields, incorporating calibrations of predicted versus actual harvest volumes.
- External independent audits.

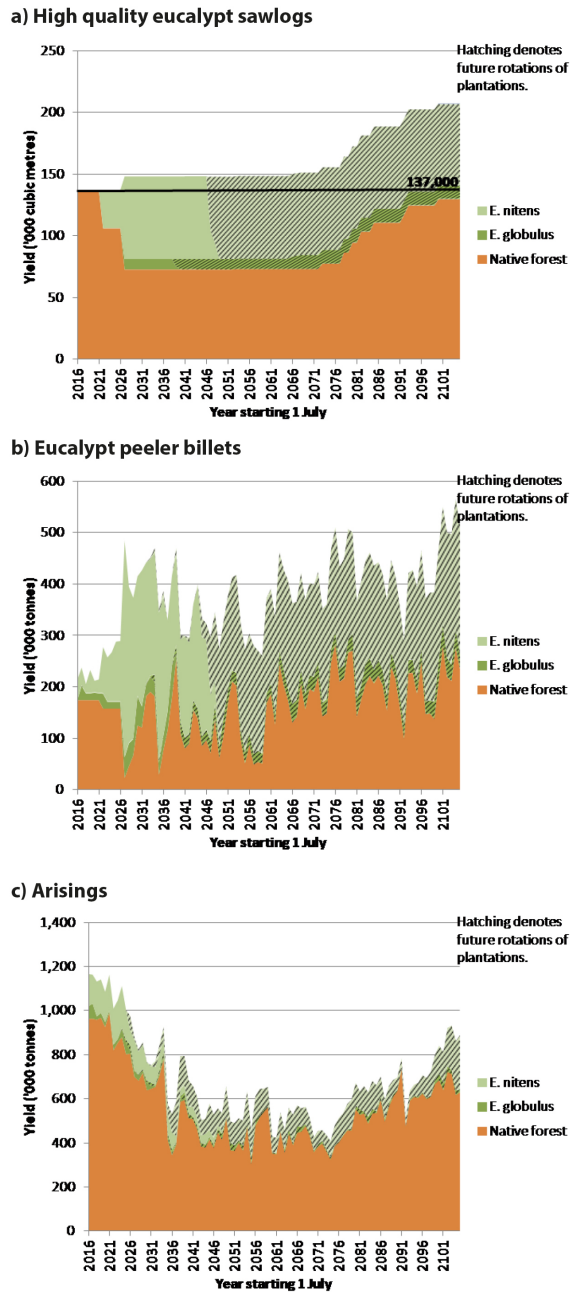
High-quality eucalypt sawlog yields are reviewed and the results published every five years, as required by the Tasmanian Regional Forest Agreement, to determine if high-quality eucalypt sawlog yields are sustainable. Yield predictions are generated from biologically based forest estate modelling of productive capacity, and do not imply supply based on economic criteria.

The most recent review occurred in 2017 and confirms Sustainable Timber Tasmania's ability to make available at least 137,000 cubic metres per year of high-quality eucalypt sawlogs from PTPZ land for the next 90 years. Refer to Figure 7 for the 90-year view of high-quality eucalypt sawlog availability. The review also indicated a transition to increased sawlog and peeler availability from eucalypt plantations commencing from 2022.

In addition, the 2017 review confirmed Sustainable Timber Tasmania's ability to make available 157,000 cubic metres per year of eucalypt peeler billets for the period until 2027 (Figure 5). The volume of eucalypt arisings (which could be used for a range of products such as engineered wood products, pulpwood and biofuels) is also described (Figure 9). Importantly, the review indicated that there will be more standing volume of eucalypt wood products in Sustainable Timber Tasmania's native and plantation forests by the turn of the next century than there is in 2017.

Sustainable Timber Tasmania monitors its compliance with the determined sustainable yield and reports its actual harvesting volumes in the [Annual Report](#).

Figure 6: Predicted yield from PTPZ Land of: a) high quality eucalypt sawlogs; b) eucalypt peeler billets; and c) arisings. Hash denotes yields from future plantation rotations. Note differences in y-axis scale and units.



4.1.2 Tactical planning

Sustainable Timber Tasmania undertakes tactical planning to identify areas that wood will be sourced from over a three-year timeframe so that:

- legislated supply levels of timber products and existing contracts can be met;
- markets can be identified;
- infrastructure to access areas can be planned and developed; and
- stakeholders are informed in advance of areas in which Sustainable Timber Tasmania is planning to operate. Stakeholders are encouraged to register their interest in being consulted during the development of detailed operational plans for these areas.

Factors taken into account during these planning processes include:

- Products available from specific coupes.
- Type and availability of silviculture and harvesting machinery required for each coupe.
- Compliance with Sustainable Timber Tasmania's procedures for management of forest values.
- Compliance with principles set out in the [Forest Practices Code](#).
- Dispersal of harvesting across the landscape.
- Seasonal restrictions for harvesting of particular coupes.
- Consideration of identified stakeholder and community issues.
- Strategic planning for sustainable yield.

The *Forest Practices Act 1985* (Tas) requires organisations that produce more than 100,000 cubic metres of wood annually to produce a three-year plan, and to consult with local government and the Forest Practices Authority. Sustainable Timber Tasmania produces a rolling Three Year Wood Production Plan, which is published annually, uses previous strategic and longer-term tactical planning outcomes, and an element of 'ground truthing', whereby coupes are visited to assess directly the factors listed above. The Three Year Plan outlines the location, product volumes and harvest methods of coupes that may be harvested in the three-year period. The three-year planning process also informs local councils about the anticipated wood volumes travelling on public roads, which assists with their road infrastructure planning and maintenance.

Sustainable Timber Tasmania publicises its [Three Year Wood Production Plan](#) in July of each year and encourages stakeholders to register their interests in particular coupes, advise of any issues of particular concern, and indicate if they would like any further information. The Three Year Plan forms the basis of the next level of tactical planning: harvest scheduling, during which the Three Year Plan coupes are allocated to harvesting contractors. The process also allows for the coordination of an even flow of wood products to various customers and informs the development of forest practices plans.

4.1.3 Operational planning

Operational planning is undertaken for individual harvesting coupes and involves:

- determining how site-specific natural and cultural values will be managed;
- engaging with identified stakeholders and neighbours who may be affected by forest operations, to take their concerns and input into account during planning;
- determining the locations of roads, extraction tracks and landing sites;
- forecasting the products that will be sourced from the site;
- identifying the markets for the products sourced from the site;
- identifying any site-specific hazards; and
- determining operational boundaries.

After considering these factors, the most appropriate harvesting prescriptions and treatments required for successful forest regeneration are determined. Importantly, if it is determined that reforestation cannot be achieved successfully, harvesting will not occur.

The Forest Practices Act requires that a forest practices plan be developed before any harvesting occurs. Forest practices plans must comply with the provisions of the [Forest Practices Code](#), which specifies the prescriptions for management of values including biodiversity, soil, water, geoconservation, cultural heritage, and visual amenity throughout the road building, harvesting and reforestation operations.

The forest practices system provides Sustainable Timber Tasmania's planners with training and a suite of guidance and assessment tools to assist in the development of forest practices plans. A notification system exists to inform the Forest Practices Authority of any special values that have been identified and to seek advice from specialists on management where required. Sustainable Timber Tasmania also uses a system of internal collaboration and peer reviewing so that each plan is developed to a high standard.

A forest practices plan must be certified by a Forest Practices Officer appointed by the Forest Practices Authority. Such officers are required to be experienced foresters and have undergone additional training so that they understand the forest practices system. Once certified, a forest practices plan becomes a legal document that must be followed. Any variations made to the plan after it has been certified must be approved by a Forest Practices Officer and lodged with the Forest Practices Authority.

Once a forest practices plan is certified, a notice of intent to conduct operations is issued to all identified stakeholders and neighbours to inform them of the likely commencement date for the operation, and as a final check to confirm that, where feasible, issues of concern have been taken into account. All certified forest practices plans are available upon request.

More information on the forest practices system is provided in the *Managing forest values* and *Monitoring, reporting, review and continual improvement* sections of this plan, and on the [Forest Practices Authority website](#).

4.1.4 Harvesting operations

Harvesting operations involve the extraction of forest products from the forest. Harvesting operations are conducted by contracting companies, which have the specialist skills, equipment and safety systems required to successfully implement the forest practices plan.

Prior to any work commencing on site, contractors are given a briefing by a Sustainable Timber Tasmania supervisor so that they are aware of the operational objectives, the coupe specific prescriptions detailed in the forest practices plan and known safety hazards. In accordance with the [Forest Safety Code](#), contractors are also required to develop a forest operation plan that describes how safety will be managed on the site.

Throughout the course of the operation, Sustainable Timber Tasmania conducts regular monitoring to confirm that harvesting is being conducted in accordance with the forest practices plan, product recovery is being maximised, and safety requirements are being met.

Where problems are identified, Sustainable Timber Tasmania can direct the contractor to undertake remedial action. Sustainable Timber Tasmania's contractual arrangements allow for Sustainable Timber Tasmania to shut the operation down until remedial action is taken. If an identified environmental problem is considered serious, the Forest Practices Authority is notified. Further actions may involve formal investigations, verbal or written warnings, fines and prosecution for failure to comply with a certified forest practices plan.

Once an operation is completed, the area is rehabilitated, which involves:

- removing temporary stream crossings;
- rehabilitating tracks and landings; and
- removing all machinery and all other items.

Sustainable Timber Tasmania conducts a thorough inspection of every coupe to confirm that rehabilitation works have been carried out to the required standard. Once Sustainable Timber Tasmania is satisfied that rehabilitation works have been completed satisfactorily, reforestation works can begin.

4.1.5 Reforestation works

Reforestation works are undertaken to re-establish a productive forest in the recently harvested area. These works are essential for the long-term sustainability of PTPZ land.

Reforestation works are largely determined by the forest type. In plantations, site preparation works such as windrowing, cultivation and weed control are often required before appropriately selected seedlings are planted, fertilised and monitored for growth. In native forests, burning or ground disturbance using machinery is used to provide a seedbed for either broadcast or naturally sown seed. Further details on site preparation activities are provided in the plantations and native forest sections of this plan.

Before any works begin, a forest operation plan is required to be in place for all reforestation operations. This plan will include:

- the objectives of the operation;
- how the operation will be undertaken;
- safety issues, including emergency plans (to comply with the [Forest Safety Code](#));
- specific environmental issues related to that operation; and
- how potential stakeholder impacts will be avoided or minimised.

Involved personnel are briefed on the forest operation plan before any work begins. Throughout the course of the operation, Sustainable Timber Tasmania conducts monitoring to confirm that the plan's objectives are being met.

The first few years after establishment are critical to developing a fully productive forest. In all forest types, regular monitoring of tree survival and performance is undertaken in order to identify and treat problems early. In particular, monitoring for browsing damage, and subsequent herbivore control operations, are likely to be required in this period.

The effectiveness of establishment operations is assessed and reviewed annually through Sustainable Timber Tasmania's plantation and native forests quality standards systems.

4.1.6 Stand management activities

Between establishment and final harvest, Sustainable Timber Tasmania monitors forest stands to determine the timing of any necessary operations to either maintain or enhance the timber quality of the final stand. These operations may include pruning, thinning, fertilising, or pest control. Further details on these operations are found in other sections of this plan. All of these operations require the development of a forest operations plan, or, in the case of thinning operations, a forest practices plan.

4.1.7 Monitoring forest growth

Sustainable Timber Tasmania's planning systems rely on a robust methodology for measuring and modelling forest growth. Independent experts (refer to the [strategic wood review](#)) have confirmed that Sustainable Timber Tasmania's inventory and yield modelling systems are fit for purpose. The information from forest inventory and modelling processes informs long-term sustainable yield estimates, assists in scheduling harvesting operations, and supports silvicultural management decisions.

Broadly speaking, Sustainable Timber Tasmania carries out three types of forest inventory, reflecting the differing uses to which the results are applied:

- **Permanent growth plots.** This network of plots is re-measured regularly in order to accurately measure forest growth over time. This inventory provides data that are used to develop growth models. These growth models are used in the calculation of sustainable yield and to simulate the impacts of prospective, alternative silvicultural regimes.

- **Strategic inventory.** These inventories are based on a network of single measurement plots and are used to obtain unbiased estate-level estimates of present forest conditions. Inventory results from these plots are ‘grown on’ using growth models in order to gain an understanding of future forest conditions, and to inform sustainable yield calculations.
- **Operational inventory.** These inventories are used to obtain coupe-level estimates of product yields. Coupes can be inventoried either before harvest as part of the operational planning process, or after a stand treatment such as thinning, to determine the remaining growing stock. Due to their intense sampling requirement and subsequent cost, operational inventories are not conducted on a routine basis prior to all operations. Operational inventory is mandatory following plantation pruning and thinning operations, where it is combined with quality standards assessments. The results of this monitoring are used to improve estate planning and to drive continual improvement in silvicultural programs that support the production of high-quality sawlogs.

Sustainable Timber Tasmania is presently obtaining LiDAR coverage of PTPZ land. This involves an aircraft-mounted laser sensor producing finely detailed ‘point clouds’, which represent the three dimensions of the forest canopy to a very high spatial resolution. Sustainable Timber Tasmania has implemented a new inventory program to acquire tree measurements, which will be related to the point cloud data. These will be used to develop model-based predictions of forest condition. This new approach to inventory is generating spatially explicit estimates with very high precision and, is, subject to further testing, likely to replace much of Sustainable Timber Tasmania’s strategic and operational inventory program in the future.

4.2 Forest types and management

4.2.1 Native forests

Sustainable Timber Tasmania’s forest management is primarily based on native forest, which forms approximately 86 per cent of the existing PTPZ land. Approximately 365,000 hectares of this native forest are designated for wood production. This area presently provides the majority of eucalypt sawlogs, sliced veneer logs, peeler logs and pulpwood, as well as special species timbers from non-eucalypt species.

Traditionally, the highest quality eucalypt timber supply has been sourced from native forests. For most of the past two centuries, the majority of sawlogs came from mature eucalypt trees, which were greater than 110 years old. A significant transition to using regrowth trees commenced around 1990. This transition has resulted in a trend towards the use of smaller diameter logs, which has challenged the sawmilling industry in developing changes in processing technology to optimise recovery of sawn timber.

4.2.1.1 Vegetation communities

Tasmania’s vegetation communities, including those on PTPZ land, have been extensively mapped. The TASVEG digital vegetation map of Tasmania, and descriptions of the 156 identified vegetation types can be accessed from the

Department of Primary Industries, Parks, Water and Environment (DPIPWE) [website](#). TASVEG is continually revised and updated as new information becomes available. Furthermore, Sustainable Timber Tasmania's *High Conservation Value management plan* provides a detailed analysis of the vegetation communities that occur on PTPZ land and their respective conservation and reservation status.

4.2.1.2 Forest types and silviculture

Forest types can be considered a very broad classification of the forested vegetation communities located on PTPZ land. Forest type significantly influences silvicultural management and is therefore one of the first features identified when planning a coupe. Sustainable Timber Tasmania manages a set of publicly available Technical Bulletins that describe the main forest types that exist on PTPZ land, provide silvicultural prescriptions, and describe the ecological and scientific rationale for these treatments. This information has been built on decades of local, national and international scientific collaborations.

The native forest area on PTPZ land used for commercial wood production can, broadly, be separated into wet eucalypt forests, dry eucalypt forests, rainforests, and blackwood forests. A brief description of the forest types and silvicultural system employed follows.

4.2.1.2.1 Wet eucalypt forests

Wet eucalypt forests have a tall open canopy over a dense, closed understorey. The forests are typically greater than 40 metres tall but can be much taller. Wet eucalypt forests generally comprise one or more age-class cohorts of overstorey eucalypts. The dominant eucalypt species in these forests generally rely on significant bushfire events to regenerate. Such events remove the canopy, enabling sunlight to reach the forest floor, create a mineral earth seedbed, initiate natural seedfall, and reduce competitive and browsing pressures on establishing seedlings. Recent research has confirmed that more eucalypt seedlings establish and grow faster on well-burnt seedbed than on any other available substrate.

The silvicultural systems used in these forests are clearfelling and variable retention. Clearfelling is applied in situations where the site conditions, such as topography and understorey, mean that harvesting and adequate eucalypt regeneration cannot otherwise be achieved safely and reliably and at reasonable cost. The removal of most trees in the harvest operation provides the light conditions these species require for germination and growth. Burning is then used to prepare a receptive seedbed and reduce harvesting slash. Eucalypt seed is applied aerially and an even-aged cohort of new regeneration is established.

The aggregated form of variable retention moderates the visual and ecological impacts of clearfelling. Unharvested patches of forest are retained within and around the coupe so that the majority of the harvested area remains within one tree height of retained forest. The operational complexity of aggregated retention, particularly that posed by burning operations, limits its application to commercial stands that have particular social and/or ecological significance.

4.2.1.2.2 Dry eucalypt forests

Dry eucalypt forests have open canopies with short, open understoreys. Dry eucalypt forests are typically less than 40 metres tall and usually have a multi-aged structure, resulting from 'gap-phase recruitment' to the canopy. This means that seedlings may establish continuously in gaps, with additional 'pulses' of regeneration arising from disturbances such as bushfire.

Silvicultural systems used in dry eucalypt forests are generally forms of partial harvesting, and include shelterwood, seed tree, advance growth retention, and potential sawlog retention. The specific type of partial harvest system chosen depends on factors such as age class structure, species present, topography and elevation. Many of the systems rely on retention of previously established regeneration, supplemented by new regeneration from naturally sown seed coming from retained trees. A receptive seedbed following harvesting is created by the harvesting disturbance, additional mechanical disturbance, or by fire. Fire is not always essential to create a receptive seedbed, but is also used to reduce the fuel load arising from the harvesting.

4.2.1.2.3 Rainforest

Rainforests can regenerate naturally without major disturbance. Seedlings and saplings are often already present in undisturbed rainforest. Seedlings are also readily able to colonise gaps created by the death of mature trees. Because fire is not required to regenerate rainforests, the silvicultural systems applied to rainforest are very flexible. Seed tree, group selection, and selective harvesting can all be applied. The harvesting disturbance to the soil is usually sufficient to create a receptive seedbed, and regeneration arising from seed falling from the retained trees is usually abundant.

4.2.1.2.4 Blackwood forest

Blackwoods are managed for timber in two different forest types: wet eucalypt forests rich in blackwood, and blackwood swamp forest. Blackwood seedlings regenerate naturally following major disturbance, usually fire, from abundant supplies of long-lived, ground-stored seed. Blackwood seedlings are very palatable and many are eaten by native mammals. In natural systems, the seedlings are protected from browsing by dense understorey species or hidden amongst the heads of downed trees.

Both blackwood-rich forest types are harvested by clearfelling. In wet eucalypt forests rich in blackwood, a high intensity regeneration burn is used. In swamp forests, the harvesting disturbance may be sufficient to stimulate germination of the ground-stored seed, but if fuel loads after harvesting are high, a low-intensity burn may be used to reduce the harvesting debris. To successfully establish the regeneration, it is essential to construct and maintain a temporary fence that excludes browsing animals.

4.2.1.3 Native forest harvesting methods

The harvest and extraction methods selected for native forests are determined on a coupe-by-coupe basis, after taking into account silviculture, tree size, topography,

soil conditions and safety considerations. The [Forest Practices Code](#) describes the types of machinery that are permitted to be used in different topographies and soil types. All plans for harvesting also have to comply with the [Forest Safety Code](#).

In stands with flatter terrain, clear understorey and smaller diameter trees, machines can often be used to fell and extract timber. This is the preferred option, as it presents the least safety risk for ground crews.

The traditional and most common method for harvesting native forest continues to be hand felling with chainsaws. However, mechanical harvesting is used where practical and is becoming more common in regrowth forest harvesting. Logs are moved to the landing by ground-based, rubber-tyred or tracked skidders or forwarders. These arrangements allow for flexibility in dealing with the variable topography, ground conditions and forest structure often encountered in native forest harvesting.

Harvesting on steeper terrain requires the use of cable harvesting systems. On steeper ground, cable harvesting causes considerably less ground disturbance than ground-based extraction systems. All cable operations are conducted in accordance with the Tasmanian Cable Harvesting Code of Practice.

4.2.1.4 Maintaining genetics in harvested areas

Sustainable Timber Tasmania aims to maintain the on-site genetic composition of harvested native forest.

In rainforest, blackwood and most eucalypt-based partial harvesting systems, retained trees and/or ground-stored seed allow an appropriate species mix to be maintained on the site.

While the understory species regenerate widely and successfully from ground-stored seed or animal and wind dispersed seed from adjacent unharvested forest, eucalypts rely on an abundance of canopy-stored seed to regenerate. Thus, for eucalypts, it is necessary to broadcast-sow all regenerating eucalypt clearfell operations and some partial harvest operations with collected seed.

Sustainable Timber Tasmania has a seed management system that provides for all coupes to be re-sown with seed that best matches the species mix and provenance of the original forest. This management system is described in Sustainable Timber Tasmania's *Eucalypt seed and sowing* Technical Bulletin, in which the State is divided into 61 discrete seed zones based on differences in location, altitude, dryness and coldness. All seed applied to a coupe is required to be sourced from either the specific coupe or the seed zone in which it is located.

4.2.1.5 Monitoring regeneration success

Sustainable Timber Tasmania aims to regenerate all harvested native forest to fully productive stands. Regeneration surveys are undertaken to assess the success of the regeneration and to identify areas that may require remedial work. Regeneration surveys involve conducting a systematic coupe survey and calculating the percentage of surveyed plots that are stocked. Stocking is a measure of site occupancy, and involves assessing either the presence of seedlings that are likely to grow into productive trees and/or the basal area of retained trees. The exact definition of a stocked plot varies with forest type and silvicultural treatment.

Sustainable Timber Tasmania uses nationally agreed standards to assess and report on the regeneration success in every area harvested. The procedures and rationale for conducting regeneration surveys are outlined in Sustainable Timber Tasmania's *Regeneration Surveys and Stocking Standards* Technical Bulletin.

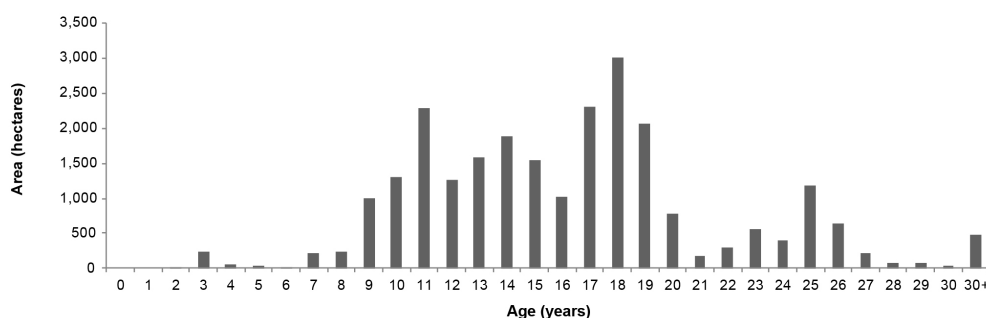
4.2.2 Plantations

There are approximately 108,000 hectares of plantation on PTPZ land. The majority of this resource has been established on sites previously converted from native forest. Softwood plantation establishment began in the 1930s and expanded significantly in the 1960s. Significant hardwood (primarily eucalypt) plantation establishment commenced around 1990 and expanded in the early 2000s. Sustainable Timber Tasmania has now ceased establishing new plantations on converted native forest, and expansion opportunities for the plantation estate are limited.

Approximately 80,000 hectares of established plantations and associated land are either owned or managed by external parties. This ownership is recognised under the *Forestry Rights Registrations Act 1990* or by legally binding agreements. Sustainable Timber Tasmania remains the statutory land manager of this land, but has divested land management control and, in most cases, a financial interest in the standing trees. The areas managed by external parties are not presently subject to this management plan. Future management control arrangements of these areas are reviewed at the expiry of each respective agreement's term.

Sustainable Timber Tasmania manages approximately 25,000 hectares of hardwood plantation forest and approximately 3,000 hectares of softwood in its own right, or with joint venture partners. This plantation estate is distributed across PTPZ land.

Figure 7: Age class distribution of STT managed hardwood plantations



The primary management objective for Sustainable Timber Tasmania's hardwood plantation estate is to grow high-value, pruned logs. Sustainable Timber Tasmania aims to apply appropriate management regimes to as many stands as possible in order to achieve this objective. In some cases, historical stand management, site factors and location may lead to a stand being managed to only produce lesser-grade products, such as pulpwood. Sustainable Timber Tasmania currently has approximately 22,000 hectares of hardwood plantation managed under pruned log regimes.

The management objective of the small softwood plantation estate in which Sustainable Timber Tasmania still has management control is primarily to produce solid wood (unpruned sawlogs, poles, posts) and long-fibre pulp for paper production.

4.2.2.1 Species selection and genetics

The two eucalyptus species planted by Sustainable Timber Tasmania are *Eucalyptus globulus* (Tasmanian blue gum) and *E. nitens* (shining gum). Approximately 73 per cent of the total hardwood estate is *E. nitens*, 22 per cent is *E. globulus*, and six per cent is other eucalypt species that were largely planted as growth trials.

Decades of local and international research have shown that both *E. nitens* and *E. globulus* are suitable for growing high-quality logs, as they are fast growing and are suited to most Tasmanian conditions. However, *E. globulus* timber exhibits superior density, strength and pulp yield to *E. nitens*. Research is continuing into the development of efficient processing technologies, and the identification of high-value applications for plantation timber from both species.

The existing high proportion of established *E. nitens* sites is a result of its superior frost and disease resistance. Successful growth of *E. globulus* is generally limited to lower-altitude sites where the risk of exposure to cold and frost is lower than higher-altitude sites. *E. globulus* seedlings are also susceptible to the *Mycosphaerella* leaf fungal disease. However, recent research has shown that over the course of a rotation, productivity losses in *E. globulus* caused by *Mycosphaerella* are manageable, and are negated by the increased value of the final crop.

There is a significant area of established *E. nitens* plantation that, following eventual harvest, may be suitable for future *E. globulus* plantings. Sustainable Timber Tasmania now aims to extend plantings of *E. globulus* into these areas where appropriate. *E. nitens* will continue to be the preferred species on higher altitude, frost-prone sites that are not suited to *E. globulus*.

4.2.2.2 Tree improvement

Sustainable Timber Tasmania maintains a tree improvement program that aims to apply the best breeding techniques available, to maximise the value of the plantation estate. This is achieved through testing, identifying and breeding from trees that have the right balance of growth rate and wood quality. Desired traits selected for include branch quality, stem straightness, form, wood quality and disease resistance. The program is based on 30 years of research, collaboration with other organisations, and an extensive network of provenance trials, progeny trials and seed orchards. Sustainable Timber Tasmania's tree improvement and establishment program does not use genetically modified organisms (GMOs). Sustainable Timber Tasmania has no intention to use GMOs. The use of GMOs is prohibited under AFS and FSC certification systems.

Sustainable Timber Tasmania identifies site-specific characteristics during plantation establishment planning, and existing seedlots are matched to these site characteristics, which enables the trees most suited to each site to be planted. Seedlots are then propagated at Sustainable Timber Tasmania's Forest Nursery at Perth for subsequent planting.

4.2.2.3 Establishment

Successful plantation establishment involves integration of site preparation, weed control, planting and fertilising, followed by monitoring and remedial treatments if necessary. The first two years after planting are the critical time for young trees to develop strong vigorous crowns and expansive root systems, which are the foundations for productive stands.

4.2.2.3.1 Site preparation

Site preparation involves creating sufficient, high-quality planting sites for the next tree crop. Site preparation generally involves two considerations: residue management and soil cultivation.

Residues such as stumps and heads from the previous crop may limit the availability of planting sites. However, they can also be an important source of nutrients as they decompose. In order to keep nutrients on site, Sustainable Timber Tasmania prefers to avoid burning plantation harvest residues. However, burning may be required where residue loads are too large or where older, pre-existing windrows need to be re-distributed to increase the available planting area.

Cultivation of the soil prior to planting creates a deep growing medium that enables rapid seedling growth. The standard method is to produce a cultivated spot mound by using an attachment on an excavator. Where larger slash windrows are necessary, line mounding is often undertaken using a mounding plough drawn by a tractor. Ripping with a tyne may also be necessary on shallow soils.

4.2.2.3.2 Competition management

Woody understorey species often compete strongly with young seedlings and trees for water, nutrients and light, which can result in low survival and slow early growth. These species can also significantly inhibit stand management and harvesting operations. Sustainable Timber Tasmania therefore aims to provide competition-free conditions for at least the first two years after planting. Aerially applied herbicides are the main method of controlling competition. Herbicide application is carefully planned and matched with the site conditions so that optimal timing and control can be achieved. This is usually before planting, as application of herbicides after planting risk damage to the tree crop. Refer to the *Managing pesticide use* section of this plan for details on the procedures Sustainable Timber Tasmania uses to avoid harmful outcomes such as water pollution and spills.

4.2.2.3.3 Planting

Seedlings are planted by hand, ideally during spring as that time of year gives the seedling the highest chance of establishing and growing quickly. The standard stocking for planting is 1,100 stems per hectare, which optimises early site occupancy, controls branch development, and provides for adequate selection of the final crop trees for pruning and retaining through to the end of the rotation. Sustainable Timber Tasmania has developed specific seedling quality and planting method specifications to maximise the chances of establishment success.

4.2.2.3.4 Fertilisation

The use of fertilisers is a key means of improving the health and productivity of plantations. This is because many of Tasmania's forest soils have relatively low nutrient availability, particularly of nitrogen and phosphorus, which, respectively, are necessary for leaf area development and root growth. Fertiliser use is adjusted for each stand and site, according to soil, climate, economic, operational and environmental factors. Primary fertilisation occurs at planting, while secondary fertilisers may be applied to support growth throughout the life of the plantation.

Sustainable Timber Tasmania now uses controlled-release fertiliser for primary fertilising. This granular product is inserted into the planting hole at the time of planting. This fertiliser is a significant improvement on the previous product, with less chemical input, leaching and volatilisation losses. The product also results in improved growth response, reduced labour cost and less weed issues.

Secondary fertiliser is used infrequently, and is normally only applied to stands in order to increase their growth if it is considered that the treatment will be effective. Urea-based fertiliser is applied either by hand in younger stands, or aerially in older stands.

4.2.2.4 Stand maintenance activities

4.2.2.4.1 Pruning

Pruning promotes the development of clear, defect-free wood (clearwood). Pruning is usually undertaken in three 'lifts', pruning to a height of 6.4 metres. These stages allow the trees time to rebuild leaf area (canopy), and to heal over the stem to subsequently produce knot-free timber.

Trees that have good form, healthy crowns and that are growing vigorously are selected for pruning. Up to 300 stems per hectare are treated on suitable sites. The unpruned trees are left to grow alongside the pruned trees until they are removed in subsequent thinning operations.

4.2.2.4.2 Thinning

Thinning increases yields and quality of logs for harvest at the end of the rotation, and can also provide a financial return from the thinned logs. Thinning removes unpruned and lower-quality trees so that the pruned trees can be retained to grow on to the end of the rotation. The treatment allows for more space, light, water, and nutrients to be made available, which increase the retained trees' growth. Thinning operations can also improve wood quality by reducing the occurrence of tension wood, which can otherwise lead to board distortion during sawing and drying.

Thinning occurs at various stages during the life of a stand, which may include early non-production thinning, mid-rotation production thinning, or production thinning only.

Early non-production thinning is usually applied between ages four and seven years, and is useful in high-productivity coupes where maximising the diameter of pruned logs at the end of the rotation is the main objective. Non-production thinning can be undertaken manually using machines, hand tools or targeted chemical applications. When production thinning is undertaken in mid-rotation (seven to 12 years of age), it

is normally a commercial thinning operation that produces pulpwood and small logs for sale. Production thinning uses ground-based machinery, including processors that fell, debark, de-limb and cut each tree to length.

4.2.2.5 Final harvesting

Most hardwood plantations that are grown for high-quality products will be of sufficient size to harvest around age 25. Stands managed on pulpwood-only regimes are usually harvested earlier, at approximately 15 years. Plantations are harvested by clearfelling, and the products produced include pruned and unpruned logs for sawing and peeling, pulpwood for paper, and posts and poles. Clearfelling operations in plantations are invariably machine-based, featuring various combinations of processors, skidders and excavators.

4.3 Forest products and customers

4.3.1 Forest product description

Sustainable Timber Tasmania produces a variety of wood-based products from the forest it manages. These products include but are not limited to:

- **High-quality eucalypt sawlogs** suitable for milling into appearance grade timber, structural timber and sliced veneer.
- **Lower-quality sawlogs** that can be used for similar purposes to high-quality sawlogs, but that are expected to have lower product recoveries and primarily produce structural timber.
- **Special species timbers**, which are highly prized by the domestic furniture, boat building and craftwood industries.
- **High-grade domestic peeler logs** suitable for domestic rotary peeling into veneer.
- **Low-grade peeler logs** suitable for laminated veneer lumber production.
- **Pulp logs** that are suitable for processing into woodchips for pulp and paper production.
- **Poles** that can be used as 'hydro poles' to support electricity infrastructure.
- **Other logs** such as those used for bridge building.
- **Firewood** typically sold under license to public.
- **Tree ferns** sold to local garden businesses to be replanted in gardens.

The forest also provides a range of non-wood products such as ecosystem supporting services, minerals, water, nectar, and cultural, recreational, and tourism opportunities. The mechanisms that Sustainable Timber Tasmania uses to manage for non-wood products are described in later sections of this plan.

4.3.2 Maximising product recovery

Sustainable Timber Tasmania is obligated, under the Forest Management Act, to make available at least 137,000 cubic metres of high-quality eucalypt sawlog annually and to manage the forest commercially. Not every tree in the forest provides high-quality sawlog, and in the process of harvesting high-quality products, a significantly greater percentage of lower grade products are produced. The amount of each product produced therefore reflects the quality of the harvested forest,

making the silviculture that Sustainable Timber Tasmania uses to produce high-quality stands critically important.

Sustainable Timber Tasmania endeavours to maximise the economic value, use and recovery of all forest products arising from harvesting operations. To achieve this objective, we have several processes in place:

- Arrangements with Sustainable Timber Tasmania contractors that provide financial incentives to optimise recovery of forest products.
- An electronic scheduling system to record, monitor and track harvested products, and thereby optimise product allocation to customers.
- A log grading system that identifies the quality specifications of each product type.
- A system of training and accrediting timber classification officers, who are responsible for segregating products during forest operations.
- Segregation inspections carried out by Sustainable Timber Tasmania staff to determine the presence of any logs that may have been misclassified. These inspections take place on coupe landings, at mills and on log trucks.
- A feedback docket system that enables purchasers of logs and Sustainable Timber Tasmania staff to record and correct any log grading issues.
- Post-logging residue assessments, to confirm the efficient removal of forest products and to quantify merchantable wood being left on the forest floor after harvesting operations.
- A program of actively seeking new markets for the range of products produced.
- Projects with industry and research bodies that identify and implement new processing techniques and create value-added end uses for forest products.

4.3.3 Obtaining forest products from other sources

Sustainable Timber Tasmania may also obtain forest products from sources beyond the land that it manages. Sustainable Timber Tasmania also purchases and on-sells residues from sawmills. Purchases are only undertaken if they are in Sustainable Timber Tasmania's commercial interest. Privately sourced wood can also assist in maintaining customer supplies when Sustainable Timber Tasmania-managed operations are insufficient to meet demand.

Sustainable Timber Tasmania conducts appropriate checks to confirm that any wood it purchases has been harvested legally and in accordance with Sustainable Timber Tasmania and customer certification requirements. The primary means it uses is to verify the certification status of the supplier, either forest management certification for harvesting operations, or chain of custody certification for processors. Where required, the relevant forest practices plans are examined to confirm that the harvest operation:

- is being undertaken legally;
- does not result in conversion of forest to non-forest use;
- is being conducted in a manner that does not threaten high conservation values;
- does not violate traditional and civil rights; and

- does not involve genetically modified organisms.

4.3.4 Special species timbers

Sustainable Timber Tasmania has a role in maintaining a supply of special species timbers. Special species timbers are used to make a range of high-value products, including wooden boats, furniture as well as a range of craft products. The main species that provide special species timber are:

- blackwood (*Acacia melanoxylon*)
- myrtle (*Nothofagus cunninghamii*)
- celery-top pine (*Phyllocladus asplenifolius*)
- sassafras (*Atherosperma moschatum*)
- Huon pine (*Lagarostrobus franklinii*)

Other popular species include:

- silver wattle (*Acacia dealbata*)
- musk (*Olearia argophylla*)
- tea tree (*Leptospermum scoparium*)
- horizontal scrub (*Andopetalum biglandulosum*)

Sustainable Timber Tasmania manages approximately 52,700 hectares of PTPZ land as a special species timbers zone, and this is the primary source of special species timber. The zone is comprised of blackwood forests, rainforests and eucalypt forests that are rich in special species timbers.

Rainforests contribute the largest area of the special species timbers zone and managed specifically for the long-term production of special timbers such as myrtle, sassafras and celery-top pine. Huon pine is recovered from the Teepookana plateau, which was historically cut-over during the early 20th century, and salvaged from riverbanks and beaches around Macquarie Harbour. Blackwood forests in north west Tasmania provide the primary source of blackwood sawlogs. This resource is reviewed periodically (last reviewed [December 2013](#)) to maintain a sustainable supply level. Eucalypt forests rich in special species timbers also contribute a source of special species timbers.

Each year, Sustainable Timber Tasmania reviews the annual supply of special species timbers and publishes it in its Three Year Wood Production Plan. Special species timber production is aligned with the [Tasmanian Special Species Management Plan 2017](#),

Special species timber is supplied both directly to sawmill customers and sold through its commercial business, [Island Specialty Timbers](#), where special species timber can be purchased either in person or online from stockpiles located at Geeveston, Strahan and Smithton.

4.3.5 Customers

Sustainable Timber Tasmania has a [Customer Service Charter](#) that sets out its approach to customer interactions. The Charter is part of Sustainable Timber Tasmania's [Stakeholder Engagement Operational Approach](#).

Sustainable Timber Tasmania recognises that, as a commercial business enterprise, customers are critical to its success.

Sustainable Timber Tasmania is committed to meeting the needs of and developing strong relationships with Sustainable Timber Tasmania customers. Providing reliable and valued services to Sustainable Timber Tasmania customers is fundamental to this commitment.

Sustainable Timber Tasmania strives to be responsive and efficient in providing customers with valued professional service. Excellence in customer service will be realised through team effort and building mutually rewarding and respectful relationships with customers.

Sustainable Timber Tasmania will continue to manage the Permanent Timber Production Zone land in a sustainable and commercially viable manner to produce wood products and services that meet the requirements of Sustainable Timber Tasmania customers and for the benefit of the Tasmanian community generally.

Sustainable Timber Tasmania recognises its essential role in supporting a local forest industry that is committed to value adding, while obtaining a fair price for the forest products that it produces on the public's behalf.

Sustainable Timber Tasmania therefore aims to prioritise the sale of forest products to Tasmanian markets that process timber into valuable products and benefit the local economy through employment, business activity and the provision of goods and services. However, where there is no commercial opportunity to sell product into the domestic market, Sustainable Timber Tasmania will seek interstate and international markets.

All customers are provided with information on the source of forest products to satisfy any legal or chain of custody requirements that relate to forest certification.

4.3.6 Wood product innovations

An increasing reliance on younger regrowth forest will lead to a reduction in the amount of large-diameter logs suitable for traditional native forest-based sawmilling operations. This will coincide with an increase in the amount of plantation-grown timber, as the eucalypt plantation estate reaches maturity over the next 15 years. The future resource will therefore be comprised of smaller-diameter, faster-grown logs.

Sustainable Timber Tasmania recognises future market opportunities lie not just in sawn timber, but in the innovative products that may be created from timber, and harvesting and processing residues. Wood product innovations include laminated veneer lumber (LVL), cross laminated timber (CLT), and oriented strand board, as well as a range of biomass energy products such as pellets and biofuels. Sustainable Timber Tasmania will continue to investigate commercial opportunities for use of its forest products in such products and other emerging areas of interest.

4.4 Managing forest values

4.4.1 General approach

Sustainable Timber Tasmania manages a production forest estate that contains a diverse range of environmental, social and economic values. A comprehensive planning process is used to balance these often competing values.

Sustainable Timber Tasmania's management of forest values is comprised of the following approaches:

- Contributing to the multi-tenure Tasmanian Comprehensive, Adequate and Representative reserve system, by managing Sustainable Timber Tasmania's informal reserves.
- Implementing Sustainable Timber Tasmania's [Permanent Forest Estate Policy](#), which commits it to regenerating all harvested native forest, and does not permit broad-scale conversion to non-forest uses.
- Managing known environmental values, including high conservation values, through protection or management prescriptions.
- Using a comprehensive management system, which incorporates the forest practices system, to plan, implement and monitor forest operations. This includes identifying site-specific forest values and appropriate management strategies during operational planning.
- Using the Landscape Context Planning system to maintain landscape-level mature habitat and connectivity, and to disperse harvest operations over space and time.
- Using a GIS-based Management Decision Classification system to zone land and record identified special values and their management requirements.
- Managing a plantation estate that has been developed and is managed with due consideration of forest values.
- Using PTPZ land forest activity assessments for operations or activities not regulated under the forest practices system.

4.4.1.1 The Tasmanian Reserve Estate

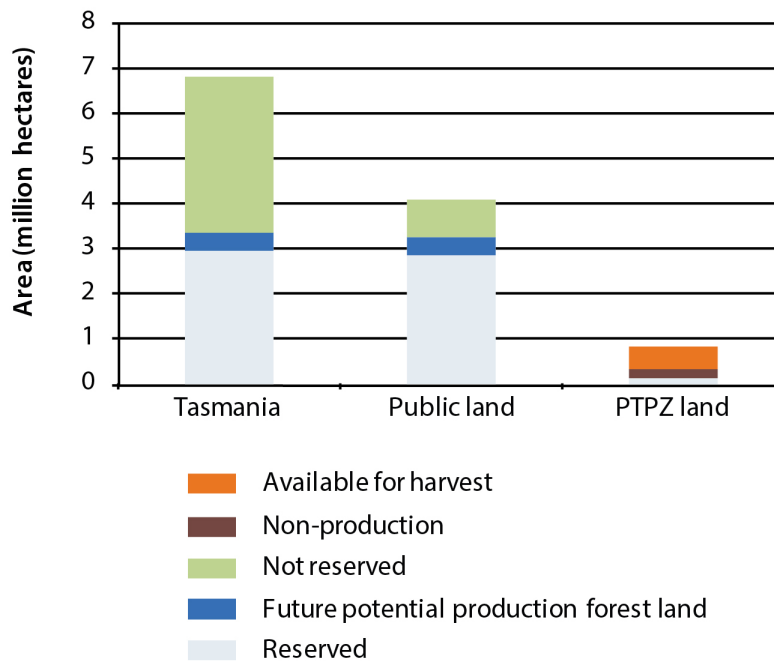
The Tasmanian Reserve Estate extends over land, inland waters, estuaries and marine areas. It includes gazetted (formal) and administrative (informal) reserves on public land, reserves on private land, and marine protected areas. A spatial representation and statistics of Tasmania's Reserve Estate are provided on DPIPWE's [website](#).

The DPIPWE website provides the authoritative source of information on the extent, type and distribution of the Comprehensive, Adequate and Representative reserve system in Tasmania. This reserve system is regularly monitored through State and national reporting programs to confirm it contributes to sufficient reservation of all vegetation communities and species, populations, and communities.

The Reserve layer indicated a reserved area of 3.4 million hectares, or about 50 per cent of the area of Tasmania, as at 30 June 2018. It is anticipated that the layer will be updated by DPIPWE to reflect the outcomes of recent legislative changes to land use.

A summary of the area covered in the Reserve system is provided in Figure 8. The majority of the CAR reserve system is located on land not managed by Sustainable Timber Tasmania. This arrangement has gradually evolved over the last 50 years, with land use agreements and government decisions determining that DPIPW is the most appropriate manager of land where forestry activities are generally not permitted.

Figure 8 : PTPZ land in context of reserved areas and other land use



4.4.1.1.1 Informal reserves

Sustainable Timber Tasmania presently manages approximately 120,000 hectares of land that is part of Tasmania’s Comprehensive, Adequate and Representative reserve system. These informal reserves include wildlife habitat strips, skyline reserves and many other set-asides designated to protect natural and cultural values on PTPZ land.

The Regional Forest Agreement recognises that informal reserves may be modified to meet forest management requirements, provided the overall level of protection of the Comprehensive, Adequate and Representative reserve system is maintained. Sustainable Timber Tasmania therefore has procedures in place to confirm that any modifications do not affect reservation levels and that values are being maintained. All changes to the area in informal reserves are reported in Sustainable Timber Tasmania’s [Annual Report](#). Historically, the informal reserve system has increased in area over time, and minimal alterations to established reserves have been made.

Sustainable Timber Tasmania’s informal reserve system may be viewed on the [interactive map viewer](#) on Sustainable Timber Tasmania’s website.

4.4.1.1.2 Non-production areas

In addition to informal Comprehensive, Adequate and Representative reserves, there are substantial areas of PTPZ land that are either not available for wood production, not harvested due to various constraints, or retained for the long term to contribute to mature habitat management at a landscape scale. Furthermore, at all stages of implementing the planning and operational framework (refer Figure 5), management decisions generally see a reduction in areas available for harvest (Figure 9). Although not formally recognised in the Comprehensive, Adequate and Representative system, these non-production areas make a significant contribution to maintaining environmental values on PTPZ land.

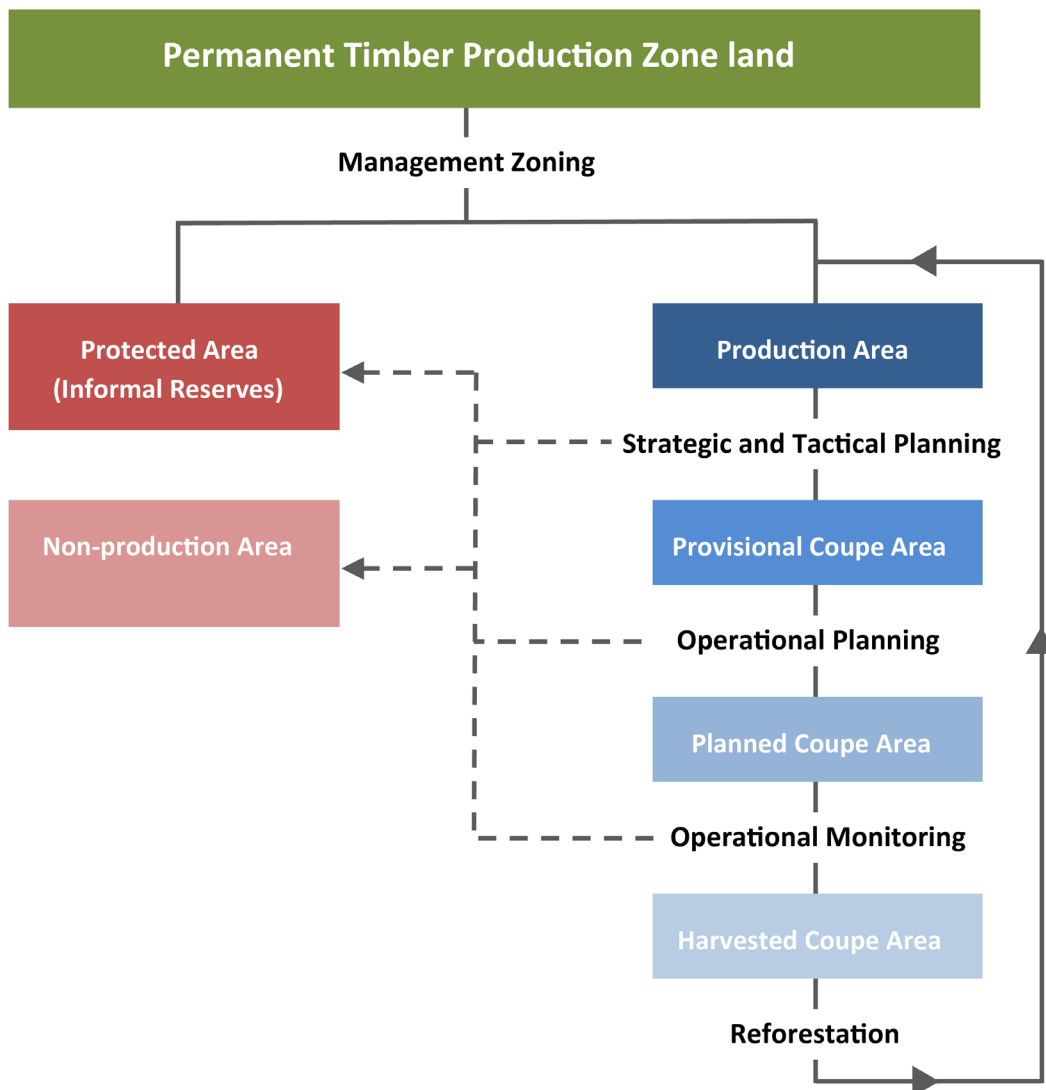
Non-production areas exist for one or more reasons:

- coupe-level prescriptions require the protection of some areas;
- there are known environmental, social or economic values that require protection at a stand and/or landscape scale;
- environmental values are found during operational planning and monitoring;
- the area does not contain a productive stand of timber;
- it is inaccessible due to topographical or road constraints; or
- it is unlikely successful regeneration could be established after harvest, such as in grassy forests in frost-prone areas.

Once identified, these areas are recorded on Sustainable Timber Tasmania's geographic information system, excluded from wood production and considered for either transfer to the Comprehensive, Adequate and Representative reserve system, or to a special management zone in the Management Decisions Classification system. Sustainable Timber Tasmania presently manage approximately 200,000 hectares of area not considered as available for wood production. Although it is possible that some of these areas could be used for wood production in future, the majority will remain unharvested.

Non-productive areas can be viewed on the [interactive map viewer](#) on Sustainable Timber Tasmania's website.

Figure 9: Process for identifying protection, non-production and production areas



4.4.1.2 Management Decision Classification System

Sustainable Timber Tasmania uses a GIS-based Management Decision Classification System to delineate management zones across PTPZ land. The Management Decision Classification System is a two-tiered zoning system that enables areas identified with particular environment, social or economic values to be zoned and managed in a way that protects, maintains and/or enhances those values.

Through this system all PTPZ land is allocated to one of two primary zones, which may be viewed on the Interactive map viewer on Sustainable Timber Tasmania's website:

- The **protection zone** includes land where the protection of identified special values is incompatible with wood production. This zone represents Sustainable Timber Tasmania's informal reserve system.
- The **production zone** includes native forest and plantation areas that are generally available for wood production. This area largely comprises 'provisional' coupes but also includes non-production areas.

Special management zones form the second tier of the Management Decision Classification System. A special management zone may be recorded against any area to indicate an identified value and to place particular emphasis on its management to ensure its protection. Values identified for management include, but are not limited to, natural and cultural heritage, other high conservation values, and apiary sites. More than one special management zone classification may be applied to a particular area to reflect the existence of multiple values.

Each special management zone classification identifies a management objective for that value and its respective prescription. Depending on the value being protected, prescriptions may or may not exclude timber harvesting.

The Management Decision Classification System is dynamic. Field surveys and subsequent planning decisions result in regular additions and updates to special management zones. All planning operations take into account the values recorded in the Management Decision Classification System.

4.4.1.3 Landscape context planning system

The Landscape Context Planning system is a GIS-based conservation planning system developed by Sustainable Timber Tasmania in 2014 to help implement biodiversity management at multiple spatial scales. This system uses mapped information on forest type, harvest boundaries and forest zoning, to inform, implement, and monitor habitat retention and coupe dispersal decisions at a landscape scale.

The Landscape Context Planning system provides planners with analytical tools and information to take a landscape approach to biodiversity management. This includes evaluating the context of harvest operations, in terms of the amount of habitat and the cumulative effect of past operations, in the surrounding landscape.

Sustainable Timber Tasmania is using the Landscape Context Planning system to achieve compliance against three key objectives for native forest management, applied at a mid-landscape and local landscape scale. The objectives are to:

- Manage mature habitat, including mature trees with hollows, standing dead trees and coarse woody debris, at the mid landscape scale. This is achieved by maintaining and recruiting appropriate levels of mature forest at a forest-block scale. The level of mature habitat to be maintained and recruited in each forest block is dependent on its mature habitat context, which is the degree of current mature habitat (quantity and quality) in the surrounding public forest landscape within the forest block. In forest blocks with a low levels of mature habitat context, the majority of extant mature habitat on public land will be maintained by setting restrictive harvest limits on the existing mature forest. Further information on this objective is available in STT's High Conservation Management Plan.
- Provide for mature (existing and/or potential) habitat at the local landscape scale. This is achieved by ensuring that at least 20 per cent of the public native forest within a one-kilometre radius of each coupe, harvested by clearfell or aggregated retention, is managed in reserves or in long term retention. Long term retention forest includes areas of native forest that will

not available for harvest for at least 100 years. They can include non-production areas that have been set-aside to protect environmental values, such as streamside reserves and wildlife habitat clumps. Where required, additional forest to be managed in long term retention are recorded in Sustainable Timber Tasmania's Management Decision Classification system as a special management zone. This objective is to be achieved in at least 90% of coupes, harvested by clearfell or aggregated retention, annually.

- Disperse harvest operations to mitigate potential effects on biodiversity, visual amenity, bushfire risk, soils, water-quality and flow, at the local landscape scale. This is achieved by ensuring that no more than 50 per cent of the public native forest within a one-kilometre radius of each coupe, harvested by clearfell or aggregated retention, is less than five years old at any one point in time.

Sustainable Timber Tasmania's biodiversity landscape objectives are implemented during tactical planning and operational planning. Achievement of these objectives is monitored in the Annual Report.

The Landscape Context Planning system is sufficiently powerful for a range of other uses. These include but are not limited to:

- scenario testing the application of alternative and new biodiversity landscape objectives and assessing its effect on wood production and biodiversity values;
- reporting on ecological attributes of a landscape, including as its forest age-structure and heterogeneity, forest maturity, habitat connectivity, and the cumulative effect of past operations of biodiversity values, at different spatial scales, such as forest blocks; and
- ensuring that Sustainable Timber Tasmania meets or exceeds the duty of care requirements under the [Forest Practices Code](#).

Sustainable Timber Tasmania will continue to explore opportunities to use the Landscape Context Planning system to apply a landscape approach to biodiversity management on PTPZ land.

Further information on Sustainable Timber Tasmania's Landscape Context Planning system is available on Sustainable Timber Tasmania's website.

Sustainable Timber Tasmania's landscape objectives are supported by a major landscape-level biodiversity study conducted in Tasmania and is consistent with current conservation paradigms. The landscape study, conducted in a 112,000-hectare area in southern Tasmania, found that forests with at least 20 per cent mature native forest in their surrounding one- to two-kilometre landscape are able to retain, and be recolonised, by species that inhabit mature forest, including those that are poor at dispersing. Hence Sustainable Timber Tasmania is confident that the Landscape Context Planning objectives, when implemented on all relevant coupes in PTPZ land, and combined with the existing Comprehensive, Adequate and Representative reserve system, will provide sufficient habitat for species, including

those dependent on mature forest habitat, to persist in, and to recolonise, local landscapes after harvest disturbance.

4.4.1.4 Plantations

Sustainable Timber Tasmania implemented a program to cease native forest conversion on PTPZ land in 2007. Its [Permanent Forest Estate Policy](#), with some small exceptions, now prohibits conversion of native forest to plantation or non-forest uses. The footprint of plantation on PTPZ land has therefore stabilised.

Sustainable Timber Tasmania's eucalypt plantations have been designed and established, and are managed, with due consideration for forest values.

The current spatial extent of Sustainable Timber Tasmania's eucalypt plantations has largely arisen from decisions influenced by the requirement to achieve biodiversity management outcomes at a landscape level. These included:

- The implementation of plantation site selection rules that did not allow for conversion of viable examples of threatened forest communities, rare or depleted old growth forest types, or important habitat of threatened species. The site selection rules allowed conversion of a limited amount of forest types that were well represented at the bioregional level in the CAR reserve system.
- The establishment of concentrated plantation nodes to avoid the development of isolated plantations amongst extensive native forest areas.; and
- The maintenance of corridors of native forest within plantation nodes to provide for connectivity with larger surrounding native forest areas.

All ongoing plantation operations must be planned and conducted to comply with the [Forest Practices Code](#), which amongst other aspects, has specific requirements for the management of biodiversity. These include prescriptions for reducing the risk of hybridisation between the exotic *E. nitens* and native eucalypts.

Most of Sustainable Timber Tasmania's eucalypt plantations are grown on relatively long rotations of about 25 years. These plantations can therefore develop some structural elements similar to those of young native eucalypt forests. This arises through the adoption of eucalypt species as the main commercial crop, and through the natural establishment of a native understorey layer, often somewhat simplified, during the plantation's rotation. Such plantations provide some biodiversity habitat, which can make a contribution to species persistence, particularly when situated among highly modified landscapes such as agricultural land. In planning harvesting sequences, consideration will be given to maintaining connections between any native vegetation remnants by maintaining links of advanced plantation growth.

4.4.1.5 The forest practices system

Forest operations conducted by, or on behalf of, Sustainable Timber Tasmania are regulated by the forest practices system. The system is administered by the Forest Practices Authority, an independent statutory body established under the Forest Practices Act. The system operates primarily through the [Forest Practices Code](#) but also takes into account other legislation, policies, and agreements. The Code

requires special provisions to be made to manage identified biodiversity, geodiversity, cultural heritage, and visual landscape values in all forest operations.

The forest practices system is based on a co-regulatory approach. The Forest Practices Authority coordinates training for forest industry workers including Sustainable Timber Tasmania staff, providing them with the skills to plan, supervise and/or monitor operations. The Forest Practices Authority is available to provide advice on regulatory and technical issues as required and independently audits and enforces compliance with the Act and Code.

All forest operations must be carried out in accordance with a legally binding certified forest practices plan. A forest practices plan sets out the prescriptions for how operations will be conducted in accordance with the provisions in the [Forest Practices Code](#). Only a forest practices officer who has been accredited by the Forest Practices Authority may certify the plan. The Forest Practices Authority accredits forest practices officers once they have undertaken training and met specific proficiency requirements, including a minimum amount of forest industry experience.

The forest practices system provides Sustainable Timber Tasmania's planners with training, procedures, a suite of tools and specific advice to assist in the development of a forest practices plan. Plan development involves extensive on-site assessments, as well as existing database interrogation to identify special values. The system then provides endorsed planning tools and specialist advice on the best ways of managing these values.

Operations are then closely monitored against the prescriptions set out in the plan and modified where necessary. When an operation is completed, forest practices officers lodge a certificate of compliance with the Forest Practices Authority. The certificate details the way in which the operation has complied with the forest practices plan.

The Forest Practices Authority closely monitors the performance of forest practices officers, provides regular training and conducts regular coupe assessments to make sure the integrity and high standards of the system are maintained.

Sustainable Timber Tasmania recognises the importance of the role of the forest practices system in achieving its strategic objectives. Sustainable Timber Tasmania complies with the system by providing trained personnel, ensuring plans are developed to high standards, and operations are monitored appropriately. Sustainable Timber Tasmania also contributes to the ongoing improvement of the forest practices system through its role on the Forest Practices Advisory Council.

More information on the Forest Practices Authority's regulatory mechanisms may be located on its [website](#).

4.4.1.6 Forest activity assessments

Sustainable Timber Tasmania uses the forest activity assessment process to assess activities it has control over but that are not covered by the Tasmanian forest practices system, which only covers harvesting, establishing forests, and constructing roads and quarries.

Activities covered by the forest activity assessment process may be proposed by Sustainable Timber Tasmania or other users of PTPZ land. Where these activities are proposed by third parties, Sustainable Timber Tasmania requires proponents to demonstrate to Sustainable Timber Tasmania that they have sought to identify and engage with potentially affected stakeholders.

The activity assessment process allows Sustainable Timber Tasmania to assess the forest values, potential effects, and compliance requirements of proposed activities such as recreational events, lease applications, research projects, and construction developments. Where approvals are granted, legally binding prescriptions are put in place to reduce risks to forest values.

4.4.2 Managing specific forest values

4.4.2.1 Biodiversity

PTPZ land covers a range of forest and vegetation types in various successional stages that support a large diversity of species and communities.

Habitat diversity is determined by the variation in soils and topography across the landscape, coupled with the frequency and pattern of disturbance events, principally bushfire and harvesting. Different successional stages of forest provide habitat for different species and communities, which are in a perpetual cycle of disturbance and recovery. Species persist in landscapes because there is sufficient habitat to maintain a source population, which can disperse and colonise suitable habitat as it becomes available, which in turn can become the next source population.

Sustainable Timber Tasmania has a range of mechanisms in place to manage for biodiversity values, and these are described in the following sections of this plan. Sustainable Timber Tasmania's biodiversity management procedures cater for the identification and management of significant biodiversity values as defined and required by the Australian Forestry Standard, and for High Conservation Values as defined by the Forest Stewardship Council.

Sustainable Timber Tasmania's native forest management is guided by natural forest disturbance cycles, thus enabling the ecological processes that allow species to persist in the landscape to continue. This is done by:

- maintaining a range of forest types and growth stages in both the local and wider landscape, including an informal reserve network in the Comprehensive, Adequate and Representative reserve system;
- retaining legacy habitats such as coarse woody debris and hollow-bearing trees across different spatial scales, which includes maintaining non-production areas including long term retention forest; and
- harvesting and regenerating all areas of native forest in accordance with a forest practices plan.

4.4.2.1.1 Threatened species and communities

Sustainable Timber Tasmania manages threatened species, communities and habitats in accordance with the Tasmanian Regional Forest Agreement, relevant legislation and the forest practices system.

Tasmania's Comprehensive, Adequate and Representative reserve system includes viable examples of all forest type communities, including an old growth representation of each forest community as identified in the Regional Forest Agreement, and provides for the core protection for threatened communities and species. Conservation outside reserves is achieved through regulation, primarily delivered through the forest practices system, and voluntary mechanisms that include government programs and market-based incentives such as forest certification schemes.

Sustainable Timber Tasmania uses established procedures to identify and manage threatened species and habitat. These procedures incorporate field surveys, searches of spatial conservation databases, use of Forest Practices Authority endorsed planning tools, and where required, the seeking of specialist advice.

Where threatened species or habitats are identified, operational planning may exclude these values from harvest and prescriptions are incorporated into the forest practices plan to manage these values during operations. The prescriptions used by Sustainable Timber Tasmania for many threatened species have been developed by species experts and have been endorsed under the forest practices system.

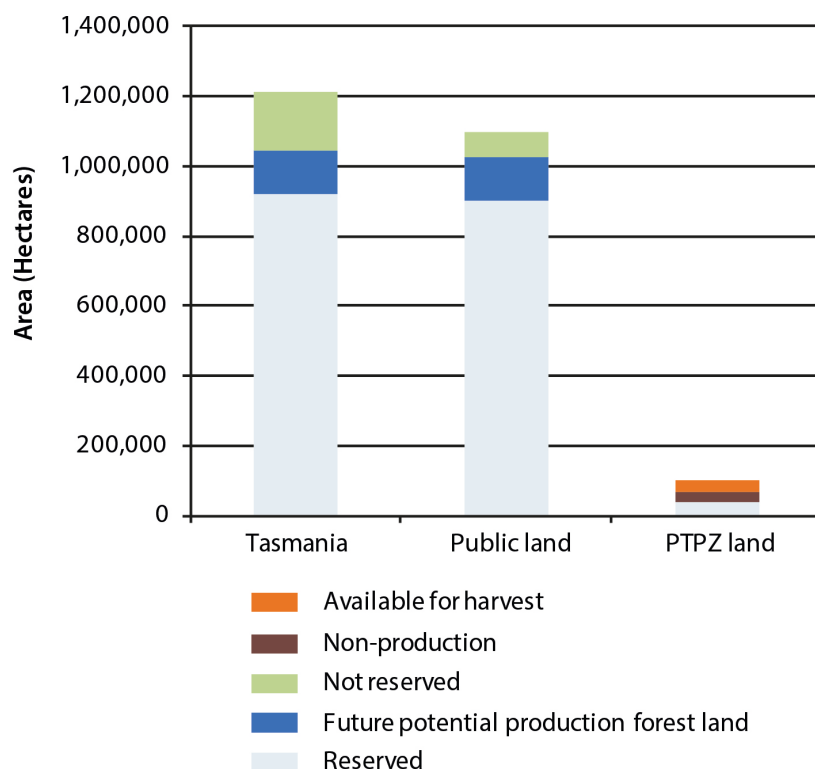
Where appropriate, strategic management plans to manage nominated threatened species and their habitat are prepared in collaboration with DPIPW and the Forest Practices Authority.

4.4.2.1.2 Old growth forests

Old growth forests are mature forests where the effects of any previous disturbance are now negligible. They provide a range of tree sizes, large diameter logs, trees with hollows and late-successional plants such as rainforest. Their aesthetic and cultural values are important to the Tasmanian community, and they also provide important high-quality eucalypt sawlogs and special species timber to the timber industry.

Tasmania has 1.2 million hectares of forest classified as old growth. Eighty-five per cent of Tasmania's old growth forest is in the Comprehensive, Adequate and Representative reserve system. Figure 10 provides a summary of old growth reservation in Tasmania. This area exceeds the Tasmanian Government's obligation to reserve at least 60 per cent of old growth forest under Australia's nationally agreed reserve criteria, with less than four per cent (35,000 hectares) available for harvest on PTPZ land.

Figure 10: Old growth forest in context of reserved areas and other land use



Very limited harvesting of old growth forest occurs on PTPZ land, with small amounts required to meet both special species timber and high-quality eucalypt sawlog requirements. Sustainable Timber Tasmania has developed systems that maintain elements of older forest in the harvested landscape.

These include:

- Procedures to protect old growth communities identified as being rare or depleted
- Implementation of the Landscape Context Planning system to retain mature habitat at the local (1 km context) and mid-landscape (forest block) scale.
- Where appropriate, variable retention harvesting and other forms of partial harvesting to maintain old growth elements within the harvested area.
- Group and single-tree selection in special species timber production areas.

In July 2015, Sustainable Timber Tasmania made the decision to phase out of clearfelling Coupes Containing Old Growth (defined as coupes with greater than 25% by area of mapped old growth forest). Since 2016/17, no Coupes Containing Old Growth have been harvested by clearfelling.

4.4.2.1.3 Giant trees

Tasmania's giant trees are among the largest hardwoods in the world and are of national and international significance. Giant trees are not protected by legislation in

Tasmania or covered specifically by the Forest Practice Code. However, Sustainable Timber Tasmania recognises the cultural value of these trees and, through its [Giant Tree Policy](#), requires that all trees at least 85 metres in height or 280 cubic metres in volume be protected. Sustainable Timber Tasmania implements this policy by actively searching for giant trees with LiDAR, and by protecting them from harvesting in reserves with boundaries at least 100 metres from the tree.

4.4.2.1.4 Biodiversity monitoring and research

Sustainable Timber Tasmania has, and continues to, contribute to a range of biodiversity monitoring initiatives.

Sustainable Timber Tasmania conducts routine condition surveys of protected areas. These surveys enable assessment of the effectiveness of prescriptions for habitat retention that have been applied at strategic and operational levels. Sustainable Timber Tasmania also conducts specific biodiversity monitoring projects that complement the Forest Practices Authority biodiversity monitoring program.

Sustainable Timber Tasmania supports and contributes to the Forest Practices Authority's biodiversity monitoring program. The Forest Practices Authority prioritises and implements programs for monitoring the effectiveness of implemented provisions for both general biodiversity management and for management of specific threatened species and communities. This program is part of a wider monitoring program that the Forest Practices Authority implements. Further information on the Forest Practices Authority's monitoring program can be found on its website and in the *Monitoring, reporting, review and continual improvement* section of this plan.

Sustainable Timber Tasmania supports and contributes to other project-specific research conducted by scientists at the University of Tasmania and other research institutions. This has included research exploring the use of new biodiversity monitoring technologies, such as bird monitoring using bioacoustic technology, predicting forest maturity and floristic composition using LiDAR data, and using DNA metabarcoding for invertebrate identification.

Sustainable Timber Tasmania has concentrated much of its biodiversity monitoring and research at the Terrestrial Ecosystem Research Network Warra Tall Eucalypt SuperSite – Australia's oldest Long Term Ecological Research site. Warra was established in 1995 as a place to undertake internationally recognised, intensive, site-based scientific research to monitor, measure and model ecological processes in harvested and unharvested environments. This research has included detailed baseline monitoring of biota, including the cryptic species, and multidisciplinary research that monitors the response of biota to natural wildfire disturbance processes compared to different silvicultural systems.

Sustainable Timber Tasmania supports five established long-term scientific studies at the Warra site:

- ***Silvicultural systems trial***. This trial evaluates the responses of key elements of the biodiversity to alternative harvesting methods, specifically differing types of forest retention strategies (clearfell, aggregated retention, dispersed retention, group selection).

- **Wildfire chronosequence.** This trial monitors how the structure of the forest, and how key elements of the biodiversity, change with time after bushfires.
- **Warra carbon flux tower and SuperSite.** This trial monitors how the physiological response of forests and associated carbon fluxes change in response to fluctuations in the seasonal climate.
- **Log decay study.** This study compares the succession of saproxylic (wood-loving) beetles colonising large and small logs from mature and regrowth trees, respectively.
- **Baseline altitudinal monitoring plots.** This project monitors biodiversity along an altitudinal gradient. This will enable the measurement of the impacts of climate change on flora and fauna.

Warra continues to provide a significant source of knowledge on biodiversity in Tasmania's forests. Sustainable Timber Tasmania uses the results of biodiversity research at Warra and its surrounds to improve its management practices across PTPZ land. Both the variable retention silviculture and Landscape Context Planning system initiatives were developed from research at this site.

4.4.2.2 Water, soils and geodiversity

4.4.2.2.1 Water

Streams on PTPZ land can provide an important source of water for domestic and agricultural use, habitat for native species, and recreational opportunities.

Unless managed properly, forest operations have the potential to negatively affect both water quantity, through their influence on the density and age of vegetation, and water quality, which can be affected by stream crossings, soil disturbance and chemical applications. Wildfire can also have a serious effect on water quality and quantity.

Sustainable Timber Tasmania employs a range of strategies and management prescriptions to minimise negative effects on water quality during forest operations. These include the prescriptions and guidelines set out in the [Forest Practices Code](#), such as protection of watercourses through establishing streamside reserves, guidelines for road building, and guidelines for harvesting in water supply and other significant catchments. The [Forest Practices Code](#) complies with the State policy on Water Quality Management.

As part of Sustainable Timber Tasmania Three Year Wood Production Planning process, stakeholders are encouraged to contact Sustainable Timber Tasmania as early as possible if they have any concerns or issues related to water quality and quantity that they believe will need to be addressed in the development of detailed operational plans.

4.4.2.2.2 Geology and soils

Tasmania has a diverse range of geological features, landforms and soils, which, in addition to their intrinsic value, underpin biodiversity and are vital for forest health and productivity. Conservation of this geodiversity, or 'geoconservation', is an essential component of managing the natural values on PTPZ land.

Soils, geology, and geomorphological features are assessed when preparing a forest practices plan for any forest operation. The [Forest Practices Code](#) guides the planning and conduct of forest operations on specific soil conditions and types of geology, so that soil damage, such as compaction and erosion, is minimised. In addition to applying operational prescriptions and practices, some areas require special management, or are left unharvested due to their geoconservation value, and or their sensitivity to disturbance.

4.4.2.2.3 Managing pesticide use

4.4.2.2.3.1 Pesticide use policy

Pesticides can play an important role in efficiently and effectively establishing and maintaining healthy and productive forests. However, if used inappropriately, pesticides can also cause significant environmental, social and economic harm. Sustainable Timber Tasmania recognises that any use of pesticides must be undertaken with due consideration of the potential for both negative and positive outcomes.

Sustainable Timber Tasmania's approach to pesticide use is described in its [Pesticide Policy](#).

Sustainable Timber Tasmania aims to minimise and, where possible, avoid the need for pesticide use by implementing integrated pest management approaches, adopting appropriate silvicultural techniques, and conducting research into more benign alternatives. Pesticides are used only when alternative approaches to the management of pests are not feasible or effective.

Sustainable Timber Tasmania's pesticides policy restricts chemicals used in field operations to those approved by [Australian Pesticides and Veterinary Medicines Authority](#), Australian Forestry Standard, and Forest Stewardship Council processes.

In accordance with its Pesticide Policy, Sustainable Timber Tasmania has obtained Forest Stewardship Council approval for the limited continued use of alpha-cypermethrin as part of the leaf beetle integrated pest management program (refer to *Forest health* section of this plan). The FSC approval process requires the forest manager to:

- demonstrate the need to use the chemical;
- specify the management controls that will be in place when the chemical is used;
- identify programs that are in place to find alternatives to the chemical; and
- conduct public consultation on the proposed use.

4.4.2.2.3.2 Planning, operations and monitoring

Sustainable Timber Tasmania annually publishes its potential silvicultural chemical application program prior to the application season so that:

- stakeholders are fully informed about the areas that are likely to be subject to a chemical application;

- stakeholders can advise if they have specific concerns in relation to chemical applications in specific coupes;
- stakeholders can register their interest in being informed about any future operations on those coupes; and
- issues identified by stakeholders are taken into account in the planning and decision making relating to specific coupes.

The planning of chemical applications is designed to meet the desired pest control outcome whilst minimising any adverse effects. Sustainable Timber Tasmania aims to minimise any adverse effects by:

- conducting risk assessments as appropriate to assist in developing appropriate operational prescriptions;
- complying with the [Forest Practices Code](#), the [Code of Practice for Aerial Spraying](#), the [Code of Practice for Ground Spraying](#), and respective chemical label requirements;
- checking that personnel have the required licenses or training to conduct chemical operations; and
- taking into account any issues or concerns raised by stakeholders.

For each operation, a plan is developed that identifies the appropriate chemical mix and application method, prescribes suitable weather conditions and specifies buffer areas. The plan also identifies stakeholders and neighbours who are required to be informed of the operation on the day prior to any spraying operation.

For broad-acre spraying operations, plan prescriptions are informed by conducting a risk assessment with the [CSIRO-developed Pesticide Impact Rating Index](#) (PIRI). PIRI is a tool that models the site-specific risk of a chemical's mobility and toxicity when applied under different environmental conditions. PIRI enables the operation planner to reduce the risks involved with the chemical application.

Spraying operations are carried out by registered agricultural pesticide spraying contractors. Operations are closely monitored to confirm compliance with the plan. Global Positioning System (GPS) paths record the actual areas that were sprayed, and these can be checked to ensure that buffer zones were excluded and that the target areas were treated.

Sustainable Timber Tasmania conducts water quality monitoring to check that chemicals have not entered waterways adjacent to spraying operations. Routine sampling is undertaken for operations occurring near sensitive areas (e.g., endangered species habitat, domestic water out-takes, organic farms, or aquaculture enterprises), or operations that have been assessed as medium or high risk by PIRI. A random sample of 10 per cent of spray operations assessed as low risk by PIRI is also sampled. Stream samples are taken by Sustainable Timber Tasmania trained staff and delivered to an accredited laboratory for independent analysis.

Sustainable Timber Tasmania also has set procedures in place for managing fuel and chemical spills. All accidental spills of fuels or chemicals are recorded and managed.

Sustainable Timber Tasmania reports its chemical use, water quality monitoring results and the occurrence of any significant spills in its [Annual Report](#).

4.4.2.3 Carbon

Sustainable Timber Tasmania recognises the significant role of forests in the global carbon cycle.

Sustainable Timber Tasmania's Forest Carbon Policy commits the organisation to maintaining the carbon storage capacity of PTPZ land forests. Carbon storage capacity is maintained by managing the forest in accordance with sustainable yield calculations, maintaining Sustainable Timber Tasmania's informal reserve system, and harvesting and regenerating forests in accordance with forest practices plan prescriptions.

Carbon stocks on PTPZ land are estimated at five-yearly intervals coinciding with the five-year sustainable yield wood reviews.

Sustainable Timber Tasmania's most recent estimate of present and future carbon stocks on PTPZ land was undertaken in 2017. The estimate predicts carbon stocks in standing trees until 2050. The estimate was undertaken using the same methodology as previously, which was initially prepared by the MBAC Consulting Group in 2007.

Present standing tree carbon stocks are estimated to be 79 million tonnes. It is predicted that carbon stocks will remain in a fairly steady state until about 2025, before increasing to approximately 90 million tonnes in 2050. The estimate shows that reductions in carbon associated with harvesting are offset by growth in the forest as a whole.

The estimate does not consider the effect of landscape-level wildfire on carbon stocks. Such fires are a natural phenomenon and have the potential to significantly reduce existing carbon stocks in the short term. The scheduled five-yearly reviews will include the effects of any such events in future carbon stock estimates.

Sustainable Timber Tasmania actively promotes the use of wood products from sustainably managed forests as a contributor to climate change mitigation. An important way to limit greenhouse gas emissions through forest management is to displace the burning of fossil fuels through the utilisation of wood products over alternative, more greenhouse gas-intensive materials, a process commonly referred to as the substitution effect.

4.4.2.3.1 Managing fossil fuel emissions

The main energy inputs used in Sustainable Timber Tasmania's business activities are fuel (unleaded petrol and diesel) for the transport of staff and equipment, and electricity to power buildings and offices. Sustainable Timber Tasmania endeavours to reduce these emissions by implementing a Vehicle Selection Policy that considers the emissions ratings of fleet vehicles. Sustainable Timber Tasmania monitors and reports on fossil fuel carbon dioxide emissions in its [Annual Report](#).

The transport of products from the forest to customers also generates fossil fuel emissions. Much of this transport is conducted by a variety of contractors, which

makes direct monitoring of emissions difficult to administer. However, Sustainable Timber Tasmania's harvest scheduling tools ensure distances between coupes and product destinations are minimised. The rate paid to haulage contractors is determined on the shortest appropriate cart route between the forest and the customer.

In cases of longer-haul transport, Sustainable Timber Tasmania continues to seek and implement opportunities for more efficient transport, such as rail and larger payload vehicles. Presently, the State rail system is utilised to transport many of Sustainable Timber Tasmania's products from the south of the State to the export terminal at Bell Bay in northern Tasmania.

4.4.2.4 Landscape and visual amenity

Tasmania's forests make an essential contribution to the scenic beauty of the State. Sustainable Timber Tasmania recognises the potential effect of its management activities on the appearance of Tasmania's landscapes and visual amenity.

Sustainable Timber Tasmania takes landscape values into account during the development of forest practices plans for harvesting operations. It has a visual management system that enables planners to rate the scenic importance of an area and to identify appropriate prescriptions to protect visual amenity. When identifying such prescriptions, planners are guided by the Forest Practices Authority's *Manual for forest landscape management*, which provides forest managers with a comprehensive range of principles, procedures and practices to accommodate visual amenity in managed forests.

4.4.2.5 Cultural heritage

Sites of Aboriginal and European cultural heritage significance are located on PTPZ land.

Sustainable Timber Tasmania manages cultural heritage consistent with the *Forest Practices Act 1995*, *Aboriginal Heritage Act 1975*, *Historical Cultural Heritage Act 1995*, and the *Australia ICOMOS Burra Charter, 2013 (Burra Charter)*. The *Aboriginal Heritage Act 1975* protects all Aboriginal sites and it is an offence to destroy damage, deface, conceal or otherwise interfere with an Aboriginal relic or artefact without a permit from the relevant Minister.

Refer to the *Indigenous use rights* section of this management plan for Sustainable Timber Tasmania's approach to Aboriginal community engagement and access arrangements. Cultural heritage sites are currently identified by consulting existing databases and conducting field-based archaeological surveys. Sustainable Timber Tasmania's [Aboriginal Heritage Policy](#) commits the organisation to provide training to staff to enable identification of Aboriginal heritage. Information on all identified sites of cultural significance are provided to the Forest Practices Authority and Aboriginal Heritage Tasmania for inclusion in statewide databases. Sustainable Timber Tasmania recognises that the existence and location of sites need to remain confidential, and has procedures in place to ensure that this occurs.

Sustainable Timber Tasmania manages cultural heritage sites with management prescriptions specific to the nature of the site. Prescriptions have been developed

and agreed to by a working group that consisted of cultural heritage experts including Aboriginal Heritage Tasmania. Aboriginal cultural heritage is managed in accordance with the Forest Practices Authority's *Procedures for managing Aboriginal cultural heritage when preparing Forest Practices Plans*. Non-Aboriginal cultural heritage is managed in accordance with the *Procedures for managing historic cultural heritage when preparing Forest Practices Plans*. These procedures emphasise the requirement to seek expert advice where necessary. Sustainable Timber Tasmania's [Aboriginal Heritage Policy](#) commits it to fostering positive and respectful relationships with local Aboriginal communities and relevant statutory bodies and agencies to inform and guide forest planning and management activities.

4.4.2.6 High conservation values

The forests of Tasmania, including those that are managed by Sustainable Timber Tasmania contain a wide range of natural and cultural values, some of which are especially significant, and can be considered as having high conservation value.

Sustainable Timber Tasmania assesses and monitors the extent and significance of natural and cultural values, including high conservation values across its estate, and actively manages these values in conjunction with its timber production operations.

Sustainable Timber Tasmania has undertaken an evaluation to determine the existence of high conservation values in Tasmania and on PTPZ land. This evaluation was undertaken utilising internationally recognised high conservation value categories, and was guided by Annexe G of the Forest Stewardship Council National Forest Stewardship Standard of Australia.

There are six HCV categories:

- **HCV 1:** Species diversity. Concentrations of biological diversity including endemic species, and rare, threatened or endangered species, that are significant at global, regional or national levels.
- **HCV 2:** Landscape-level ecosystems and mosaics. Intact Forest Landscapes and large landscape -level ecosystems and ecosystem mosaics that are significant at global, regional or national levels, and that contain viable populations of the great majority of the naturally occurring species in natural patterns of distribution and abundance.
- **HCV 3:** Ecosystems and habitats. Rare, threatened, or endangered ecosystems, habitats or refugia.
- **HCV 4:** Critical ecosystem services. Basic ecosystem services in critical situations, including protection of water catchments and control of erosion of vulnerable soils and slopes.
- **HCV 5:** Forest areas fundamental to meeting basic needs of local communities (e.g. subsistence, health).
- **HCV 6:** Cultural values. Sites, resources, habitats and landscapes of global or national cultural, archaeological or historical significance, and/or of critical cultural, ecological, economic or religious/sacred importance for the traditional cultures of local communities or Indigenous Peoples, identified through engagement with these local communities or Indigenous Peoples.

The HCV identification process and a summary of the identified HCVs and their respective management prescriptions are provided in Sustainable Timber Tasmania's High Conservation Value Assessment and Management Plan.

Sustainable Timber Tasmania undertakes an ongoing program of verification and monitoring of high conservation values so that its management of these values is effective.

4.4.2.7 Ecosystem services

STT's forest management supports a range of ecosystem services that provide benefit to local communities. These include:

- Biodiversity conservation, see 4.2.1.4, 4.4.1.1 and 4.4.2.1;
- Water protection, see 4.4.2.2;
- Soil conservation, see 4.4.2.2.2, 4.4.2.2.3 and 4.5.2.2.2;
- Carbon sequestration and storage, see 4.4.2.3;
- Visual amenity, see 4.4.2.4;
- Cultural services, see 4.4.2.5;
- Pest and disease regulation, see 4.5.2; and
- Recreational services, see 4.6.2.

Many of these ecosystem services correspond with the High Conservation Values identified and managed in accordance with STT's High Conservation Value Assessment and Management Plan.

4.5 Forest protection

4.5.1 Fire management

4.5.1.1 Bushfire management

Fire is a natural part of forest life cycle, but it can also be a threat to human life and property. Likewise, fire can have advantageous and deleterious effects on ecosystem health.

There are many causes of bushfires, including lightning, arson and carelessness. Lightning causes only a small proportion of the fires on PTPZ land, with the majority being caused by people. Bushfires are highly variable in terms of the area burnt, fire intensity and duration, all of which depend on interactions among weather conditions, topography and fuel load, fuel type, and arrangement.

As a land manager, Sustainable Timber Tasmania has a responsibility to control and extinguish unplanned bushfires that occur on PTPZ land. Sustainable Timber Tasmania also has the authority to control or extinguish fires within three kilometres of PTPZ land. Protection of life, property, community assets and forest resources are the priorities for Sustainable Timber Tasmania when fighting bushfires.

Sustainable Timber Tasmania aims to:

- Minimise the occurrence and impacts of bushfires.
- Minimise the severity of bushfires through strategic fuel reduction burning.
- Maximise Sustainable Timber Tasmania's readiness to respond to bushfires.

- Minimise the severity of bushfires through coordinated, effective and efficient responses.
- Promote forest recovery after fires.

Sustainable Timber Tasmania organises its fire management activities following Preparedness, Prevention, Response and Recovery (PPRR) principles.

Preparedness includes maintaining appropriate firefighting capacity. This involves:

- Preparation of fire management plans.
- Appropriate allocation and training of human resources including contractors.
- Development, purchase, maintenance and ensuring access to equipment such as tankers, pumps, machinery and aircraft.
- Construction and maintenance of fire trails, fuel breaks and reliable water storages.
- Providing appropriate levels of training.
- Preparation of fire action plans, including providing the appropriate allocation of human resources.

Prevention includes activities designed to minimise the incidence and severity of bushfire. This includes:

- Monitoring for fires from fire lookouts, detection flights and ground patrols.
- Reducing fuel loads at both local and landscape scales through prescribed burning.

Response includes the reaction to identified fires. This involves:

- Fire suppression activity.
- Investigation and assessment of bushfire events.
- Working closely with other agencies so that all fires are responded to appropriately.

Recovery encompasses the multitude of post-fire activities. These include:

- On-ground rehabilitation of fire-affected areas.
- Reviewing the effectiveness of prevention, preparedness and response procedures and implementing any changes arising from these reviews.

Effective bushfire management requires a coordinated, cooperative and tenure-blind approach from all involved parties. The sharing of resources, knowledge and technology results in a statewide approach and can address fire management issues that would otherwise be beyond the scope of an individual agency's capabilities.

Therefore, Sustainable Timber Tasmania has relationships and arrangements with other agencies and fire management authorities. These include:

- An inter-agency protocol between Sustainable Timber Tasmania, the Tasmania Fire Service, and the Parks and Wildlife Service so that regardless of tenure, appropriate resources are allocated to all Tasmanian bushfires and a strategic approach to fire preparedness and prevention is achieved.
- Being a member of the State Interoperability Reference group, which aims to build emergency management capability through the sharing of skilled resources between agencies during emergencies.

- Being a member of the Tasmanian [State Fire Management Council](#), whose main functions are to provide bushfire management advice to the Minister and to develop a State Vegetation Fire Management Policy that is to be used for the basis of all fire management planning.
- Being a member the Tasmanian Forest Industry Fire Management Committee, which is comprised of public and private forest companies. The committee agrees to and monitors industry-wide fire management standards.
- Contributing to national initiatives through membership of the [Australasian Fire and Emergency Services Authorities Council](#) and the [Bushfire and Natural Hazards Cooperative Research Centre](#).

4.5.1.2 Planned burning

Sustainable Timber Tasmania uses planned burns as part of its annual work program to achieve a range of fuel reduction and forest regeneration objectives.

Fuel reduction burning is undertaken to:

- provide protection to communities and assets from the potential impacts of bushfire;
- reduce fuel levels and create some seedbed in partially harvested coupes while minimising damage to retained stems; and
- maintain the health of fire-dependent vegetation communities.

This fuel reduction burning uses low-temperature fires that are not designed to kill standing trees or entirely burn the forest floor.

Post-harvest forest regeneration burning is undertaken to:

- stimulate the regeneration of harvested wet eucalypt forests by reducing fuel levels and creating a nutrient-rich seedbed for seed germination; and
- reduce fuel levels and optimise planting space in plantation site preparation operations.

This regeneration burning uses higher-intensity burns, which are designed to generate high temperatures to achieve the desired fuel reduction and seedbed preparation outcomes. These fires also create intense convection currents that draw the fire into the centre and away from the boundary of the area being burned. This both protects surrounding land and increases safety. The convection currents also assist in reducing potential smoke pollution in local communities by directing the smoke into high-altitude air currents.

All burning operations are planned to safely achieve their respective burn objectives and to minimise the risk of adverse environmental and social outcomes. Trained staff follow well-researched and established procedures when planning and conducting burns.

Sustainable Timber Tasmania recognises that planned burns have the potential to cause community concern and disruption, and has therefore developed smoke management and engagement procedures designed to minimise the potential that these outcomes will occur.

4.5.1.2.1 Smoke management

Smoke is an inevitable product of both bushfire and planned burning. Sustainable Timber Tasmania is committed to minimising the effects of burning operations on the Tasmanian community in accordance with the [Forest industry standard for prescribed silvicultural burning practice](#), which forms part of the [Coordinated Smoke Management Strategy](#) (CSMS). The CSMS is managed by the Forest Practices Authority and was developed in collaboration with the Environmental Protection Authority.

The CSMS uses a model that sets recommended limits for smoke release into each identified Tasmanian 'air shed'. The limits are calculated using Bureau of Meteorology models that consider current atmospheric conditions regarding ventilation and inversion, as well as daily smoke dispersion predictions.

Participants work together to minimise public disruption arising from their aggregated respective burn programs. On a daily basis during the burning season, CSMS participants use the model's recommended limits to inform decisions about the appropriateness and extent of any proposed planned burning.

Key components of the CSMS include:

- not conducting burns on days in which poor smoke dispersion is likely and will affect communities;
- avoiding conducting burns that may affect significant public events; and
- endeavouring for burns to take place when forecast weather conditions indicate the smoke will be dispersed away from settled areas.

It should be noted that as of 2014, the Coordinated Smoke Management Strategy only applies to burns carried out by the forest industry and Parks and Wildlife Service. Other agencies and private landholders also conduct burns outside of these arrangements. It is also only in place over the autumn period, which is when the majority of burns are conducted.

4.5.1.2.2 Planned burn stakeholder engagement procedures

Sustainable Timber Tasmania uses a range of mechanisms to engage and notify stakeholders and the wider community about planned burns. These include:

- Notification of and engagement with immediate neighbours and other directly affected stakeholders at the planning stage.
- Publication of the planned burn program on the 'What's Burning Now' map
- Through agreed protocols with the tourism and wine industries
- Public notices in newspapers
- Notification of immediate neighbours, and other stakeholders who have registered with us, of our intention to burn on the planned day
- Twice daily media and Facebook advice during the burning season
- Displaying daily updates of locations of Sustainable Timber Tasmania's current planned burns on the 'What's Burning Now' map maintained by the Tasmanian Fire Service.
- .

4.5.1.2.3 Monitoring the planned burn program

Sustainable Timber Tasmania uses air quality monitoring stations to monitor air pollution from burns conducted by the forest industry and private landowners. This system is known as [Base Line Air Network Tasmania](#) (BLANKET) and is managed by the Environment Protection Authority (EPA). This network supplies real time estimates of standard air quality measures (PM₁₀ and PM_{2.5}), thus allowing Sustainable Timber Tasmania to monitor the amount of smoke or dust in the atmosphere near each station.

Sustainable Timber Tasmania uses BLANKET to monitor and estimate the extent of any degradation of air quality arising from all forms of prescribed burning. This information strongly influences the scheduling process for the remaining burn program and enables Sustainable Timber Tasmania to notify the community in the event of poor air quality.

Sustainable Timber Tasmania also takes seriously any complaints made by the public about the air quality impacts of planned burning. All complaints received are investigated by Sustainable Timber Tasmania. Complaints are also forwarded to the Environment Protection Authority, who records all complaints regardless of source.

Sustainable Timber Tasmania reviews and reports on the effectiveness of its smoke management each year. This process helps to determine whether it has contributed to air pollution or caused community concern, and to identify how it can improve in future.

4.5.2 Pest and disease management

Pest species have the capacity to rapidly increase in abundance and cause severe damage to forest communities and/or affect land use activities on neighbouring properties. This can reduce the commercial value of products that are grown to be harvested, and can diminish the intrinsic value of natural assets. The term 'pest' is used as an umbrella term for any mammal, insect, plant, fungal, and microbial species that can cause damage that adversely affects natural and utilitarian values.

Exotic pest species are a particular concern because they establish without the suite of natural enemies that regulate their populations, and because native hosts have not evolved the defences to resist or avoid the pest. For the most damaging exotic pest species the main approach to management is to limit their spread, particularly into areas that are most vulnerable to adverse impacts by the pest. Regulatory controls may be imposed to contain the spread of some exotic pests such as weeds.

Native pest species usually have a suite of natural enemies that regulate their populations, which means that damaging outbreaks are infrequent. Management of native pest species in native forests aims to maintain this balance by using locally adapted seed for regeneration and avoiding conditions such as damaged standing trees, which may artificially enhance conditions for the pest.

The one situation in which native pests may require more active management in native forests is during the short period early in the life of a newly regenerated forest, when browsing by native herbivores can greatly reduce the survival of tree seedlings.

A small number of native pest species also have the potential to regularly cause severe damage in plantations, which if not managed would threaten the viability of the plantation. For these pest species, management involves carefully selecting plantation species and genotypes to avoid enhancing susceptibility to the pest, maintaining habitat in the surrounding landscape to support natural enemies, using fertiliser to accelerate the establishment of seedlings, and maintaining the vigour of the plantation by timely thinning. If these actions are insufficient, monitoring to detect damaging pest populations is undertaken so decisions can be made on the need for additional management to reduce pest populations.

Sustainable Timber Tasmania's pest management aims to:

- adhere to legislated responsibilities to minimise the risk of new exotic pests from becoming established;
- limit the area of PTPZ land that is adversely affected by exotic pests that have become established;
- intervene to protect PTPZ land from severe impacts by pests, where appropriate and feasible;
- assist the recovery of areas that have been adversely affected by pests, where appropriate and feasible; and
- minimise the need to use chemicals, and, where chemicals are used, prefer those that are effective and present a low environmental risk.

4.5.2.1 Forest health surveillance

Central to achieving Sustainable Timber Tasmania's management aims for pests is to firstly detect when a pest is present. The detection of damage by new pests, or pests that infrequently cause significant damage, relies on surveillance. In plantations this is done annually through a formal surveillance program involving drive-through inspections of all accessible plantations. When damage is detected, the severity is assessed, the extent is mapped and the cause is identified. Where necessary, a more detailed inspection is done to identify the cause. This may include the collection of samples for subsequent examination by specialists. The detection of damage that has been assessed as moderate or severe prompts several actions:

- Field staff responsible for the operational management of plantations are promptly notified of the detection.
- Where appropriate, possible actions in response to the detection are decided.
- Details of the detection, ensuing notifications and any proposed actions are recorded in Sustainable Timber Tasmania's operations database.

Surveillance of the plantations in the years subsequent to the detection of any moderate or severe damage allows any change in the status of that damage to be determined. In this way the effectiveness of any actions taken in response to the detections can be evaluated.

Surveillance of native forests is less formal – detection of damage by new pests or pests that infrequently cause damage relies on detection by forest workers and others visiting native forests. The lower level of surveillance of native forest is consistent with the view that sporadic outbreaks by native pests are a natural process within these forests.

4.5.2.2 Pest-specific management

Customised management programs are used for pests that are widespread and have a high potential to cause significant damage on a regular basis.

4.5.2.2.1 Eucalyptus leaf beetles

A small number of native species of leaf beetles within the genus *Paropsisterna* regularly reach population sizes that can cause severe defoliation of eucalypt plantations if unmanaged. Such damage can cause substantial losses in tree growth. Significantly, growth can virtually cease following repeated episodes of severe defoliation.

Severe defoliation can occur in plantations of all ages and in all parts of the state. However, plantations at high altitudes and/or in the vicinity of native grasslands have a greater likelihood of supporting leaf beetle populations capable of causing severe defoliation. It is these plantation areas that are the main focus of management to protect against severe defoliation.

Regular monitoring of leaf beetle population is done to determine the size of the leaf beetle populations and subsequent defoliation risk. Monitoring commences in late spring and continues until the end of summer. During this period, leaf beetles are progressing through their egg and larval stages. Monitoring can also detect those leaf beetle populations that have been reduced sufficiently by natural controls to not require any further management. Only those leaf beetle populations that remain sufficiently large to cause severe defoliation after the peak period of natural control are considered for additional control using insecticides.

4.5.2.2.2 Phytophthora cinnamomi

Phytophthora cinnamomi is a soil-borne pathogen that can infect and rot the roots of more than 130 Tasmanian native plant species, including more than 35 species that are listed as rare or threatened. The pathogen, a native of Southeast Asia and northern Australia, was first detected in Tasmania in 1956. Since then it has spread widely throughout the State, primarily as the result of human-assisted spread through the movement of infested soil and gravel, infected plants, contaminated machinery and dirty footwear.

Disease in susceptible species is most damaging in open vegetation (such as dry sclerophyll forests, heaths and moorlands), and occurs in lowland areas of all but the driest parts of the State. Once present in such areas, root rot caused by *P. cinnamomi* can cause a dramatic reduction in the abundance of highly susceptible plant species. It may even cause the local elimination of some species. Because of these severe adverse ecological effects, root rot caused by *P. cinnamomi* is listed as a threatening process under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwth).

Once present in an area, *P. cinnamomi* cannot be eradicated without resorting to very intensive and intrusive practices that are rarely practical to attempt except in exceptional circumstances. Therefore, the main focus of management is to restrict the spread of *P. cinnamomi*, by requiring forest operations in sensitive areas to be carried out hygienically. Sensitive areas are those with open vegetation in lowland

areas that are largely free of *P. cinnamomi* and contain susceptible rare or threatened plant species or communities dominated by species that are susceptible to *P. cinnamomi*. The hygiene practices are managed through the Forest Practices system and are detailed in [Flora Technical Note 8](#).

The movement of contaminated gravel for road building is a major vector for the spread of *P. cinnamomi*. Because of this, Sustainable Timber Tasmania regularly inspects all active quarries used for road building on PTPZ land to determine their *Phytophthora* status. Only quarries identified as free of *P. cinnamomi* are permitted for road building operations in sensitive areas.

4.5.2.2.3 Exotic weeds

Tasmania hosts a large number of exotic plant species. A small number of these are strongly invasive and cause significant losses in productivity to primary industries and adversely affect natural values in native plant communities.

The management of weeds in Tasmania is legislated in the *Weed Management Act 1999*. Exotic plant species that are strongly invasive and have significant adverse economic or environmental effects can be listed as 'declared weeds' under this Act. The listing of a species as a declared weed imposes obligations on landowners to restrict their spread onto other properties.

Sustainable Timber Tasmania has procedures in place so that activities on PTPZ land comply with the Weed Management Act:

- Infestations of declared weeds are detected by forest health surveillance or by field staff in the course of their normal duties.
- The location of detected infestations are recorded in Sustainable Timber Tasmania's information systems. Sustainable Timber Tasmania uses this information to determine priorities for planning and undertaking weed control operations.
- Details of planned and active weed control operations are recorded on Sustainable Timber Tasmania's forest operations database.

4.5.2.2.4 Browsing mammals

Three native herbivores, the brushtail possum, Bennetts wallaby and Tasmanian pademelon, as well as the introduced fallow deer, can severely browse young seedlings and small trees. If unmanaged, these herbivores can prevent the successful re-establishment of native forest or plantation areas, or damage the form of young trees so much that they cannot grow to become future high-quality logs.

Management involves using a combination of lethal culling and non-lethal methods coupled with regular damage monitoring of seedlings throughout their vulnerable establishment phase, when they are less than one metre tall.

Non-lethal methods involve either fencing or seedling stockings (plastic mesh tubes that completely enclose small plantation seedlings).

- **Fencing** is generally restricted to areas of native forest that are rich in blackwood, which is very palatable and can be virtually eliminated unless

wallabies are excluded. Fencing is also used to protect valuable crops, notably, areas being established for eucalypt seed production.

- **Seedling stockings** are applied to nursery seedlings prior to transplanting into plantation areas predicted to have a high browsing risk, normally around the plantation perimeter.

Culling of herbivores by methods involving shooting or trapping is used when evidence of significant browser populations is detected through the monitoring of 'free feed' uptake prior to establishment, or from monitoring established seedling damage. All culling operations are carried out under crop protection permits issued by the [Game Management Unit](#) of DPIPWE, and adhere to the relevant codes of practice and animal welfare standards.

Sustainable Timber Tasmania has no intention of resuming the use of 1080 poison to control populations of browsing animals.

Browsing animals occur across the landscape, including both private and public land. Sustainable Timber Tasmania is committed to being a good neighbour and meets its commitments under the *Good Neighbour Charter*. However, given that the boundary of the Permanent Timber Production Zone land is many thousands of kilometres, it is not economically viable for Sustainable Timber Tasmania to fence the entire boundary. This reality is recognised in the provisions of the *Boundary Fences Act 1908*.

4.6 Providing access to the forest

4.6.1 Roads

Sustainable Timber Tasmania manages an extensive network of road infrastructure that provides access for forest management activities. Where possible, Sustainable Timber Tasmania prefers to use existing roads, as this reduces the financial cost and risk of environmental damage associated with developing new road infrastructure.

Sustainable Timber Tasmania prioritises, plans and conducts maintenance so that roads and associated infrastructure meet operational requirements. Maintenance can involve grading and re-sheeting, pothole repair, removal of vegetation on batters and verges to protect stability and sight lines, drainage works, ensuring adequate signage, and replacing culverts and bridges.

New road requirements are identified during Sustainable Timber Tasmania's tactical and operational planning processes. Planning involves determining carrying capacity requirements, conducting alignment surveys, and carrying out environmental assessments. Specifications and environmental prescriptions for roads are put into forest practices plans and forest operation plans. Operational monitoring is undertaken through the construction period to confirm compliance with the plan.

The construction and maintenance of Sustainable Timber Tasmania's road network requires the sourcing of appropriate rock material. Sustainable Timber Tasmania generally sources this material from its own quarries, as close to the use point as feasible. All quarrying operations conducted by Sustainable Timber Tasmania comply with the [Tasmanian Quarry Code of Practice](#) and the [Forest Practices Code](#),

and have certified forest practices plans that provide prescriptions for the management of environmental values.

The Forest Management Act allows Sustainable Timber Tasmania to charge a fee for the use of a forest road for any purpose. Generally, Sustainable Timber Tasmania charges (tolls) commercial forest road users for access and maintenance fees. In some cases a significant commercial user will, in agreement with Sustainable Timber Tasmania, undertake maintenance themselves.

Sustainable Timber Tasmania works collaboratively with other public and private organisations and individuals whose roads support forest management activities on PTPZ land. DPIPWE now manages a significant number of roads that were built by Sustainable Timber Tasmania, and which provide access to PTPZ land. Sustainable Timber Tasmania and DPIPWE have developed access and management arrangements so that the infrastructure is maintained appropriately. Sustainable Timber Tasmania also uses local government roads, and actively liaises with councils on expected usage and contributes to maintenance requirements.

Some forest roads that are of low forest management priority may be important for stakeholders and local communities.

4.6.2 Public access

Activities that are compatible with Sustainable Timber Tasmania's strategic objectives may be undertaken on PTPZ land.

The PTPZ land provides a broad range of opportunities for recreation in a variety of settings. Activities include, but are not limited to, bushwalking, forest drives, four wheel driving, mountain and trail bike riding, horse riding, boating, canoeing, fishing and hunting.

Permission is generally not required to use PTPZ land for recreation activities. However, public safety, environmental and other forest management issues may result in roads and tracks being closed to the general public, either on a temporary or permanent basis. Where access is suspended, signs and/or physical barriers such as locked gates are used. Unauthorised vehicular access beyond these areas is prohibited. The local forest manager may provide access keys for legitimate activities. Closure of significant link roads, including planned road closures, are publicised on the Sustainable Timber Tasmania website.

4.6.2.1 Dedicated recreation sites

Many of the recreational facilities that Sustainable Timber Tasmania previously managed, were located in forest reserves that are now managed by the Parks and Wildlife Service.

Sustainable Timber Tasmania previously owned and operated the Tahune Forest Airwalk. In 2016/17 Sustainable Timber Tasmania completed the sale of this business, including leasing of the land and associated facilities. The land and fixed assets continue to be owned by Sustainable Timber Tasmania.

4.6.2.2 Organised events

PTPZ land is used regularly for organised sporting activities such as car and motorbike rallies, multi-sport competitions, horse riding, mountain biking and orienteering.

Sustainable Timber Tasmania generally provides permission for these events to be staged on PTPZ land. However, such activities have the potential to cause environmental harm if managed poorly. Sustainable Timber Tasmania therefore through its forest activity assessment process manages an approval process to assess environmental values and the potential impacts of activities. If approved, Sustainable Timber Tasmania issues a permit that includes management prescriptions that the event organiser is required to meet.

4.6.2.3 Recreational vehicle use

Sustainable Timber Tasmania is a signatory to the State Government's [Policy for the Use of Recreational Vehicles on State-owned Lands in Tasmania](#) and, as such, recognises the popularity of this pastime. Sustainable Timber Tasmania generally permits the public to have access to forest roads where barriers are not in place.

Sustainable Timber Tasmania collaborated with other government agencies and interest groups to develop two brochures to assist recreational vehicle users in Tasmania:

- [Riding around Tasmania](#) provides guidelines for safe and environmentally friendly use of trail and quad bikes as well as information on tracks around the state.
- [Cruisin' without Bruisin'](#) contains the National Code of Practice for Recreational Vehicle users as well as information on popular Four Wheel driving trails around the State.

Sustainable Timber Tasmania aims to continue to provide public access to tracks on PTPZ land that are outlined in these brochures.

4.6.2.4 Hunting and firearm use

There are a number of statutory regulations surrounding hunting of specific species in Tasmania. The general public is only permitted to hunt species mentioned below on PTPZ land.

- The *Vermin Control Act 2000* allows for the hunting of rabbit and fox at any time. Although not classified as vermin, hare may be hunted under the same conditions that apply to rabbits.
- The *Cat Management Act 2009* allows for individuals acting on behalf of Sustainable Timber Tasmania to humanely destroy any feral cat found on PTPZ land.
- Recreational hunting of 'game' is regulated by the *Wildlife (General) Regulations 2010* and managed by DPIPW Game Management Unit. 'Game' is presently considered to include Bennetts and rufous wallabies, pheasants, deer, quail and ducks. The Game Management Unit annually

publishes appropriate bag limits, open seasons and hunting times for these species. A specific licence to hunt each species must be obtained by individuals from the Game Management Unit.

- The *Wildlife (General) Regulations 2010* allows for DPIPW to issue a crop protection permit to take wildlife to prevent the destruction of stock or plants. Sustainable Timber Tasmania generally holds these permits to manage possum and wallaby populations in regenerating forest areas. Sustainable Timber Tasmania may choose to engage contractors under this permit to conduct crop protection operations.

Some areas of PTPZ land are subject to considerable use by hunters during declared open seasons. Unrestricted hunting in these areas can be a safety issue and also has the potential to cause environmental damage. Sustainable Timber Tasmania works with the [Game Management Unit](#) and the Deer Advisory Committee to set appropriate limits on hunter numbers. Current information on accessing PTPZ land for hunting is made available on Sustainable Timber Tasmania's website.

Sustainable Timber Tasmania may also issue game management leases or licences to hunting groups or other organisations to provide access to popular hunting locations.

Sustainable Timber Tasmania may provide landowner's permission upon request to hunt on PTPZ land in accordance with the *Firearms Act 1996* (Tas). In issuing this permission, Sustainable Timber Tasmania stipulates permit conditions, including the areas in which hunting is permitted.

4.6.2.5 Fossicking and prospecting

There are many localities on PTPZ land where interesting lapidary and mineralogical material occurs. Such areas are attractive for rock and mineral collectors. Rock and mineral collection in Tasmania is regulated by [Mineral Resources Tasmania](#), which administers the *Mineral Resources Development Act 1995*.

Amateur fossicking for rock and mineral samples without a permit is only allowed in officially declared fossicking areas as designated under the *Mineral Resources Development Act 1995*. There are several such areas located on PTPZ land. Mineral Resources Tasmania provides guidelines and information for accessing and using these sites on its website. Sustainable Timber Tasmania will endeavour to manage activities on these sites to be compatible with this recreational use.

Any fossicking conducted outside of officially declared fossicking areas requires a prospecting licence from Mineral Resources Tasmania. Licensed prospectors wishing to access PTPZ land for prospecting activities require the approval of Sustainable Timber Tasmania so that environmental values and operational and safety restrictions are considered.

All prospecting licences issued by Mineral Resources Tasmania contain a set of conditions that are aimed at minimising the extent of potential environmental damage that can result from prospecting activities.

4.6.2.6 Firewood collection

Both commercial and domestic collection of firewood on PTPZ land is managed via written agreement or permit. The majority of areas made available for firewood collection are recently harvested coupes where regeneration works have not yet been undertaken. The collection of smaller amounts of firewood from other areas may also be permitted on a case-by-case basis.

Firewood collection for domestic use is managed using a permit system. This system enables Sustainable Timber Tasmania to specify the location, amount and timing of firewood collection, and to place specific conditions on the permit holder so as to minimise any potential environmental damage.

Where opportunities exist for commercial firewood producers to operate on PTPZ land, Sustainable Timber Tasmania will come to appropriate terms with such operators. These operations will be limited to areas covered by, and consistent with the conditions of, a forest practices plan.

Unauthorised collection of firewood is illegal and has the potential to cause significant safety and environmental harm. Sustainable Timber Tasmania works with Tasmania Police to implement procedures aimed at minimising illegal firewood gathering.

4.6.2.7 Indigenous use rights

While the *Native Title Act 1993* provides a mechanism by which native title rights can be negotiated and recognised under Australian law, there are presently no native title right holders in Tasmania.

Nevertheless, Sustainable Timber Tasmania recognises the Tasmanian Aboriginal people as traditional owners of the land, and the significance of heritage, including places, objects and stories, for maintaining continuous links with the land.

Sustainable Timber Tasmania also acknowledges the historical, cultural and spiritual values of Aboriginal heritage in Tasmania's production forests and recognises its shared responsibility to conserve it.

In consultation with the Aboriginal community, Sustainable Timber Tasmania has developed an [Aboriginal Heritage Policy](#). Under this policy, Sustainable Timber Tasmania will foster positive and respectful relationships with local Aboriginal communities, and permit access to land and traditional cultural materials where safety and environmental limitations allow.

Sustainable Timber Tasmania will also explore and promote participation and economic opportunities for the Aboriginal community to manage its heritage, and provide cultural awareness training to staff.

4.6.3 Commercial or private access

4.6.3.1 Property rights

The Forest Management Act provides Sustainable Timber Tasmania with the ability to allow commercial use of PTPZ land, provided access is not incompatible with Sustainable Timber Tasmania's primary land management objectives. The Act also makes provisions for Sustainable Timber Tasmania to charge a fee for that use where the use of the land is for commercial gain or for private benefit.

Sustainable Timber Tasmania has several forms of formal property rights it grants to third parties:

- **Forestry rights** allow for the legal recognition of a commercial interest in a tree crop. They are used to recognise and provide the security of a forest investment where the rights holder is not the owner of the land. Forestry rights are administered by the Land Titles Office through the *Forestry Rights Registrations Act 1990* (Tas). Forestry rights presently apply to the majority of PTPZ land softwood estate and to some hardwood plantations. Under some forestry rights, management control and responsibilities are divested via agreement to the external forest managers, which are responsible for complying with all laws relating to management of the land, including compliance with the *Forest Practices Act 1995* (Tas).
- **Leases** may be issued to customers to provide exclusive use of an area. Such agreements are required where a significant investment has occurred, or will be required, by a third party. Land uses covered by leases include buildings, communications sites, dams, pipelines, power lines, recreation sites, and tourism sites. In such instances, the lease contract contains provisions for divesting management control to the leaseholder.
- **Licences** provide for secure but non-exclusive use of an area. They are normally allocated when a customer wishes to use Sustainable Timber Tasmania property, there is no permanent infrastructure involved, and there is no need for management of the area to be divested. Licences are granted for many purposes such as apiary sites, agistment, access, game management, collecting bush food, or tourism.
- **Easements** grant permanent rights of way for customers. They are provided in the event a customer needs to use Sustainable Timber Tasmania land to access private property.
- **Commercial Visitor Services licences** are issued to businesses conducting a commercial tourism or visitor service activity on PTPZ land. These licences are appropriate for guided tour or adventure activity operators, or businesses providing transport and accommodation services. The Parks and Wildlife Service administers the licence process.
- **Permits** to conduct events. Permits are normally provided for short-duration access. They are appropriate for events such as car rallies, orienteering competitions, festivals or research projects.

Sustainable Timber Tasmania maintains and implements procedures for

administering formal property rights agreements. These procedures include:

- Checking that proposals are not incompatible with other forest management activities.
- Undertaking appropriate environmental assessments of proposals.
- The inclusion of specific prescriptions for management of identified values and maintenance of Sustainable Timber Tasmania assets where required.
- Determining an appropriate fee structure and agreement length.
- Monitoring of sites throughout the agreement in order to confirm that agreement conditions are being implemented.
- Legal agreements that allow for termination of access in the event of breaches of conditions.
- Maintaining a property rights database that enables Sustainable Timber Tasmania to take into account property rights when planning operations.

4.6.3.2 Apiary sites

Sustainable Timber Tasmania recognises the contribution of the apiary industry to the Tasmanian economy through the sale of honey and associated products and the provision of pollination services to plant-based industries.

Many beekeepers in Tasmania access hive sites on land managed by Sustainable Timber Tasmania. Many hive sites on PTPZ land are located near forests rich in leatherwood, which provides a source of nectar unique to Tasmania that is used to produce a significant proportion of Tasmania's honey. Other important sources of nectar include various eucalypts, 'manuka' (*Leptospermum* species), and understorey species.

Tasmania's leatherwood resource occurs across multiple tenures, including PTPZ land, National Parks and reserves, and private land, with the majority of the resource occurring outside PTPZ land.

Sustainable Timber Tasmania collaborates with the Tasmanian Beekeepers Association on leatherwood resource management, apiary site management, and access management. Forestry operations conducted near apiary resources and hive sites are guided by procedures that have been developed in consultation with apiary stakeholders. These procedures will continue to be reviewed by working with the Tasmanian Beekeepers Association.

4.6.3.3 Mineral exploration and mining

Mineral exploration and mining activities in Tasmania are regulated by Mineral Resources Tasmania, which administers the *Mineral Resources Development Act 1995*. Under this Act, any individual may make an application for an exploration licence or mining lease on PTPZ land. The decision to grant a licence or lease is made by Mineral Resources Minister. Mineral Resources Tasmania also manages a rigorous planning and approvals process so that any proposed project meets required environmental standards.

The *Mineral Resources Development Act 1995* provides for Sustainable Timber Tasmania, as a landowner, to have input into the decision to grant a mining licence or lease. For proposals that affect PTPZ land, Sustainable Timber Tasmania may

make a submission to Mineral Resources Tasmania on the compatibility of the proposed activity with Sustainable Timber Tasmania's requirement to both implement the Forest Management Act and to meet independent third party forest management certification requirements. Sustainable Timber Tasmania may also provide input into any conditions to be placed on activities so that environmental impact is minimised.

Some mining operations may result in the clearance of significant areas of forest. Sustainable Timber Tasmania's Permanent Forest Estate Policy commits Sustainable Timber Tasmania to negotiating to minimise such conversion and to maximise the recovery of forest products in situations where other parties have legislative ability to convert PTPZ land to non-forest uses. Sustainable Timber Tasmania will also endeavour to be compensated for the loss of any foregone timber revenue resulting from clearing for mining activities.

Where mining leases or licences are granted, Sustainable Timber Tasmania may agree to provide an access licence for mining companies requiring use of forestry roads outside the mining lease. Such agreements will be subject to Sustainable Timber Tasmania's internal approval procedures, as described in the property rights section of this plan.

4.6.3.4 Tourism

Sustainable Timber Tasmania supports tourism ventures that utilise PTPZ land, provided such ventures are compatible with Sustainable Timber Tasmania's strategic objectives. Tourism operators are required to obtain Commercial Visitor Services licences prior to commencing operations. As part of the permit approval process, Sustainable Timber Tasmania may conduct forest activity assessments to ensure that proposed activities will not have undue safety or environmental consequences.

4.6.4 Managing unauthorised access or activities

Sustainable Timber Tasmania is aware that its land has sometimes been subject to various illegal or unauthorised activities. Common unauthorised activities include:

- Irresponsible use of vehicles (on- and off-road)
- Rubbish dumping
- Arson and lighting of fires
- Vandalism or destruction of infrastructure
- Theft of forest produce
- Using stream water for domestic or agricultural use
- Illegal shooting
- Intentional disruption to forest operations

Sustainable Timber Tasmania records all identified instances of illegal activity and passes on details to relevant authorities. Sustainable Timber Tasmania liaises with Tasmania Police, neighbours and other community groups in order to develop appropriate prevention and response strategies.

In the event of persons or activities preventing Sustainable Timber Tasmania from effectively or efficiently performing its functions, the *Forest Management Act 2013* provides Sustainable Timber Tasmania with the authority to direct a person:

- not to enter PTPZ land or a forest road;
- to leave PTPZ land or a forest road; or
- to cease to undertake an activity or engage in a conduct.

Sustainable Timber Tasmania endeavours to respond to unauthorised activities in a manner that does not put Sustainable Timber Tasmania staff, contractors or public safety at risk.

4.7 Stakeholder engagement

Sustainable Timber Tasmania seeks to engage with its stakeholders as an important and integral part of doing its job well. In particular, Sustainable Timber Tasmania aims to:

- be aware of and respect the needs and expectations of customers, neighbours, staff and the wider community;
- obtain valuable insights and input that will assist its planning and decision making;
- be aware of, and respond promptly to, issues of concern to stakeholders before they become more significant problems;
- develop and maintain open relationships with its stakeholders; and
- build understanding, trust and support for what it does.

These objectives are underpinned by the principles of Sustainable Timber Tasmania's [Communication and Stakeholder Engagement Policy](#), which are to:

- Regard stakeholders as any individual, group or organisation that is impacted or has an interest in our operations;
- Strive to develop and maintain strong positive relationships with our stakeholders;
- Be open and transparent – we will seek to anticipate needs and provide information to meet those needs, rather than just responding to direct requests;
- Listen – we will seek to ask rather than tell, and will appropriately consider all input;
- Understand and respect the communication needs of different stakeholders – we will seek to tailor our communications and engagement accordingly;
- Be professional, timely, objective and respectful in all our communications and engagement including respecting stakeholder's privacy;
- Be committed to improving our engagement with stakeholders by regularly monitoring, reviewing and publicly reporting on our stakeholder engagement; and
- Monitor our social media sites in accordance with our Social Media Terms of Use to maintain a respectful environment for everyone.

The processes that Sustainable Timber Tasmania now has in place to achieve these objectives are set out in the [Stakeholder Engagement Operational Approach](#). This strategy has been developed to clearly communicate to Sustainable Timber Tasmania's stakeholders how and when it will engage with stakeholders in planning

and conducting operations. With respect to Sustainable Timber Tasmania's key operational activities, Sustainable Timber Tasmania engages with stakeholders by:

- Publicising its Three Year Wood Production Plan, and encouraging stakeholders to register their interest in relation to any specific coupes, advise of any issues of particular concern, and indicate if they would like any further information.
- Engaging with all identified stakeholders and neighbours during preparation of forest practices plans for harvesting, road building and quarrying activities.
- Publicising its planned burning program in advance and engaging with key stakeholder organisations, in addition to daily media advisories.
- Publicising its potential silvicultural chemical use and encouraging stakeholders to advise the organisation if they have any concerns about planned activities in particular areas.
- Providing information to affected and interested stakeholders about the progress of key forest management activities (harvesting, burning, chemical applications).

The input received from stakeholders is taken into account during Sustainable Timber Tasmania's planning and decision making.

Sustainable Timber Tasmania recognises that the provision of timely feedback and information about forest operations to stakeholders is an area that requires improvement. It is therefore developing and implementing policies and processes to make these considerations part of routine business.

Sustainable Timber Tasmania recognises that, despite its best efforts, there will be instances when engagement could have been more effective, or when stakeholders view a final outcome poorly. Sustainable Timber Tasmania has a [complaints policy](#) and [dispute resolution procedure](#) in place, which aim to resolve all complaints as quickly as possible. Under the complaints policy, Sustainable Timber Tasmania:

- Is committed to constructive engagement with stakeholders as essential to continual improvement of its business.
- Recognises that constructive engagement includes the right of stakeholders to expect that complaints will be treated courteously, respectfully and promptly.
- Views the complaints and dispute resolution process as an opportunity to build relationships by addressing stakeholder concerns.

Sustainable Timber Tasmania also welcomes and encourages informal engagement by stakeholders through the following methods:

- Providing information and contact opportunities on the Sustainable Timber Tasmania [website](#).
- Regular initiated engagement with key stakeholders.
- Encouraging all staff to take responsibility for active stakeholder engagement with customers, neighbours and communities.

As part of the wider Tasmanian forest industry, Sustainable Timber Tasmania was involved in the development of, and maintains its commitment to, two industry-wide

charters - the Tourism and Forestry Protocol and the *Good Neighbour Charter*. The commitments made in these documents are now integrated into Sustainable Timber Tasmania standard operating procedures.

4.8 Organisational capacity

Effective management of PTPZ land will be achieved by maintaining the appropriate resources, structures and systems necessary to cover the breadth of the business. This will require Sustainable Timber Tasmania to have the appropriate levels of staff and contractors with the necessary skill sets, sufficient offices to cover the geographical range of PTPZ land, access to appropriate equipment to carry out operations, and a comprehensive set of procedures and business systems so that its activities are carried out appropriately.

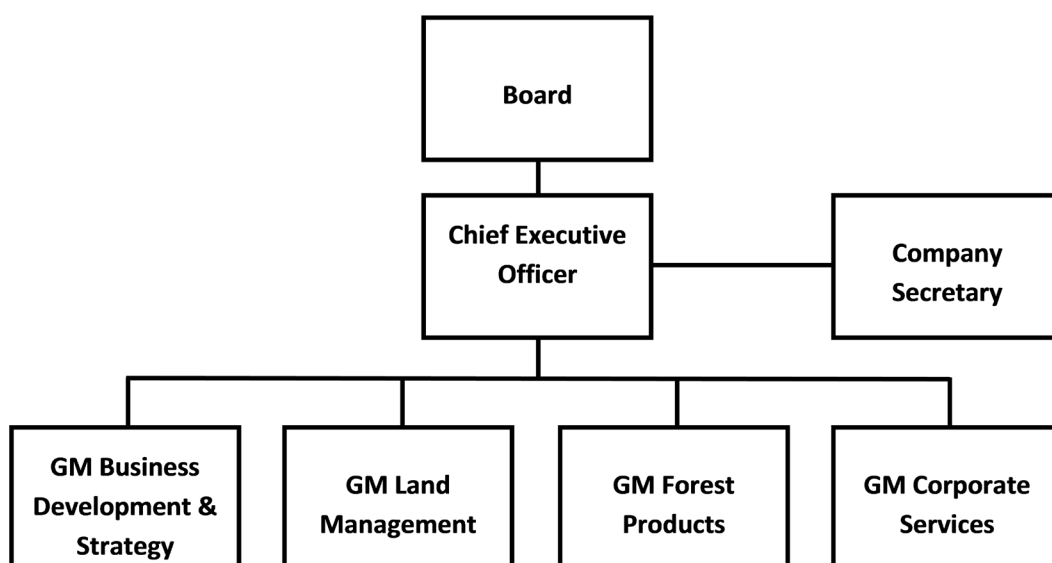
4.8.1 Organisation structure and human resources

The Board of Directors of Sustainable Timber Tasmania is comprised of independent non-executive directors. The Board is responsible for the overall corporate governance of the organisation. This includes setting strategic direction, overseeing financial performance and business affairs, setting management goals, and monitoring management’s performance.

As a fully State-owned Government Business Enterprise, the Board of Directors is directly responsible to the Minister for Resources and the Treasurer for its operations. Directors are appointed in accordance with the *Government Business Enterprises Act 1995*.

The Chief Executive Officer is accountable to the Sustainable Timber Tasmania Board of Directors. Key reporting relationships within the organisation are shown in the current organisation chart (Figure 12), which will evolve over time.

Figure 12: Organisational chart as of January 2018



Sustainable Timber Tasmania employees are distributed across offices strategically located around the state. Administratively, Sustainable Timber Tasmania divides its operations into North West, North East and Southern Regions. Regional operations are directed and supported by a Head Office in Hobart. This structure enables Sustainable Timber Tasmania to effectively manage the area under its control, and to support regional areas through provision of local employment and economic opportunities.

Sustainable Timber Tasmania also engages a diverse contractor base to provide a wide range of services including harvest and haulage services, forest establishment and maintenance, fire protection, road construction and maintenance, aviation services, stevedoring and shipping services, and building management services. Sustainable Timber Tasmania maintains a contractor management system so that only appropriately skilled contracting companies are used, their operations are monitored, and their performance is reviewed on a regular basis. Contract agreements for work relating to forest operations are required to meet the Forestry (Fair Contract Codes) Act 2001, which requires that standard conditions will be met so that such contracts are fair to all of the contracting parties.

4.8.2 Work Health and Safety

The health and safety of employees and contractors is of the highest priority. Sustainable Timber Tasmania maintains a comprehensive safety management system that is certified to the Australian and New Zealand safety standard, AS4801 2001. The safety management system is underpinned by Sustainable Timber Tasmania's [Work Health and Safety Policy](#). This system requires that:

- work activities are assessed for safety hazards and risks, and where necessary, appropriate controls are put in place;
- contractors have appropriate safety management systems;
- relevant safety legislation, standards and codes of practice are identified and complied with; and
- safety incidents are investigated, and corrective and preventative action is undertaken.

Sustainable Timber Tasmania promotes a positive approach to safety culture in which individual employees are actively engaged in health and safety thinking and focus their attention on staying safe at work. This is combined with ongoing programs for employees to manage and improve their own general health and wellbeing.

4.8.3 Staff development and training

Sustainable Timber Tasmania promotes improvement in staff performance through a performance review and development process. This process involves the annual setting and assessment of performance targets and identifying relevant training opportunities, including opportunities for self-directed learning and development, career development and succession planning.

Sustainable Timber Tasmania has a dedicated People and Culture team to support skill development within the organisation. Where necessary, the organisation will also source services from external providers for staff development and training.

4.8.4 Values and Staff Conduct

STT has developed a set of values that describe the core ethical principles that the company and its staff will abide by. These are:

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

The values are supported by a Staff Code of Conduct that requires employees at all times to act professionally, honestly, ethically and in accordance with the law; be fair in all decisions they make in relation to their involvement with Sustainable Timber Tasmania; and treat others with respect.

4.8.5 Workers' rights

Sustainable Timber Tasmania's human resources management is based on the principles of fairness and equity. Employment decisions are made in accordance with Sustainable Timber Tasmania's [Recruitment and Selection Policy](#). This policy is further supported by anti-discrimination policies. The majority of employees' conditions of employment are covered by an enterprise agreement. This agreement is created in accordance with the *Fair Work Act 2009*, is renewed regularly in consultation with staff and unions, and is voted on by all staff covered under the agreement.

Senior managers are employed on individually negotiated contracts.

4.8.6 External commercial services

Sustainable Timber Tasmania provides professional consulting services to customers. Contracting out these services enables the organisation to develop and maintain specialised skills while also achieving a positive commercial outcome.

When exploring consulting proposals, full consideration is given to compatibility with Sustainable Timber Tasmania's ability to carry out its primary responsibilities.

4.8.7 Equipment, infrastructure and systems

The range of functions that Sustainable Timber Tasmania performs requires a specialised fleet of vehicles and mechanical equipment.

The majority of the vehicle fleet is leased, with servicing provided locally by the lease provider.

Sustainable Timber Tasmania's fire management responsibilities necessitate the management of specialised fire equipment. The majority of the fire equipment is built and maintained by Department of Police Fire and Emergency Management (DPFEM). DPFEM also carries out the commissioning and de-commissioning of the Sustainable Timber Tasmania leased light vehicle fleet.

Sustainable Timber Tasmania also relies on contractors for the supply of specialised equipment such as helicopters and excavators.

Sustainable Timber Tasmania has extensive information technology and record keeping systems to support its functions. These systems include (but are not limited to) geographic information systems, planning and sales databases, a forest operations database, a human resources management system and a finance system. A comprehensive policy and procedures system are also maintained and reviewed regularly.

4.9 Monitoring, reporting, review and continual improvement

4.9.1 Sustainable Timber Tasmania

Sustainable Timber Tasmania's [Sustainable Forest Management Policy](#) commits the organisation to regular monitoring, reviewing and auditing of forest management activities. Undertaking these commitments in a systematic way facilitates the identification of opportunities to continually improve performance.

All forest management operations are monitored regularly in the field. Monitoring involves checking that operational objectives are being met, work is undertaken safely, and environmental prescriptions are implemented. This includes assessing silvicultural outcomes against a set of established quality standard benchmarks.

Sustainable Timber Tasmania implements an internal audit program that assesses overall compliance with system requirements and standard operating procedures. This is in addition to third party audits by regulating bodies and forest management certifying bodies. The results of external audits are available on Sustainable Timber Tasmania's [website](#).

Sustainable Timber Tasmania maintains a corrective actions database to record system non-conformances and incidents. The system requires the identification and implementation of corrective actions in order to reduce the likelihood of incidents or non-conformances reoccurring. The system includes prompts for staff so that identified actions are carried out and monitored for effectiveness.

Sustainable Timber Tasmania maintains a capacity for research, development and extension work to improve the productivity, health and sustainability of the management of PTPZ land. Research relating to Sustainable Timber Tasmania's core business that is carried out by other parties is also supported. Research facilitates development and sharing of expertise with forest managers, collaborative partners, the broader public and the international forest science community. Results of in-house research on strategic and operational issues and collaborative research are used to inform both decision making and forest management activities, and drive continuous improvement.

To drive continual improvement, Sustainable Timber Tasmania annually develops a set of short-term objectives and targets. These shorter-term targets will assist in achieving the strategic objectives outlined within the plan.

Sustainable Timber Tasmania regularly reviews performance against objectives, operational statistics, legal compliance, corrective actions, and the results of research, monitoring and audits. Reviews occur at multiple levels of the organisation through regular management meetings and dedicated safety and environment committees.

Sustainable Timber Tasmania will annually review its performance against the strategic objectives described in this management plan. The [Annual Report](#) will summarise the preceding year's implementation of the management plan.

4.9.2 The Forest Practices System

The Forest Practices Authority has a legislative requirement to monitor the implementation and effectiveness of the forest practice system across all tenures, including PTPZ land. As a significant user of the forest practices system, Sustainable Timber Tasmania strongly supports and contributes to the Forest Practices Authority's well-established monitoring and review program. The Forest Practices Authority has a strong history of using an adaptive management approach, whereby results of monitoring and research are used to refine and improve [Forest Practices Code](#) provisions, guidelines and planning tools.

Key aspects of the Forest Practices Authority's monitoring and review program include:

- Publication of the Tasmanian [State of the Forests Report](#) that provides a five-yearly assessment of forest management against indicators based on the Montreal process. This process also contributes to the Australian [State of the Forests Report](#).
- Monitoring of the implementation of the [Tasmanian Government policy for Maintaining a permanent Native Forest Estate](#).
- A compliance program, which includes an annual program of forest practices plan implementation assessments, and an investigation and enforcement program for alleged breaches.
- A prioritised monitoring program to assess the effectiveness of implemented prescriptions.
- A process for the development, review and continual improvement of the provisions of the Code, which includes seeking stakeholder engagement.
- A training, education and awareness program to keep system users aware of any revisions to the Code, guidelines or planning tools.

Further details on the Forest Practices Authority's monitoring programs and annual reports on the implementation of the Forest Practices System may be found on the [Forest Practices Authority's website](#).

5 Appendices

5.1 Appendix 1: Summary of recent legislative changes related to land previously managed by Sustainable Timber Tasmania

The years 2013 and 2014 saw several significant shifts in forest legislation and policy. Traditionally, Sustainable Timber Tasmania's fundamental statutory responsibility was to manage the area formerly known as State forest under the now-repealed *Forestry Act 1920*. In June 2013 the *Tasmanian Forests Agreement Act 2013* as repealed by the *Forestry (Rebuilding the Forest Industry) Act 2014* received Royal Assent and saw the term State forest replaced with 'Permanent Timber Production Zone land' (PTPZ land). The Act provided legislative backing to the 2012 Tasmanian Forest Agreement between key environmental, community, union and industry groups and identified approximately 500,000 hectares of PTPZ land as 'Future Reserve Land' that would progressively transition to DPIPWE.

In November 2013, the *Forest Management Act 2013* received Royal Assent and replaced the *Forestry Act 1920*. The Act provides that the Forestry Corporation (that is Sustainable Timber Tasmania) is the Forest Manager, with two specific functions:

1. to manage and control all Permanent Timber Production Zone land; and
2. to undertake forest operations on that land for the purpose of selling wood products.

The *Forests Management Act 2013* includes a wood production policy that requires Sustainable Timber Tasmania to make available a minimum aggregate quantity of high-quality eucalypt sawlogs of 137,000 cubic metres per year. The Act also transferred about 200,000 hectares of formal forest reserves to DPIPWE. The Act requires Sustainable Timber Tasmania to focus primarily on commercial outcomes, while also contributing to the sustainable management of Tasmania's forest estate. In this regard, all forestry operations must continue to be done in accordance with regulatory requirements, such as the [Forest Practices Code](#). The Act also recognises Sustainable Timber Tasmania's commitment to third party certification, which will require ongoing implementation of high environmental and stakeholder engagement standards.

Under the *Tasmanian Forests Agreement Act 2013* as repealed by the *Forestry (Rebuilding the Forest Industry) Act 2014*, and the *Forest Management Act 2013*, the area of land managed by Sustainable Timber Tasmania over the long term reduced from 1.5 million hectares in June 2013 to about 800,000 hectares. Management of all formal reserves on public land transferred to DPIPWE. In December 2013, the first tranche of new reserves specified in the *Tasmanian Forests Agreement Act 2013* as repealed by the *Forestry (Rebuilding the Forest Industry) Act 2014*, amounting to approximately 100,000 hectares, was proclaimed under the *Nature Conservation Act 2002*. These reserves were primarily within the 2013 addition to the Tasmanian Wilderness World Heritage Area.

In March 2014, a new Tasmanian Government was elected on a policy platform that included the repeal of the Tasmanian Forests Agreement Act. In accordance with this

policy, the Tasmanian Parliament passed the *Forestry (Rebuilding the Forest Industry) Act 2014*, which received Royal Assent in September 2014 and commenced by proclamation on 22 October 2014. The key elements of the new *Forestry (Rebuilding the Forest Industry) Act 2014* of most relevance to Sustainable Timber Tasmania are as follows:

- Approximately 400,000 hectares of land that was previously designated as future reserve land is now designated as Future Potential Production Forest (FPPF) land.
- FPPF land is now administered by the Crown Lands Minister and DPIPW.
- With the exception of a small number of previously agreed transitional coupes, listed as Schedule 2 in the Act, Sustainable Timber Tasmania is not permitted to undertake any harvesting on FPPF land, including for special species timber, while the land remains as FPPF land.
- Any harvesting of special species timbers (primarily blackwood, myrtle, celery-top pine, sassafras, huon pine and silver wattle) on FPPF land would need to be done by other organisations - and this harvesting could only occur at least three years after enactment, in accordance with an approved special species management plan, and only if the required wood cannot be supplied at that time from the Permanent Timber Production Zone land. Before causing a special species management plan to be made, the Minister must undertake an assessment of the conservation values of that land;
- After April 2020, areas of FPPF land could potentially be converted to Permanent Timber Production Zone land to enable native forest harvesting, subject to the approval of Parliament - but harvesting could not occur unless it was in accordance with the forest management certification that Sustainable Timber Tasmania holds at that time.
- While there is a possibility that areas of FPPF land could be exchanged for areas of Permanent Timber Production Zone land prior to this time, subject to approval of Parliament, the circumstances in which this could potentially occur have not yet been determined. However, the Act requires that any Ministerial decision on such an exchange must take into account the implications for Sustainable Timber Tasmania's forest management certification.

The *Forestry (Rebuilding the Forest Industry) Act 2014* also restates the compensation arrangements that were outlined in the *Tasmanian Forests Agreement Act 2013* as repealed by the *Forestry (Rebuilding the Forest Industry) Act 2014*. These arrangements allow a domestic processor with a wood supply contract with Sustainable Timber Tasmania to be issued with a forestry compensation certificate by the Minister responsible for the Act. The holder of a compensation certificate is entitled to compensation if Sustainable Timber Tasmania is unable to meet the contracted wood supply as a result of a change in State legislation, or a change of policy.

The *Forestry (Rebuilding the Forest Industry) Act 2014* made no change to the legislated minimum annual quantity of high quality sawlogs and sliced veneer logs that Sustainable Timber Tasmania is required to make available, which remains at 137,000 cubic metres. Similarly, the Act made no material change to the area of land under Sustainable Timber Tasmania's long-term management control, which remains at about 800,000 hectares.

5.2 Appendix 2: Glossary of terms and Acronyms

5.2.1 A2.1: Forestry terms

Adaptive management	A management system that accrues and responds to information over time to inform decision making and improve future management
Advance growth retention	A silvicultural treatment where most mature stems are harvested, releasing competition on a cohort of established saplings that have arisen from previous disturbances. The treatment is often applied to highland <i>Eucalyptus delegatensis</i> forest.
Affected Stakeholder	<ul style="list-style-type: none">•Those who live in, manage or own neighbouring property within close proximity of our operations,•Residents who live along roads that may be directly affected by our harvest or haulage operations•Local councils•Other persons, groups, or organisations who have identified themselves to Sustainable Timber Tasmania as potentially affected by our operations
Age class	Group or stand of trees of a similar age.
Aggregated retention	A form of variable retention harvesting in which patches of intact forest are retained either as islands or edge aggregates.
alpha-cypermethrin	Insecticide sold under the trade name of Dominex. Primarily used to protect plantations from damage by weevils or older larvae and adults of the leaf beetle.
Arisings	Wood products produced additional to targeted products when harvesting an area (e.g. target is sawlogs and pulpwood is arisings).
Artificial sowing	The dispersal of seed across an area by hand, vehicle or aircraft
Auditing	A systematic and documented verification process of objectively obtaining and evaluating evidence to determine whether an organisation's management system conforms with forest management performance criteria and requirements of the standards, and which takes account of the likelihood of failure to detect breaches, and for communication of the results of this process to management.
Australian Forestry Standard	The Australian Forestry Standard (AFS) is the forest management standard for the Australian Forest Certification Scheme (AFCS), which certifies extensive areas of native forests and plantations across Australia.

It provides consumers with assurance that forest and wood products are from sustainably managed forests. The AFS is endorsed by the international Programme for Endorsement of Forest Certification (PEFC).

Biodiversity	The diversity of all life forms, including species diversity, genetic diversity and ecosystem diversity. Biodiversity can be assessed at a variety of levels; for example, harvesting area, catchment, landscape, national, global.
Biofuel	An energy source based on organisms and their products such as wood and plant matter.
Biomass	1. Material of biological origin (plant and other). 2. Organic material located both above-ground and below-ground, and both living and dead—for example, trees, grasses, litter, roots and soil organic matter (for purposes of carbon accounting).
Broadcast sowing	The spreading of seed over a wide area in a single operation
Browsing	A herbivore feeding on leaves and shoots of a woody plant
Bushfire/wildfire	Unplanned vegetation fire, which burns out of control.
Cable harvesting	A hauling system employing winches, blocks and cables used to recover felled trees, typically used on steeper slopes.
Carbon cycle/global carbon cycle	The geochemical cycle of carbon between the atmosphere, ocean and biosphere
Carbon stock	The absolute quantity of carbon held within a pool at a specified time.
Carbon storage capacity	The potential amount of carbon a forest may store in the absence of disturbance
Carbon pool	A system having the capacity to accumulate or release carbon. Examples of carbon pools are forest biomass, wood products, soils, and the atmosphere.
CAR Reserve System	The area under any of the following categories of land tenure – Formal Reserves including dedicated reserves, Informal Reserves and other areas on Public land which have CAR values protected by prescription, and parts of Private Forest Estate where CAR values are protected under secure management by agreement with private landholders. The reserve system is based on principles of comprehensiveness, adequacy and representativeness.

Category 1 & 3 sawlog	High quality eucalypt sawlog. Eucalypt sawlogs from mature and over-mature forest are termed 'category 1 sawlogs' and those from regrowth and plantation forests are termed 'category 3 sawlogs'.
Category 2 sawlog	Second-grade eucalypt sawlog as specified in the <i>Forestry Regulations 2009</i> Schedule 1 Part 2.
Category 4 sawlog	First-grade sawlog from special species timbers such as blackwood, myrtle, sassafras, celery top pine, Huon pine and leatherwood.
Category 8 log	Eucalypt log with a quality below category two specifications as specified in the <i>Forestry Regulations 2009</i> Schedule 1 Part 2.
Certification	The voluntary process by which planning, procedures, systems and performance of on-the-ground forestry operations are certified, following an audit, by a qualified and independent third party as meeting a predetermined standard. Forest operations found to meet or exceed the given standard are issued a certificate (hence certified).
Chain of custody	A process of verifying the origin and supply of wood or timber product through the supply chain to a point of market.
Chronosequence	Sites in a forest of similar attributes but differing in age and stage of succession.
Clearfelling	The removal of all trees on a harvesting area in a single operation, and the subsequent regeneration of an even-aged stand by sowing or planting. A canopy opening of 4-6 times mature tree height may be considered the lower limit for clearfelling. In the tall wet eucalypt forests of Tasmania, the minimum clearfell size is about 5 ha. In practice, most clearfelled production areas in Tasmania range between 50 to 100 ha, although some area are as small as 10 ha.
Code of conduct	Principles, values, standards, or rules of behaviour that guide the decisions, procedures and systems of an organization.
Code of practice	A set of objectives, outcomes, goals or operating procedures designed to control or govern activities. (e.g. Forest Practices Code, Forest Safety Code).
Cohort	A group of subjects (e.g. trees, animals) that have shared a particular event together during a particular time span

Commercial stand	An area of forest (native or plantation) that contains commercial timber.
Commercial timber	Timber that can be sold.
Community	<p>1. Biological: a naturally occurring group of species inhabiting a particular area and interacting with each other, especially through biological relationships, relatively independently of other communities.</p> <p>2. Human: a group of people associated with a particular place.</p>
Corrective action	Actions taken to improve processes in order to reduce exposure to risk and minimise undesirable situations.
Coupe	For harvesting, the forest is subdivided into discrete areas called coupes.
Cross Laminated Timber	Panels produced by gluing together boards in layers where the grain direction alternates by 90 degrees from one layer to the next.
Cultural heritage	The legacy of physical artefacts and intangible attributes of a group or society that are inherited from past generations, maintained in the present and bestowed for the benefit of future generations.
Cut over	Cleared of valuable timber.
Declared weed	A plant species that has been declared a weed under the <i>Weed Management Act 1999</i> (Tas)
Districts/Regions	Geographic areas of PTPZ land forests used for the purposes of operational management.
Disturbance	A variation from the normal or expected path of events.
Ecosystem	A dynamic complex of plant, animal and microorganism communities and their non-living environment, interacting as a functional unit.
Endorsed planning tools	An instrument that has been endorsed by the Forest Practices Authority to deliver information to forest planners on the approach to management of a species or value in areas covered by the forest practices system.
Environmental constraint	An environmental factor that will limit forest harvesting for timber extraction

Environmental Management System	A framework for the systematic management of an organisation's environmental obligations, risks and objectives.
Exotic pests	Insects, plant diseases, weeds, nematodes and other organisms that are not native to the particular area in which they are found that cause undesirable damage.
Exotic species	A species that is not native to the particular area in which it is found.
Fire management plan	A document to provide guidance on reducing the occurrence of, and minimising the impact of bushfires thereby reducing the threat to life, property and the environment.
Forest	An area incorporating all living and non-living components, that is dominated by trees having usually a single stem and a mature (or potentially mature) stand height exceeding 2 metres and with existing or potential crown cover of overstorey strata about equal to or greater than 20%. This includes native forests and plantations, regardless of age. It is also sufficiently broad to encompass areas of trees that are sometimes described as woodlands.
Forest activity assessment	The mechanism by which proposed activities on PTPZ land that are not covered by a Forest Practices Plan are assessed. This process ensures that natural and cultural values, stakeholder values and operational values can be assessed and any potential impacts of the activity that compromise these values can be mitigated or avoided. It also ensures that any proposed activities that occur on PTPZ land meet legislated requirements.
Forest estate model	A representation of the growth and natural dynamics of a pre-defined area of forest; often used to simulate the effects of harvesting and silviculture on the long-term wood supply from the forest.
Forest life cycle	The changing stages in the development of a forest over time.
Forest management	A system of practices for conservation, stewardship and productive use of forest land, aimed at fulfilling relevant ecological, economic and social functions and objectives of the forest.
Forest management plan	A long term, documented plan for a forest area that contains defined management goals, objectives and outcomes, which are monitored and periodically reviewed, and that expressly includes the management of forest. Plans can take many forms, and depending on the scale of the management area can be a

collection of plans, documents or other instruments. An effective Forest Management Plan is a requirement of the FSC and AFS certification schemes.

Forest management system	A framework for the systematic management of an organisation's forest management related obligations, risks and objectives.
Forest operations	A process, method or series of actions, especially of a practical or mechanical nature within a forest related to its management or use for the production of forest products, including but not limited to road construction, timber harvesting and extraction, thinning, site preparation and/or prescribed burning.
Forest Practices Code	A code established under the <i>Forest Practices Act 1985</i> which prescribes the manner in which forest practices must be conducted in order to provide reasonable protection to the environment.
Forest practices	Forest activities that are regulated under the Forest Practices System. These are defined under the Forest Practices Act as a) the processes involved in establishing forests, growing or harvesting timber, clearing trees or clearing and converting threatened native vegetation communities; and b) works (including the construction of roads and the development and operation of quarries) connected with establishing forests, growing or harvesting timber or clearing trees.
Forest practices plan	A plan for forest operations, specified in Section 18 of the <i>Forest Practices Act 1985</i> .
Forest Practices Officer	A person appointed under Sections 38 and 39 of the <i>Forest Practices Act, 1985</i> (Tas)
Forest Practices System	The system established pursuant to the objective set out in Schedule 7 to the <i>Forest Practices Act 1985</i> (Tas). The Forest Practices System is administered by the Forest Practices Authority.
Forest product	Wood and non-wood material derived from a forest. (<i>The Forest Management Act 2013</i> defines forest products as a) vegetable growth on the PTPZ land, b) a product of growing or dead trees, shrub, timber or other vegetable growth that is on or from PTPZ land, c) sand, gravel clay, loam or stone that is on or from PTPZ land.)
Formal reserve	A reserve equivalent to the International Union for the Conservation of Nature and Natural Resources (IUCN) Protected Area Management Categories I, II, III, IV or VI as defined by the World Commission on Protected Areas (http://www.iucn.org). The status of formal

reserves is secure, in that revocation requires approval of the Tasmanian Parliament.

Forwarder	A wheeled or tracked heavy vehicle that carries logs from where the trees were felled to the roadside
Fuel load	The total amount of combustible material in a defined area.
Fuel reduction burn	A fire of low intensity carried out under closely controlled conditions to reduce the quantity of accumulated dead fuel from the forest floor, without damaging standing timber. Also called low intensity prescribed burn.
Future Potential Production Forest	Land designated under the <i>Forestry (Rebuilding the Forest Industry) Act 2014</i> (Tas) consisting of 398,490 hectares in 243 lots, managed by the Crown Lands Minister and the Department of Primary Industries, Parks, Water and the Environment at least until April 2020.
Future Reserve Land	Future Reserve Land is land was described in Column 2 of Schedule 1 in the now repealed Tasmanian Forest Agreement Act 2013. It was to be made into formal reserves over time.
Gazetted reserve	An area of land excluded from production forestry that has been officially proclaimed by an Act of parliament and published in the Government Gazette.
Genetic composition	The genetic characteristics of an individual or group of individuals
Genotype	An individual's genetic makeup
Geodiversity	The variety of natural inorganic materials and their natural forms that constitutes the Earth
Geomorphology	The study of the evolution and configuration of landforms
Giant tree	A tree that is 85 m tall (or taller) and/or 280 cubic metres in volume (or greater).
Group selection	A silvicultural system in which groups (small patches or stands) of trees are harvested, allowing for subsequent regeneration and leading to a forest comprising patches of differently aged trees.
Habitat	The environment where a plant, animal or ecological community normally lives or occurs.
Hardwood	Timber from broad-leaved flowering trees (botanical group <i>Angiospermae</i>), irrespective of physical

hardness. Includes eucalypts, wattles and most rainforest species.

Harvesting

1.As part of forest management, cutting (felling) of trees to produce wood products.

2.Collection (gathering) of non-wood forest products.

High Conservation Value Forests

Forests that possess one or more *High Conservation Value* attributes: HCV attributes are described in the FSC National Forest Stewardship Standard of Australia.

IBRA Bioregion

The Interim Biogeographic Regionalisation for Australia (IBRA) divides the Australian continent into 85 bioregions. Tasmania is divided into eight bioregions that are described in the report titled Interim Biogeographic Regionalisation for Australia (1995).

Identified Stakeholder

Any person, group or organisation that may be directly affected by or interested in the operations of Sustainable Timber Tasmania.

Informal reserve

Reserve on public land protected through an administrative instrument (as opposed to legislation) by a public agency.

Initiated engagement

Contact with a stakeholder initially made by Sustainable Timber Tasmania.

Interested Stakeholder

- Persons, groups, or organisations that are interested in our operations but are not directly affected by them
- These may include but are not limited to groups such as
 - o Industry organisations
 - o Environmental non-government organisations
 - o Community organisations
 - o Scientific community

Interrogation (data)

Assess or analyse information to extract a useful meaning.

Inventory

The systematic collection of data and information for assessment or analysis to assist management.

ISO 14001

The international standard for an Environmental Management System. It formalises methods for reviewing, reporting, documenting, monitoring and training in environmental management practices.

Laminated Veneer Lumber

An engineered wood product consisting of multiple layers of thinly cut wood glued together to form a larger piece

Landscape approach	A systematic planning and management approach that incorporates the principles of landscape ecology into forest management, such as maintaining stand-structure complexity and habitat connectivity at a landscape scale.
Landscape Context Planning system	The Landscape Context Planning (LCP) system is the way in which Sustainable Timber Tasmania implements a landscape approach to biodiversity management, with particular emphasis on maintaining mature forest habitat and connectivity, and on dispersing harvesting operations across space and time.
Landscape scale/level	A scale suitable (large enough) to be used for the sustainable management of biodiversity and geodiversity.
LiDAR	LiDAR stands for Light Detection And Ranging. A technology that uses laser (light) pulses from (most commonly) an aircraft to collect information on terrain and vegetation features (such as tree height), based on the return time of pulses back to the sensor.
Local industry	A group of companies within a geographic region.
Log supply obligations	<p>1. Statutory A level of log supply as defined in government legislation</p> <p>2. Contractual A level of log supply as defined in a legal contract</p>
Long term retention zones	This includes areas of native forest set aside from harvesting for at least 100 years from when the zone was established. This can include mature or regrowth native forest, and can include areas set-aside to maintain natural values such as stream side reserves, wildlife habitat clumps, and habitat for threatened fauna, hollow-using species or general biodiversity.
Management Decision Classification (MDC)	The Management Decision Classification (MDC) system is the way in which Sustainable Timber Tasmania zones the land it manages in order to optimise management and balance the competing demands on the forest estate. Zoning enables areas with particular values to be identified and appropriate management prescriptions put in place to ensure protection, maintenance and enhancement of these values. All areas are zoned into either production, protection or conditional primary zones that indicate their overall availability for wood production.

Mature forest	Forest containing a majority of trees more than 110 years old.
Merchantable wood	The part of a tree's stem with monetary value as a saleable product; usually refers to veneer, sawlog and pulpwood.
Mineral earth	Ground clear of organic matter
Monitoring	The periodic and systematic measurement and assessment of a value, attribute or indicator.
Native forest	Forest consisting of tree species that are native to Tasmania, other than plantations. Native forests include mature, regrowth forests and regeneration forests.
Natural sowing	The sowing of seed across an area through dispersal by natural means such as wind, insects and animals.
Natural vegetation	Plants and other flora established without human intervention.
Neighbour	A person located or living adjacent or nearby
Non conformance	Non-fulfilment of specified requirements.
Non-production land	Areas of the PTPZ land that are not within the CAR reserve system, but which are not designated for wood production due to various constraints (e.g. too steep, inaccessible, non commercial stands, non forest).
Old growth forest	Ecologically mature forest where the effects of disturbances are now negligible.
Oriented Strand Board	An engineered wood product consisting of thin, elongated flakes of wood laying in different directions and glued together under pressure to produce a single large piece of wood
Overstorey	1.The uppermost layer of foliage in a forest. 2.Trees occupying the uppermost layer in a forest of more than one layer (storey).
Partial harvesting	Harvesting systems which include the retention of some trees, for example, seed tree, shelterwood, thinning and variable retention.
Peeler log	Logs that are suitable for rotary peeling to produce veneer. The veneer produced from rotary peeling is generally used for structural grade plywood, whereas veneer produced by slicing high quality logs is furniture grade (e.g. for table tops).

Permanent Timber Production Zone land	This is a new land classification, established under the <i>Forest Management Act 2013</i> . It replaces the term State forest, defined in the <i>Forestry Act 1920</i> that was repealed in 2013.
Pest	Insects, plant diseases, weeds, nematodes and other organisms that cause damage to crops.
Pesticide	A chemical (including herbicides, fungicides and insecticides) used to control biological damage agents.
PIRI	The Pesticide Ratings Index. A software based tool developed by CSIRO. The tool allows users to select the best product for their circumstances by rating pesticides in terms of their relative risk to the environment.
Planned burn	Fire started in accordance with a fire management plan or planned burning program, such as fuel-reduction burning.
Plantation	Stands of trees of either exotic or native species, created by the regular planting, sowing or control of cuttings, seedlings, seed or coppice.
PM₁₀	Particulate matter less than 10 micrometres in diameter
PM_{2.5}	Particulate matter less than 2.5 micrometres in diameter
Policy	A statement of intent.
Potential sawlog retention	Management of multi-aged forest (typically highland dry eucalypt forest) which encourages growth of retained trees by removing competition and initiating a new crop of seedlings.
Prescription	limits on or requirements to be achieved when carrying out a task. Often related to achieving an objective.
Production forest	Forest zoned for commercial harvesting.
Processor	<ol style="list-style-type: none"> 1. A wheeled or tracked heavy vehicle with an articulated arm and grapple used for mechanically felling, debarking and delimiting trees 2. An individual or company that takes logs and turns them into higher value secondary products
Productive forest	Forest suitable for the commercial extraction of forest products

Provenance	<ol style="list-style-type: none"> 1. The place of origin of a plant or animal. 2. A set of individuals of a plant or animal species that originate from a particular location.
Pruning	The removal of branches from the trunk of a tree
Public forest	Includes forest in World Heritage Areas, National Parks, Formal and informal Reserves and Permanent Timber Production Zone land.
Pulpwood	Logs below sawlog quality but suitable for manufacturing pulp, paper and panel products.
Rainforest	Forest dominated by tree species such as myrtle, sassafras, celery-top pine and leatherwood, in which eucalypts comprise less than 5% of the crown cover. Rainforest generally occurs in areas with high rainfall.
Reforestation	Where forest is re-grown on logged or cleared land. May involve silviculturally regenerating forest and/or establishing plantations.
Refugia	Small isolated pockets representing once more widely spread environmental conditions.
Regeneration	New trees arising naturally or with human assistance after harvesting, fire or other causes have removed all or some of the overstorey.
Regrowth forest	The plants, particularly trees of similar age, that grow in an area following disturbance. Forests create different fauna and flora habitats as they grow and develop. Each stage of forest growth, including regrowth, provides a suite of conservation values. A range of forest growth stages is essential to maintain the full set of values that they provide.
Remedial action/treatment	An action to rectify, restore or improve something that is below an expected standard.
Reserve/reservation	An area of land formally or informally set-aside for specified conservation purposes. Formal reserves are dedicated under the Nature Conservation Act 2002. Informal reserves on PTPZ land include wildlife habitat strips and other areas where harvesting activities are specifically excluded by management zoning.
Residue	The remaining parts of a tree, log or lumber following the extraction of the primary product
Risk assessment	The objective qualitative and quantitative determination of risk related to a specific situation and a recognised hazard.

Rotation	The period between forest establishment and its harvesting. category.
Seed tree retention	A method of silviculture where trees are left standing in a harvested area for the purpose of providing seed for regeneration.
Seed orchard	A stand of trees managed to produce seed
Seedlot	A collection of seeds that may be from a single tree or many trees
Selective logging	This is harvesting that targets a small proportion of the stand for specific products which are removed as single trees or small groups of trees. All other growing stock is retained for potential harvest in subsequent cycles.
Shelterwood	A silvicultural system of securing natural tree regeneration under a partially harvested overstorey, which is subsequently removed by successive harvests to allow seedlings and young regeneration to occupy the site.
Significant Biodiversity values	natural values considered as significant as defined by the Australian Forestry Standard.
Silvicultural system	All the manipulations (e.g. harvesting, regeneration, thinning) carried out during the lifetime of forest stands or trees to achieve the management objectives of the landowner.
Slash	Material left on the ground after harvesting operations including tree heads, shrubs and other non-merchantable woody material
Skidder	A wheeled heavy vehicle used to drag logs from where a tree was felled to a roadside collection point
Snig track	A track along which logs are pulled from the felling point to a nearby landing.
Softwood	Timber of coniferous or cone-bearing trees (in the botanical group <i>Gymnospermae</i>), irrespective of physical hardness. Includes radiata pine.
Spatial conservation database	A set a databases in which spatial information is stored that is used to provide conservation related information. (e.g. cultural heritage, threatened species, geo-conservation)

Special species timber	Tasmanian native forest timbers, which primarily includes blackwood, myrtle, celery-top pine, sassafras, Huon pine and silver wattle.
Stakeholder	Any person, group or organisation that is directly affected by or interested in the operations of Sustainable Timber Tasmania.
Stakeholder engagement	The process by which an organisation provides information to and seeks input people who may be affected or interested in its actions in order to inform and inform planning and decision making.
Standard operating procedure	A formalised set of instructions to carry out a regular task
State forest	Land managed by Sustainable Timber Tasmania under the <i>Forestry Act 1920</i> , which was repealed in 2013.
Statement of corporate intent	An outline of objectives, major activities and targets to be achieved by a business
Sustainable forest management	<p>1. A set of objectives, activities and outcomes consistent with maintaining or improving the forest's ecological integrity and contributing to people's wellbeing now and in the future.</p> <p>2. The practice of stewardship and use of forests and forest lands in such a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity and vitality, and their potential to fulfil, now and in the future, relevant ecological, economic and social functions at local, national and global levels, and that does not cause damage to other ecosystems.</p>
Sustainable yield	The level of commercial timber (or product mix) that can be maintained under a given management regime, without reducing the long-term productive capacity of the forest.
Tasmanian Reserve Estate	The Tasmanian Reserve Estate extends over land, inland waters, estuaries and marine areas. It includes gazetted (formal) and administrative (informal) reserves on public land, reserves on private land, and marine protected areas. A spatial representation and statistics of Tasmania's Reserve Estate are provided on DPIPWE's website.
Thinning	A silvicultural treatment to overstocked regrowth or plantation stands to release potential sawlogs from competition. There is no intention to induce regeneration.

Threatened	<p>In Tasmania, the term threatened, whether applied to species or ecosystems, is an umbrella term used to encompass rare, vulnerable or endangered species or ecosystems. These terms have precise meanings. For threatened species definitions refer to the ‘Guidelines for eligibility for listing under the Threatened Species Act 1995’</p> <p>With respect to threatened communities the following definitions apply:</p> <ul style="list-style-type: none"> • Endangered – depletion approaching 90% or more of pre-1750 extent; • Vulnerable – depletion approaching 70% or more of the pre-1750 extent; and • Rare – not significantly depleted but of limited extent (and see below). <p>A rare ecosystem is defined in JANIS (1997) as “one where the geographic distribution involves a total range of generally less than 10 000 ha, a total area of generally less than 1000 ha or patch sizes of generally less than 100 ha, where such patches do not aggregate to significant areas”.</p>
Three-year wood production plan	<p>Companies harvesting more than 100,000 tonnes per annum must lodge a three-year plan annually to the Forest Practices Authority. The Plan outlines proposed operations, and is finalised after consultation with local government. Sustainable Timber Tasmania’s plan is also made publicly available on its website.</p>
Understorey	<p>That part of forest vegetation growing below the forest canopy</p>
Values	<p>Tangible or intangible features or characterises that have some importance or usefulness.</p>
Variable retention	<p>A harvest system where structural elements or biological legacies (e.g., old trees, stags, logs, treeferns) from the harvested stand are retained for the new stand to achieve various ecological objectives. The system typically requires the majority of the felled area to be within one tree height of forest that is retained for at least a full rotation.</p>
Veneer log	<p>A log for producing veneer, by slicing, for panel products.</p>
Visual amenity	<p>Positive element or elements that contribute to an aesthetically pleasing view</p>

Volatilisation	The process of changing a substance in solid or liquid form into a vapour or gas
Watershed	The area or region drained by a stream or river
Weed	A plant considered undesirable in a particular situation
Windrow	Forest debris placed into an elongated heap
Woodchipping	Producing small pieces of wood from pulpwood logs. This is the first stage of processing pulpwood into paper and fibreboard.

5.2.2 A1.2: Acronyms and abbreviations

AFS	Australian Forestry Standard
BLANKET	Baseline Air Network Tasmania
CAR Reserve	Comprehensive, Adequate and Representative reserve.
CLT	Cross Laminated Timber
CSMS	Coordinated Smoke Management Strategy
DPIPWE	Department of Primary Industries, Water and Environment
EMS	Environmental Management System
EPA	Environmental Protection Authority
FMS	Forest Management Systems
FPA	Forest Practices Authority
FPPF	Future Potential Production Forest
FSC	Forest Stewardship Council
FT	Forestry Tasmania
STT	Sustainable Timber Tasmania
GBE	Government Business Enterprise
GIS	Geographic Information System
GMO	Genetically Modified Organism.
HCV	High Conservation Value

IBRA	Interim Biogeographic Regionalisation for Australia
ICOMOS	International Council on Monuments and Sites
ISO	International Standards Organisation
LiDAR	Light Detection And Ranging
LCP system	Landscape Context Planning System
LVL	Laminated Veneer Lumber
MDC system	Management Decision Classification system
PIRI	Pesticide Impact Rating Index
PPRR	Prevention, Preparedness, Response, Recovery
PTPZ land	Permanent Timber Production Zone land
RFA	Regional Forest Agreement. A long-term agreement between the Commonwealth and State governments, to ensure the sustainable management of Tasmania's forests.

5.3 Appendix 3: Legislation and policies relevant to the management of PTPZ land

5.3.1 Tasmanian legislation and policies

Legislation/Policy	Agency/Authority/Enterprise	Purpose	Applicable to
<i>Aboriginal Heritage Act 1975</i>	Aboriginal Heritage Tasmania	Provides for the protection of Aboriginal cultural heritage in Tasmania.	All tenures
<i>Agricultural and Veterinary Chemicals (Control of Use) Act 1995</i>	Department of Primary Industries, Parks, Water and Environment	Prevents restricted chemicals being used without a permit. Requires approved labelling in accordance with the Code of Practice for the Supply of Veterinary Chemical Products 2001.	All tenures
<i>Boundary Fences Act 1908</i>	Department of Premier and Cabinet	Exempts Sustainable Timber Tasmania from the provisions of the Boundary Fences Act.	All tenures
<i>Environmental Management and Pollution Control Act 1994</i>	Department of Primary Industries, Parks, Water and Environment	Establishes duty of care on everyone to prevent or minimise environmental harm. Defines potentially harmful activities requiring assessment and approval. Identifies notification requirements for environmental incidents.	All tenures
<i>Fire Service Act 1979</i>	Department of Police, Fire and Emergency Management	Provides for the control and use of fire in the urban and rural environment.	All tenures
<i>Forestry (Fair Contracts Codes) Act 2001</i>	Department of State Growth	Provides for the approval of codes developed by the forestry industry for the purpose of improving the fairness of contracts for services within that industry, to provide for the legal effect of such codes.	All tenures

Legislation/Policy	Agency/Authority/Enterprise	Purpose	Applicable to
<i>Forest Management Act 2013</i>	Sustainable Timber Tasmania	Empowers Sustainable Timber Tasmania with responsibility for exclusive control and management of forest products and forest operations for PTPZ land	Permanent Timber Production Zone land
<i>Forest Practices Act 1985</i>	Forest Practices Authority	Establishes the Forest Practices Code and forest practices system to provide for the sustainable management of forests on any land subject to forest operations.	All tenures
<i>Forestry (Rebuilding the Forest Industry Act) 2014</i>	Department of State Growth	Repeals the Tasmanian Forest Agreement Act 2013 and defines Future Potential Production Forest land.	Crown land; Future Potential Production Forest land, Permanent Timber Production Zone land
<i>Forestry Rights Registration Act 1990</i>	Department of Primary Industries, Parks, Water and Environment	Provides for the registration on land title of certain forestry rights.	Any land with title
<i>Government Business Enterprise Act 1995</i>	Department of Premier and Cabinet	Establishes Government Business Enterprises including Sustainable Timber Tasmania	All tenures
<i>Historical Cultural Heritage Act 1995</i>	Department of Primary Industries, Parks, Water and Environment	Promotes identification, assessment, protection and conservation of places having historic cultural heritage.	All tenures
<i>Land Use Planning Approvals Act 1993</i>	Tasmanian Planning Commission	Provides for land use planning and approvals except for forest practices specifically regulated by the Forest Practices Act 1985.	All tenures

Legislation/Policy	Agency/Authority/Enterprise	Purpose	Applicable to
<i>Mineral Resources Development Act 1995</i>	Department of State Growth	Provides for the development of mineral resources in Tasmania.	All tenures
<i>Nature Conservation Act 2002</i>	Department of Primary Industries, Parks, Water and Environment	Provides for the conservation and protection of the fauna, flora and geological diversity of the State. Provides for the declaration of national parks and other reserved land and for related purposes.	All tenures
<i>Permanent Native Forest Estate Policy 2011</i>	Forest Practices Authority	Ensures that Tasmania maintains a permanent forest estate that comprises areas of native forest managed on a sustainable basis both within formal reserves and within multiple-use forests across public and private land.	All tenures
<i>Threatened Species Protection Act 1995</i>	Department of Primary Industries, Parks, Water and Environment	Provides for the conservation management of scheduled threatened species of flora and fauna.	All tenures
<i>Water Management Act 1999</i>	Department of Primary Industries, Parks, Water and Environment	Provides for the management of Tasmania's water resources.	All tenures
<i>Weed Management Act 1999</i>	Department of Primary Industries, Parks, Water and Environment	Provides for the management of weed control	All tenures
<i>Work Health and Safety Act 2012</i>	Department of Justice	Provides for the health and safety of person employed, engaged and affected by industry.	All tenures

5.3.2 Australian legislation and policies

Legislation/Policy	Agency/Authority/Enterprise	Purpose	Applicable to
<i>The Burra Charter 2013</i>	<i>Australia ICOMOS</i>	Defines the basic principles and procedures to be followed in the conservation of Australian heritage places.	All tenures
<i>Environmental Protection and Biodiversity Conservation Act 1999</i>	Department of the Environment and Energy	Provides a framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places. Forest operations that are undertaken in a region covered by a Regional Forest Agreement and in accordance with the RFA, do not require duplicate environmental approvals under the EPBC Act. That is, the Australian Parliament, via the EPBC Act, has effectively accredited the State's forest practices system.	All tenures
<i>Tasmanian Regional Forest Agreement 1997</i>	Australian and Tasmanian governments	A 20-year bilateral agreement for the conservation and sustainable management of Tasmania's native forests.	All tenures
<i>Tasmanian Community Forest Agreement 2005</i>	Australian and Tasmanian governments	This is a supplement to the Tasmanian Regional Forest Agreement.	All tenures
<i>National Forest Policy Statement 1992</i>	Australian, state and territory governments	This is the blueprint for the future of public and private forests. It outlines agreed objectives and policies for the future of Australia's public and private forests.	All tenures
<i>Australia's Biodiversity Conservation Strategy 2010 - 2030</i>	Department of the Environment and Energy	A national strategy for the conservation, sustainable use and the fair and equitable sharing of benefits arising from Australia's biodiversity.	All tenures

5.4 Appendix 4: Revision change summary

Date	Note
November 2014	Original version published
January 2016	Minor revision to sections: <ul style="list-style-type: none"> • 2.2 Description of PTPZ land. Figure showing summary of Land tenure in Tasmania added. • 3.2 Strategic objectives – updated to reflect revised set of objectives • 4.3.6 Wood product innovations – reference to Hardlam removed • 4.4.2.1.2 Old growth forests – updated to reflect July 2015 decision to phase out clearfelling of Coupes Containing Old Growth • 4.4.2.2.3.1 Pesticide use policy – updated to include derogation application for fipronil • 4.4.2.5 Cultural heritage – updated to reference recently developed Forest Practices Authority procedures • 4.6.3.2 Apiary sites – updated wording regarding the tenures on which the leatherwood resource occurs as requested by and agreed with the Tasmanian Beekeepers Association • 4.8.1 Organisation structure and human resources - updated regional structure and figure 11

Date	Note
May 2018	<p>Minor revisions:</p> <p>General:</p> <ul style="list-style-type: none"> • References to Forestry Tasmania replaced by Sustainable Timber Tasmania • Revised to reflect new strategic objectives, Sustainable Forest Management Policy and Communications and Engagement Policy. • Updated figures to reflect Sustainable Timber Tasmania managed plantation area that has changed after recent sale of some hardwood plantations. • Updated weblinks <p>Sections:</p> <ul style="list-style-type: none"> • 4.1.3 – Changed wording from “<i>All certified forest practices plans are available free of charge to the public</i>” to “<i>All certified forest practices plans are available upon request</i>” to reflect present practice. • 4.4.2.2.3.1 Pesticide use policy – updated to include successful derogation application for alpha cypermethrin. Removed reference to fipronil. • 4.8 Revised Organisational capacity section to reflect Sustainable Timber Tasmania organisation structure • Appendix 3 - updated to current legislation and responsible authorities

Date	Note
March 2019	<p>Minor Revisions:</p> <ul style="list-style-type: none"> • Updated weblinks • Minor currency revisions of language and some statistics <p>Sections:</p> <ul style="list-style-type: none"> • 2.2 included figure 2 Tasmanian Land tenure and associated wording. Updated figure 3 Summary of PTPZ land use and associated wording. • 4.1.1 Updated sustainable yield commentary and figure to reflect 2019 review. • 4.4.1.3 Landscape context planning system updated to reflect new block level objectives. • 4.4.2.1.4 Biodiversity monitoring commentary updated to reflect native forest reserve condition assessment surveys • 4.4.2.3. Carbon commentary and figure updated to reflect 2019 review • 4.4.2.6 HCVs updated to reflect New Australian FSC standard and revised HCV plan. • 4.4.2.7 Ecosystem services added. • 4.8.3 Values and Staff conduct added.
October 2019	<p>Section 2:</p> <ul style="list-style-type: none"> • Added Registered Trademark symbols (®) to FSC and Forest Stewardship Council