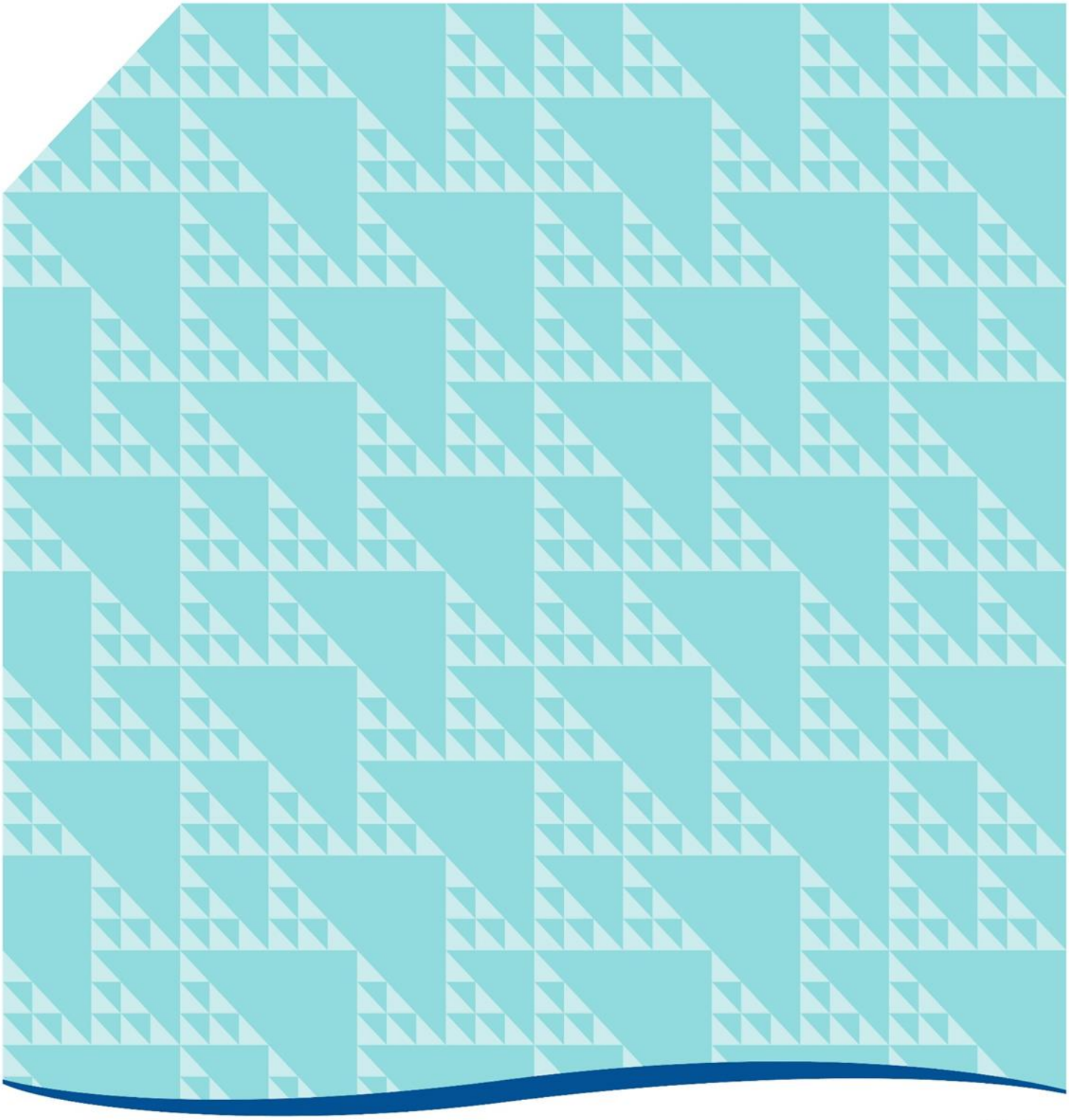
Tasmania's Forest Management System: An Overview (2021 update)



Department of State Growth

Tasmanian Government

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1. Introduction

1.1 About this document

This document 'Tasmania's Forest Management System: An Overview" was first published in 2017 as part of the Regional Forest Agreement (RFA) extension process. As well as acting as a general source of information, this document is required to be considered by the person, or persons, appointed to conduct the RFA five-yearly reviews (RFA clause 9F(c)). As noted within the RFA, this document is updated from time to time. This 2021 version is current as at 31 December 2021.

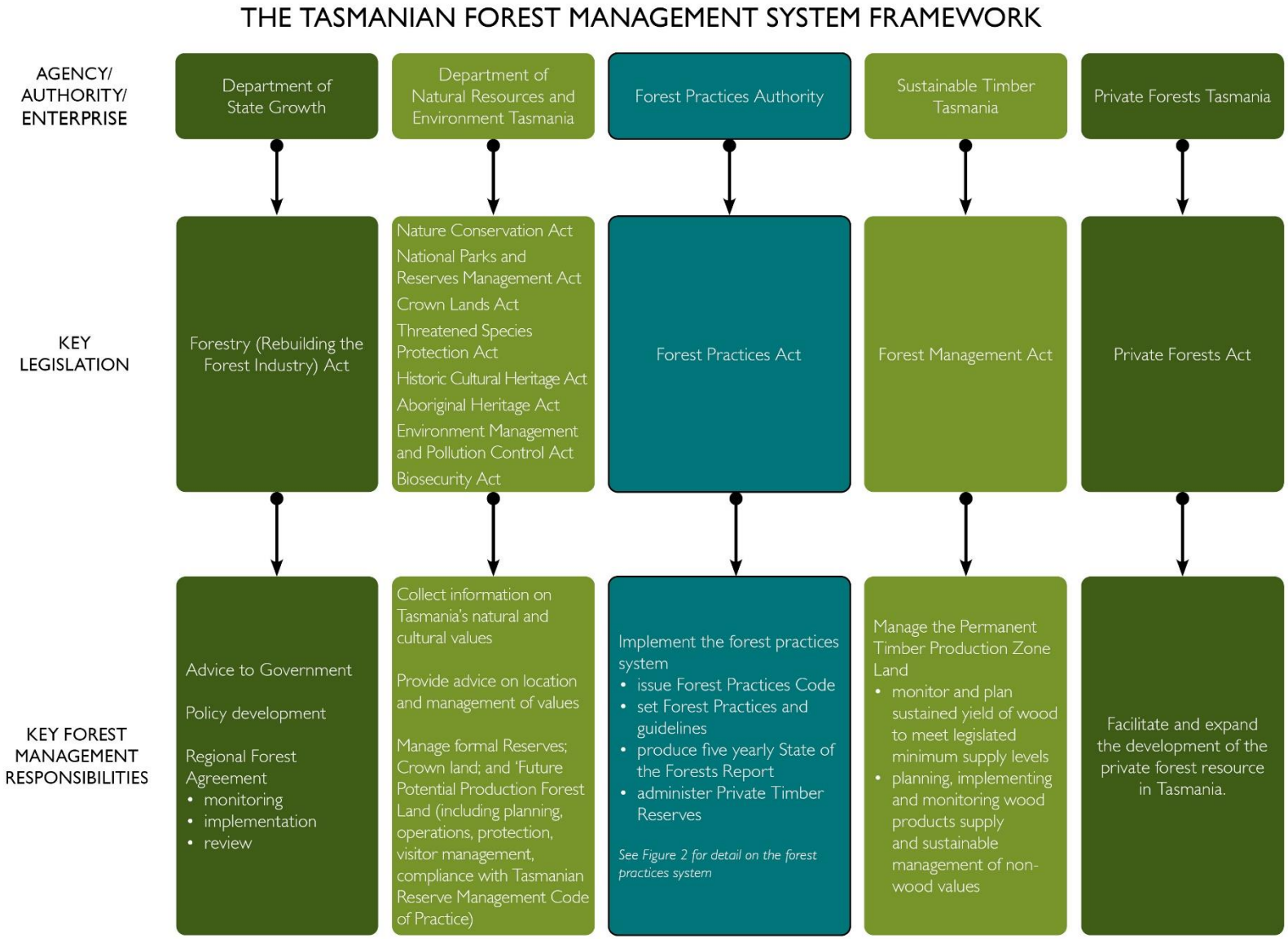
1.2. Tasmanian's forest management system

Tasmania's forest management system is a comprehensive system for delivering ecologically sustainable forest management across all land tenures. The system comprises an overarching legislative and policy framework, and associated planning and operational systems. It is complemented by an adaptive management and continuous improvement process incorporating research findings and feedback processes associated with compliance and enforcement systems, stakeholder engagement and monitoring and review mechanisms.

This document provides an overview of Tasmania's forest management system as at December 2021, including its various components and the legislation that regulates it. This document also addresses the management of Tasmania's forest reserves and the production forest estate on both public and private land, including the management of Australian Government matters of national environmental significance (MNES). Key documents and concepts are hyperlinked throughout this document, providing more detailed information on aspects of the forest management system.

Figure 1 shows the key agencies and entities that are integral to Tasmania's forest management system. While shown as separate entities, these agencies interact with each other regularly at an operational level.

Figure 1. Tasmania's forest management system



2. International and national policy context

Australia is a signatory to several international treaties and agreements, which are considered in managing Tasmania's forests, including the 1971 Convention on Wetlands of International Importance, the 1972 World Heritage Convention and the 1992 Convention on Biological Diversity.

The United Nations Food and Agriculture Organization has defined sustainable forest management as: "*The stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, 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.*"

Australia's National Forest Policy Statement 1992 (NFPS) sets out a nationally shared vision for the ecologically sustainable management of Australia's forests. In the NFPS Australian, state and territory governments accepted that:

> "*the public and private native forest estate will be managed for the broad range of commercial and non-commercial benefits and values it can provide for present and future generations. Efficiently and sustainably managed public and private forests will provide the basis for nature conservation and maintaining forest biological diversity, and for regional economic development and employment opportunities in a wide range of sectors, including wood production from native and plantation forests, tourism and recreation, water supply, grazing and the pharmaceutical industry" (NFPS 1992, page 6).*

Regional Forest Agreements (RFAs) are an outcome of the NFPS. They are given legislative power through the *Regional Forest Agreements Act 2002* (Cth; RFA Act). The key objectives of the RFA Act relevant to Tasmania's forest management system, are to give effect to certain:

- obligations of the Australian Government under RFAs; and
- aspects of the NFPS.

The Tasmanian RFA is a long-term bilateral agreement between the Tasmanian and Australian governments, first signed on 8 November 1997. A variation to the RFA (18 August 2017) established a 20-year rolling extension, subject to the satisfactory completion of five-yearly reviews. The RFA is a framework document that is underpinned by Tasmania's forest management system. The RFA's key principles are:

- ecologically sustainable forest management (the management of forest on all land tenures to maintain the overall capacity of forests to provide goods; protect biodiversity, and protect the full suite of forest values at the regional level);
- certainty for conservation of the environment and heritage values (through the establishment and maintenance of a comprehensive, adequate and representative (CAR) reserve system; and
- certainty of resource access for the forestry industry.

The *Environment Protection and Biodiversity Conservation Act 1999* (Cth; EPBC Act), is the Australian Government's central piece of environmental legislation. The EPBC Act encapsulates the principles of ecologically sustainable development, which are actively promoted under the legislation's objectives.

In particular, the EPBC Act provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places, which are referred to as MNES. Specifically, the EPBC Act protects the following nine MNES:

- World Heritage properties;
- National Heritage places;
- wetlands of international importance (Ramsar wetlands);
- listed threatened species and communities;
- listed migratory species;
- nuclear actions;
- Great Barrier Reef Marine Park;
- Commonwealth marine areas; and
- a water resource, in relation to coal seam gas development and large coal mining development.

The EPBC Act also provides protection for the environment where:

- actions proposed are on, or will affect Commonwealth land and the environment; and
- Australian Government agencies are proposing to take an action.

In accordance with the EPBC Act, a proposed action that will or is likely to have a significant impact on an MNES requires approval from the Australian Government Minister for the Environment.

Section 38 of the EPBC Act provides that forestry operations conducted in relation to land covered by the RFA (and not prohibited by the RFA) are exempt from the assessment and approval requirements of Part 3 of the EPBC Act (except for any forestry operations in World Heritage properties or Ramsar wetland sites). This exemption is in recognition of Tasmania's Comprehensive Regional Assessment (undertaken as part of the development of the RFA), the implementation of a CAR reserve system, and implementation of ecologically sustainable forest management. Hence the RFA provides a framework for MNES to be protected and managed through Tasmania's forest management system, including its reserves, and avoids duplication of environmental regulation.

3. Tasmania's land tenures

This section describes how Tasmania's forest management system is applied across the State's land tenures. Different elements of the system may apply on all land tenures or to specific land tenures, as described in Table 1.

Table 1. Key Tasmanian land tenure/classes, establishing legislation and managing agency/entity

Tenure/class	Establishing legislation	Primary purpose	Managing agency/entity
PUBLIC LAND			
Permanent Timber Production Zone land	*Forest Management Act 2013*	Sustainable supply of timber products	Sustainable Timber Tasmania (STT) (formerly Forestry Tasmania)
Future Potential Production Forest land	*Forestry (Rebuilding the Forest Industry) Act 2014*	A 'wood-bank' to provide for future sustainable forestry	Department of Natural Resources and Environment Tasmania (DNRET - Parks and Wildlife Service (PWS))
Conservation reserves - National park - State reserve - Nature reserve - Game reserve - Conservation area - Nature recreation area - Regional reserve - Historic site	*Nature Conservation Act 2002*	Protection of natural and cultural values, provision for public use and the sustainable use of natural resources in some reserve classes	DNRET (PWS)
Crown land - Unallocated - Public reserve	*Crown Lands Act 1976*	Management of Crown land consistent with land management objectives.	DNRET (PWS)
Land vested in the Hydro-Electric Corporation	*Hydro Electric Corporation Act 1995*	Generation of electricity	Hydro Tasmania
PRIVATE LAND			
Private freehold	Not applicable	Private use at landowners' discretion (subject to other legislative constraints) – may be primary production and/or non-production	Landowner
Private timber reserves	*Forest Practices Act 1985*	Ensure private landholders rights to manage forests for timber production	Forest Practices Authority (FPA)/landowner
Private reserves - Private sanctuary - Private nature reserve - Conservation covenant	*Nature Conservation Act 2002*	Protection of natural and cultural values	Landowner/DNRET

4. Tasmania's forest management system

Tasmania's forest management system encompasses a range of legislation administered by several Tasmanian Government agencies and authorities and applies to both public and private land tenures.

The following key Tasmanian legislation underpins the forest management system:

- The *Forest Practices Act 1985* (FP Act) and Forest Practices Regulations 2017, which provide for sustainable forest management associated with the growing and harvesting of forests on public and private land;
- The *Forest Management Act 2013* (FM Act), which prescribes the Permanent Timber Production Zone land (PTPZL) and the Forestry Corporation (now STT) as the land manager;
- The *Nature Conservation Act 2002* (NC Act) and the *Threatened Species Protection Act 1995* which provide protection for listed flora, fauna and threatened vegetation communities; and
- The *National Parks and Reserves Management Act 2002* (NPRM Act), which prescribes management requirements for most of the Tasmanian reserve system.

A full list of Tasmanian legislation relevant to the forest management system is provided at Appendix 1.

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

- policy for maintaining a permanent native forest estate;
- CAR reserve system that securely protects forest conservation values; and
- system for managing forests outside reserves in a manner that contributes to sustainable environmental, social and economic outcomes.

Each of these elements are described in more detail in the following sections of this document. Specific reference is made, where applicable, to how the forest management system provides for the protection and management of MNES as defined in the EPBC Act.

The implementation of the RFA and the process of adaptive management and continuous improvement built into Tasmania's forest management system has delivered world-class sustainable forest management. As processes and knowledge evolve, the structure and delivery mechanisms within Tasmania's forest management system have also evolved and will continue to do so to meet community expectations. As a framework agreement, the RFA is able to accommodate continuous improvement, without requiring continual updates to the agreement itself.

4.1 The maintenance of a permanent native forest estate

Tasmania's Permanent Native Forest Estate Policy is in place to ensure the maintenance of the native forest resource base for all its various conservation, production and amenity values by placing limits on broad scale clearance and conversion of native forest in Tasmania.

The policy does not regulate the reservation of native forests, the regeneration of native forests, nor the use of plantation forests.

The policy was first issued in 1997, in accordance with the RFA. The policy is implemented through the FP Act and is reviewed in conjunction with both the five-yearly RFA reviews and State of the Forests reporting.

The Forest Practices Authority (FPA) produces quarterly and annual monitoring reports of the Permanent Native Forest Estate.

4.2 Tasmania's comprehensive, adequate and representative reserve system

Tasmania's CAR reserve system comprises of:

- formal reserves declared by the Governor of Tasmania;
- informal reserves created through administrative instruments by public authorities;
- private reserves created under legislation or through management agreements or certified management systems; and
- specified areas managed by prescription.

As at 30 June 2021, Tasmania's terrestrial reserve system comprised 50.3 per cent (3.43 million hectares) of the State's land area. It provides protection for a wide range of Tasmania's natural and cultural heritage values, including native forest and non-forest vegetation communities, geodiversity, biodiversity and water values, wilderness, old-growth forest, and historic and Aboriginal heritage. The reserve system also provides opportunities for nature-based recreation and is a cornerstone of Tasmania's tourism industry.

The Department of Natural Resources and Environment Tasmania (DNRET) produce an annual analysis of the contribution of Tasmania's reserve system to the protection of Tasmania's native vegetation and native plants.

The elements and management of the CAR reserve system are described in more detail in Section 8 of this document.

4.3 The management of forests outside reserves

The contribution of forests outside reserves to sustainable environmental, social and economic outcomes is achieved through both regulation and voluntary mechanisms.

A large area of public forest (812,000 hectares, or almost 12 per cent of Tasmania's land mass) is designated as PTPZL and managed by the Forestry Corporation prescribed under the FM Act (now STT). STT has designed and implemented a comprehensive planning and operational framework to deliver its wood production and land management responsibilities and to comply with all legal requirements. This system is described in detail in Section 6 of this document.

Around 33 per cent of Tasmania's forests, or 1.105 million hectares, are privately owned. This includes both forest on private land, as well as privately owned/managed forest on public land. The private forest estate comprises 855,000 hectares of native forest and 250,000 hectares of plantation forest. Ownership ranges from industrial forest companies

and forest investment managers to thousands of individuals – mainly farmers. Tasmania's private forest owners have access to a variety of voluntary mechanisms that can contribute to improved outcomes for sustainable forest management. These include government incentive programs and market-based devices, including forest certification schemes. That said, active forest management in privately owned forests is regulated by the same processes that apply in public forests; ensuring a consistent approach to sustainable forest management across Tasmania.

Private timber reserves (PTRs) were created by the Tasmanian Government in 1985 to enable landowners to have their land dedicated for long-term forest management. The legislation provides that forestry activities on the land are subject to a single, consistent, state-wide system of planning and regulation through the *Forest Practices Act 1985*. As at 30 June 2021, the total net area gazetted as a PTR was 434,181 hectares.

5. Forest practices system

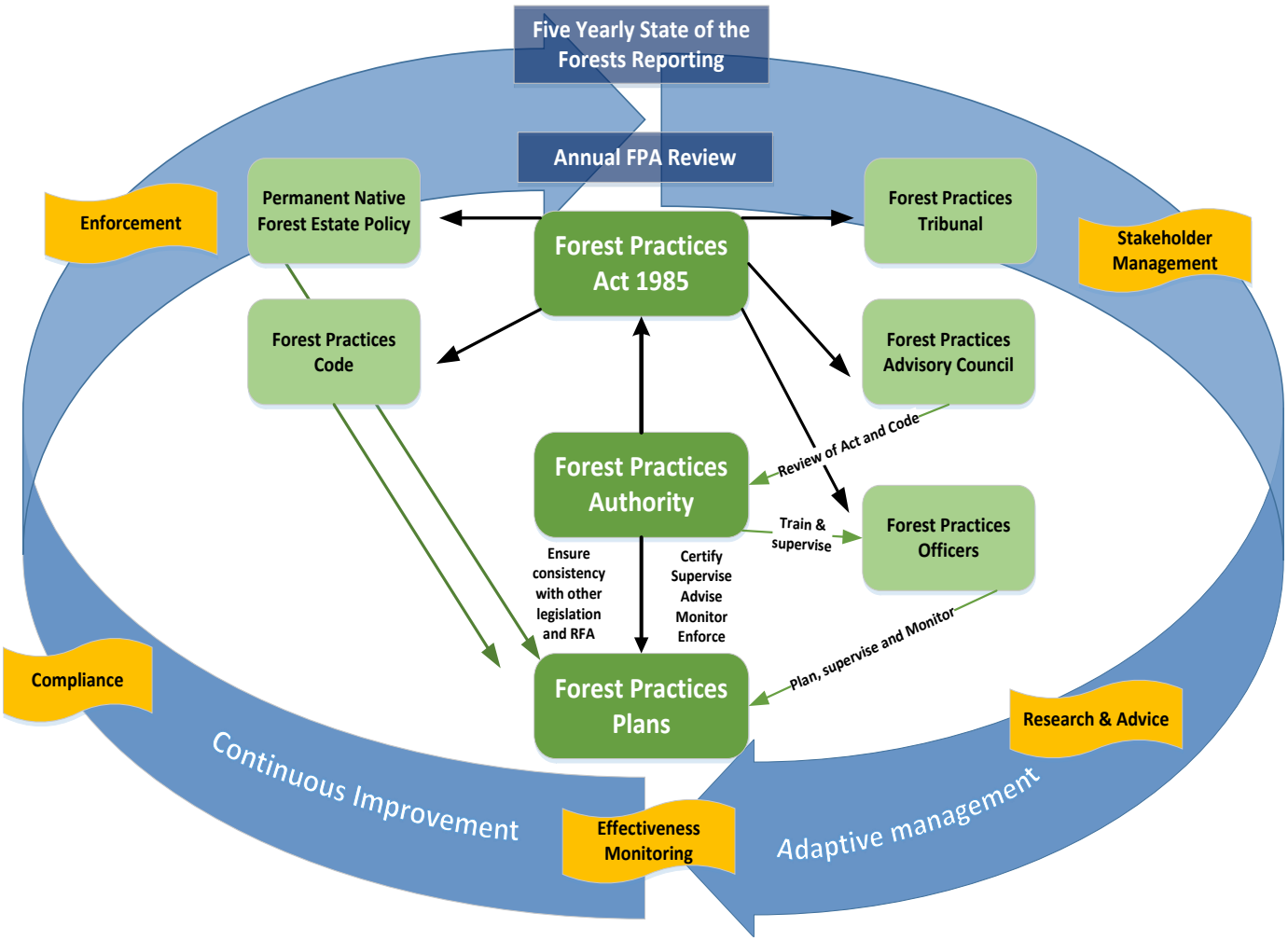
Tasmania's forest practices system is given legislative power through the FP Act. The forest practices system recognises the many values that forests have and is designed to ensure the reasonable protection of natural and cultural values of the forest when forest practices are carried out.

The objective of Tasmania's forest practices system, as specified in Schedule 7 of the FP Act, is to achieve sustainable management of crown and private forests with due care for the environment, and taking into account social, economic and environmental outcomes in a way that is as far as possible self-funding. Figure 2 illustrates the key elements of Tasmania's forest practices system.

Forest practices regulated by the forest practices system include:

- harvesting and regenerating native forest;
- harvesting and/or establishing plantations;
- clearing forests for other purposes, including agriculture;
- clearing and converting threatened native vegetation communities;
- constructing roads and quarries for the above purposes; and
- harvesting tree ferns.

Figure 2. Key elements of the forest practices system



The key elements of the forest practices system include:

- Forest Practices Regulations 2017;
- Forest Practices Code;
- research, monitoring and advice;
- forest practices officers;
- forest practices plans;
- three-year plans;
- private timber reserves;
- maintaining forest cover;
- tree fern harvesting regulation;
- co-regulation;
- training and education;
- compliance and enforcement;
- processes for public engagement, objections, complaints;
- formal appeals (Forest Practices Tribunal); and
- reviews and public reporting.

Each of these elements is described in more detail on the FPA's website.

5.1 Administration of the forest practices system

The FPA is an independent statutory body that administers Tasmania's forest practices system on both public and private land. Its primary responsibility is regulating the conduct of forest practices in forest and threatened non-forest vegetation.

The Chief Forest Practices Officer (CFPO) is responsible for overseeing the day-to-day administration of the system and has other functions and powers delegated by the FPA. The FPA consists of a seven-member Board, including the CFPO. Board members' expertise is described in the FP Act.

The Forest Practices Advisory Council is made up of members from stakeholder groups in the forest practices system. It provides advice to the FPA.

The FPA has a statutory responsibility to provide an annual report on the forest practices system and the operations and performance of the FPA to the Minister for Resources. It also has a statutory responsibility for production of the five-yearly State of the Forests Tasmania Report. The Minister for Resources must table both documents in the Tasmanian Parliament.

The FP Act requires the establishment of a Forest Practices Tribunal and sets out a process by which certain decisions made by the FPA can be appealed and reviewed.

5.2 The Forest Practices Code and plans

The Forest Practices Code (the Code) applies to forest practices across all land tenures. It is a statutory instrument issued by the FPA. The purpose of the Code is to 'prescribe the manner in which forest practices shall be conducted so as to provide reasonable protection to the environment'.

The application of the Code must take account of social, economic and environmental factors, as well as legislated wood supply obligations of STT (referred to in the Code as the Forestry Corporation).

All forest practices, other than circumstances prescribed in Regulation 4 of the Forest Practices Regulations 2017, require a forest practices plan (FPP). The circumstances prescribed in Regulation 4 include; minimum volume and area thresholds, clearance of native vegetation for the maintenance of infrastructure or public safety and land use activities that are regulated under other legislation (for instance dams, mineral exploration and the construction of gas pipelines).

FPPs must be prepared and implemented in accordance with the Code. To be in compliance with the Code an FPP must be certified by the FPA, or a delegated forest practices officer (FPO). Once certified, an FPP becomes a legal document that must be complied with. An application to vary an FPP after it has been certified must also be considered by the FPA (or a delegated FPO).

The FP Act requires that compliance reports are produced at the completion of each discrete operational phase of an FPP. Once all the forest operations under an FPP have been completed, a final compliance report must be certified by the FPA or a delegated FPO.

The Code provides a practical set of guidelines and standards for the protection of environmental values, in particular:

- soils;
- geomorphology;
- flora, fauna, and genetic resources;
- cultural heritage; and
- visual landscape.

The Code encapsulates management of MNES relevant to forests, specifically World and National Heritage listings, wetlands of international significance, listed threatened species and communities, and listed migratory species. This is achieved through the FPA's detailed planning processes and planning tools used in preparing FPPs. Appendix 2 provides an example flow chart of the FPA process for biodiversity special values assessment and planning.

Threatened species are managed within the forest practices system through the Code. This requires the management of threatened species to be in accordance with procedures agreed between the FPA and DNRET for the management of threatened species under the forest practices system (the Agreed Procedures). These Agreed Procedures provide equivalent or greater protection than that provided under the *Threatened Species Protection Act 1995*.

5.3 Implementation of the forest practices system

Tasmania's forest practices system has evolved over more than thirty-five years. It is a co-regulatory system, combining self-management by the forest industry, and independent monitoring and enforcement by the FPA.

All FPOs are trained and authorised by the FPA and they must comply with the directions of the CFPO and any code of conduct issued by the FPA Board. Most FPOs are employed within the industry to plan, supervise and monitor forest practices, although their responsibilities under the FP Act are to the FPA. For each proposed FPP, FPOs undertake an on-ground survey looking for natural and cultural values that may have been identified in earlier desktop assessments.

The FPA also monitors forest practices to ensure that standards are being met. Corrective action is taken where required, which can include completion of remedial works, fines or prosecution. Compliance monitoring reports are included in the FPA Annual Report, which is tabled in the Tasmanian Parliament.

The forest practices system aims to foster co-operation and communication among all stakeholders, including the government, private landowners, the forest industry and the broader community. There is an emphasis on planning, training, education and continuous improvement.

5.4 Research, advice and planning tools

The FPA engages specialists in botany, zoology, soil and water, geoscience, cultural heritage and environmental economics. These specialist staff undertake research, monitoring (often in conjunction with other organisations, including government agencies and universities) and provide advice. Research findings are incorporated into the management of forest practices through the continual review and updating of planning tools and prescriptions (in this way issues such as climate change will be addressed through this adaptive management process). The specialists also provide specific advice to FPOs to assist in the development of FPPs.

A variety of planning tools have been developed by the FPA, DNRET, Department of Agriculture, Water and the Environment (DAWE) and other organisations to assist in the identification of site values, and to prescribe management for the natural and cultural values of lands when preparing FPPs and considering broader forest planning.

For natural heritage a range of information relevant to the protection and management of the value is made available to FPOs in the development of FPPs, including:

- national and state recovery plans, conservation advices, threatened species listing statements, and note-sheets;
- online databases and planning tools, such as the Natural Values Atlas (and TASVEG mapping layers), the Biodiversity Values Database, the Threatened Fauna Adviser and the Threatened Plant Adviser (collectively known as the Threatened Species Adviser) and Threatened Species Link (which provides coordinated access to many of these resources through a single portal);
- Ramsar wetland information sheets and management plans;
- plans and agreements for managing heritage places; and
- access to specialist scientists employed by the FPA.

The Threatened Species Adviser is a decision-support tool used by those conducting biodiversity evaluations as part of developing FPPs for activities covered by the Tasmanian forest practices system. This is in accordance with the Agreed Procedures for the management of threatened species agreed between the DNRET and the FPA, under Section D4 of the Code. Under the Agreed Procedures, DNRET and the FPA co-operate on the development of procedures, tools, objectives, endorsed management prescriptions and training for the management of threatened species within forests and/or threatened non-forest vegetation types at both the landscape and FPP level.

5.5 Management of matters of national environmental significance

The forest practices system provides for the comprehensive detection and management of relevant MNES. MNES values are detected through the variety of desktop assessment and planning tools that FPOs are directed to use in the preparation of FPPs. On-ground surveys, which are conducted by forest planners, FPOs, FPA specialists or consultants, provide an additional means of detecting MNES values.

Once an MNES value has been detected, then a combination of the Code, planning tools and specialist advice from FPA or DNRET staff are utilised to ensure sustainable management of

the value. Sustainable management covers a range of responses, from complete avoidance to mitigating potential impacts. Where applicable, indirect or offsite impacts to environmental MNES are managed through the Code. The Code has specific management requirements for values including soil, water quality/flow and air quality.

Any newly listed MNES are captured by Tasmania's Forest Management System through the adaptive capacity of the forest practices system. This occurs through the requirements of the Code and through the continual review and updating of planning tools and prescriptions.

National and World Heritage

The National and World Heritage lists includes natural, historic and Indigenous places of outstanding value. These places are listed MNES.

There are 13 sites in Tasmania on the National Heritage List. The majority of sites are European cultural heritage sites, for example Cascades Female Factory, Brickendon and Woolmer's Estates, the Richmond Bridge and the Darlington Probation Station. There are two Aboriginal cultural heritage sites, namely the Jordan River Levee and the Western Tasmania Aboriginal Cultural Landscape.

There are three World Heritage listings in Tasmania, one of which, the Australian Convict Sites, has five separate properties in Tasmania. The other two are Macquarie Island and the Tasmanian Wilderness World Heritage Area (TWWHA). All the World Heritage listings are on the National Heritage List.

The TWWHA occupies more than 1.58 million hectares making it one of the three largest temperate wilderness areas remaining in the Southern Hemisphere. The area is managed under a statutory management plan, the Tasmanian Wilderness World Heritage Area Management Plan 2016. Commercial forestry, including special species timber harvesting, is excluded from the TWWHA under the Plan. Salvage of Huon pine from the shoreline of Macquarie Harbour and harvesting of submerged timber in Hydro Tasmania dams is permitted.

Many sites are further protected as they are listed under the *Historic Cultural Heritage Act 1995* or are protected within Tasmania's CAR reserve system. Further information on the management of state listed Aboriginal and historic cultural heritage sites is provided in

Section 5.6.

Wetlands of international importance (Ramsar wetlands)

The Ramsar Convention on Wetlands is the intergovernmental treaty that provides the framework for the convention and usage of wetlands and their resources

Section 42 of the EPBC Act does not exempt forestry operations in Ramsar wetland sites from the controlled action provisions. There are 10 Ramsar sites listed in Tasmania, with most protected from forestry operations in formal or informal reserves. Wetland vegetation is also a threatened native vegetation community listed under the NC Act, and is given legislative protection from clearance and conversion under the FP Act.

Indirect or offsite impacts to Ramsar sites are managed through the soil and water provisions of the Code.

Threatened species, communities and migratory species

Threatened species are protected under the *Threatened Species Protection Act 1995* and provisions of the Code. The Code requires consideration of both state and Commonwealth listed threatened and migratory species.

A combination of the Code (including through the duty of care provisions for the conservation of natural and cultural values), planning tools and specialist advice from FPA or DNRET staff are utilised to ensure that both state and Commonwealth listed species are managed sustainably and in accordance with relevant legislation and statutory instruments (further detail on the planning tools is provided in Section 5.4).

A detailed case study, using a threatened migratory bird example, is provided in Appendix 3 to demonstrate how the system sustainably and adaptively manages a listed species.

Threatened native vegetation communities (TNVC) are listed under the NC Act and their management is regulated under the FP Act. The Code requires consideration of both TNVC and Commonwealth listed ecological communities.

TNVC and listed ecological communities are detected through desktop assessments, planning tools and on-ground surveys.

State and Commonwealth legislation, and the Code, require the protection and management of TNVC and listed ecological communities when planning and conducting forestry operations. Any requirements to manage or protect TNVC and listed ecological communities are specified in the FPP.

Appendix 4 provides more detail on how the system sustainably and adaptively manages a listed ecological community.

5.6 Management of Aboriginal and historic cultural heritage sites

Within Tasmania's wood production forests there are over 6,600 recorded Aboriginal sites, with new sites continually being recorded. There are also over 2,500 places of historic cultural heritage from colonial and post-colonial activity (up to about 1950).

The *Aboriginal Heritage Act 1975*, is the principal instrument which governs the protection of Aboriginal cultural heritage in Tasmania. Under the Act, interference with a protected object is prohibited unless a permit is issued by the responsible Minister.

The *Historic Cultural Heritage Act 1995* set out processes for the identification, listing and protection of significant historic cultural heritage sites in Tasmania. The Tasmanian Heritage Council has responsibility for the statutory management of places on the Tasmanian Heritage Register, which includes several early and important sites associated with timber harvesting and other forestry activities.

Under the Code, the cultural heritage values of forests must be considered in all stages of forest management. In the planning stage for a forest operation, cultural heritage sites are identified from the Conserve database, curated jointly by the FPA and STT, and the Aboriginal Heritage Register, curated by Aboriginal Heritage Tasmania. FPOs are also trained to identify new sites.

The FPA has prepared two documents – the *Procedures for Managing Historic Cultural Heritage when Preparing Forest Practices Plans* (in consultation with the Tasmanian Heritage Council) and *Procedures for Managing Aboriginal Cultural Heritage when Preparing Forest Practices Plans* (in consultation with Aboriginal Heritage Tasmania and the Aboriginal Heritage Council). These documents provide specific guidance to FPOs on managing cultural heritage when preparing FPPs. Prescriptions to manage known sites are included in the FPP. FPOs may seek advice from the FPA's Cultural Heritage Manager when preparing these prescriptions. Cultural heritage sites in operational areas are protected by establishing informal reserves or machinery exclusion zones around them.

After harvest or road construction, high sensitivity-areas defined in *Procedures for Managing Aboriginal Cultural Heritage when Preparing Forest Practices Plans* are surveyed to determine whether soil disturbance has revealed previously unrecorded sites. If unrecorded Aboriginal cultural heritage is found, a site record is completed and forwarded to the FPA. In this way, previously un-recorded sites are formally described and listed, thereby ensuring continuous improvement in cultural heritage knowledge and management.

5.7 Management of the visual landscape

Visual landscape values of the forest are addressed as part of the forest practices system. The desirability of conserving the natural beauty and amenity of the scenery of the Tasmanian countryside is a component of sustainable forest management under the Code and the Landscape manual and guidelines.

5.8 Management of soil, water and geomorphological values

Herbicide, pesticide and fertiliser usage within Tasmania's wood production forests are stringently managed through the application of the Code and associated management guidelines. This includes stream buffers and drainage depressions - in accordance with *Agricultural and Veterinary Chemicals (Control of Use) Act 1995*. Streamside reserves or machinery exclusion zones protect streams, maintain water quality and prevent erosion.

Tasmania's forest practices system recognises the importance of identifying and managing sites of active geomorphic processes (such as karst development or stream avulsion) and sites of geoconservation significance. Identified geomorphic sites are considered when planning for wood production, to ensure that significant sites are protected and to identify risks to the environment and infrastructure.

The Tasmanian Geoconservation Database maps and describes many of the major sites of geoconservation significance and is utilised by planners within the forest practices system.

Management of important sites can require site-specific prescriptions in addition to the standard management provisions of the Code.

5.9 Monitoring, compliance, reporting, review and continuous improvement

The FPA has a legislative requirement to monitor the implementation and effectiveness of the forest practice system across all tenures in Tasmania. The FPA utilises an adaptive management approach, whereby results of monitoring and research are used to continuously refine and improve the Code provisions, guidelines and planning tools.

The forest practices system encourages monitoring of forest operations with the aim of identifying and correcting issues before they cause significant environmental harm. Forest Practices Officers (FPO) have the power to enter any land where forest practices are being undertaken, and to serve notices where a certified FPP is not in place or is not being complied with. The FPA has powers to issue a prescribed fine as an alternative to prosecution where serious breaches have occurred. The FPA requires FPOs to provide reports on compliance with the FPP at the completion of each discrete operational phase of an FPP.

Key aspects of the FPA's monitoring and review program include:

- publication of the State of the Forests Tasmania Report that provides a five-yearly assessment of forest management against indicators based on The Montreal Process. This process also contributes to the five-yearly Australian State of the Forests Report required under the RFA Act (Cth);
- monitoring of the implementation of the Tasmanian Government's Policy for Maintaining a Permanent Native Forest Estate;
- a compliance program, which includes an annual program of FPP implementation audits, 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 continuous improvement of the provisions of the Code, which includes seeking stakeholder engagement; and
- a training, education and awareness program to keep forest practices system users aware of any revisions to the Code, guidelines or planning tools.

The FPA is responsible for monitoring forest practices standards by assessing operational outcomes against provisions specified in a FPP and issuing certificates of compliance. The FPA undertakes an annual independent assessment (audit) of a sample of operation areas which examines the outcomes of the planning and operations across all aspects of the Code (flora and fauna, soils, geomorphology, landscape and cultural heritage).

The FPA and DNRET conduct research on specific issues pertaining to natural values in production forests. The Code and the Agreed Procedures are periodically reviewed to ensure they are utilising contemporary information.

Under the Agreed Procedures, the FPA and DNRET have a system of exchanging information on the distribution of threatened species. This ensures species range boundaries are kept up-to-date, which in turn ensures that adequate consideration is given to the potential for

threatened species to be present in an operational area. The maintenance of range boundaries (and by extension the core and known ranges) is an essential component of the continuous improvement model.

In its Annual Report, the FPA reports on the outcomes of its compliance assessments, application of the Agreed Procedures, and research it has undertaken or supported.

Updates on the Permanent Native Forest Estate statistics are undertaken quarterly at a bio-regional and forest community level.

6. Forest management system for Permanent Timber Production Zone land

6.1 Forest planning and operational framework

STT is a Tasmanian Government Business Enterprise and is the Forestry Corporation responsible under the FM Act for sustainably managing approximately 812,000 hectares of public forest; the PTPZL. Under the FM Act, STT is required to undertake forest operations for the production and sale of forest products from these forests, including making available at least 137,000 cubic metres of high-quality eucalypt sawlogs and veneer logs each year.

To deliver these wood production and land management responsibilities, and to comply with all legal requirements, STT has designed and implemented a comprehensive planning and operational framework (see Figure 3). The framework involves strategic, tactical and operational planning and implementation of plans generated through these planning processes, 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.

All elements of the framework and the way that STT manages its lands are described in its Forest Management Plan.

This framework is important in enabling STT to meet the requirements of international third-party certification systems for sustainable forest management. STT's sustainable forest management performance is currently independently audited and certified against the requirements of several voluntary certification standards, including:

- Responsible Wood Australian Standard for Sustainable Forest Management (AS 4708: 2013)
- Environmental Management Systems (AS/NZS 14001: 2015);
- Occupational Health and Safety Systems (AS 4801: 2001);
- PEFC Chain of Custody (2002: 2013)

These certifications provide customers and stakeholders with an assurance that STT's management systems underpinning compliance with standards are operating effectively. Additionally, STT is seeking certification to the forest management requirements of the Forest Stewardship Council (FSC).

STT uses the spatial Management Decision Classification System (MDCS) to delineate management zones across land that it manages. The MDCS enables areas with particular values to be identified and managed to protect, maintain and/or enhance those values.

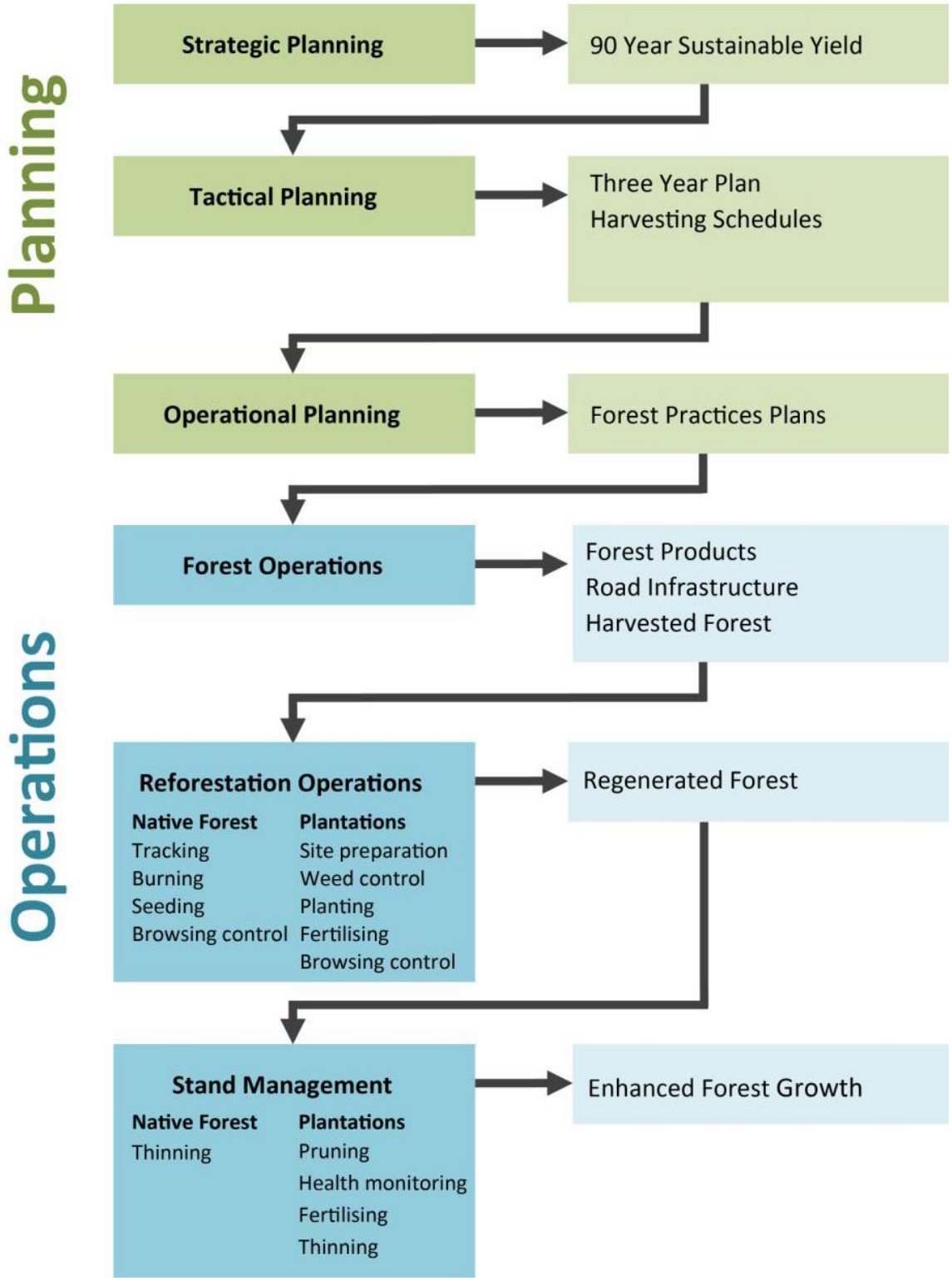
Through this system, all land is initially allocated to one of two primary zones, the:

- Protection zone, which includes land where the protection of identified special values is incompatible with wood production. This zone represents STT's informal reserve system; and
- Production zone, which 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 MDCS. Values identified for management include, but are not limited to, natural and cultural heritage, other high conservation values, and apiary sites. Each special management zone classification identifies a management objective for that value and identifies its respective prescription. Depending on the value being protected, the prescriptions may or may not exclude timber harvesting.

Planning of all forest operations take into account the values identified in the MDCS.

Figure 3. STT's wood production planning and operations framework



6.2 Strategic planning and sustainable yield

Strategic planning involves planning forest production over a long-term time period. STT 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. Lower quality sawlogs, peeler and pulp logs are also produced as secondary products from the annual 137,000 cubic metres of high-quality eucalypt sawlogs and veneer logs that STT must make available from the PTPZL.

The sustainable yield of wood from 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.

STT uses sophisticated models of the forest estate to calculate the predicted sustainable yield of high-quality eucalypt sawlogs from both native forest and plantations over a 90-year period. Yield predictions are generated from biologically based forest estate modelling of productive capacity. These models 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; and
- external independent audits.

High-quality eucalypt sawlog yields are reviewed, and the results published every five years, as required by the RFA, to confirm the sustainability of projected yields over time. The most recent review was published in 2017.

This review confirmed STT's ability to make available 137,000 cubic metres per year of high-quality eucalypt sawlogs from the PTPZL for the next 90 years.

STT monitors its annual wood product harvest against the predicted sustainable yield and reports these in their Annual Report

6.3 Tactical planning

STT undertakes tactical planning to identify areas where 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 for all harvested products can be identified; and
- infrastructure to access planned harvest areas can be planned and developed.

Factors taken into account during these planning processes include:

- type and volume of products available from specific coupes;
- silviculture and harvesting machinery type required for each coupe;
- STT's forest management procedures;
- Code requirements, including legislative requirements for the protection and management of environmental values of national, state and local significance;
- spatial and temporal dispersal of harvesting across the landscape;
- seasonal restrictions for harvesting of particular coupes;
- consideration of identified stakeholder and community issues; and
- strategic planning for sustainable yield.

The FP Act requires organisations that produce more than 100,000 cubic metres of wood annually to produce a three-year plan. STT produces a rolling Three Year Wood Production Plan, (Three-Year Plan) which is published annually. 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 Plan forms the basis of the next level of tactical planning – harvest scheduling – during which 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 FPPs.

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. STT encourages stakeholders to register their interest in being consulted during the development of detailed operational plans for particular coupes, to raise issues of particular concern, and to request further information.

6.4 Operational planning

Following production of the Three-Year Plan, STT undertakes detailed operational planning for harvesting individual coupes, to assist the preparation of specific FPPs. This includes:

- determining how specific natural and cultural values at each harvest area will be managed;
- engaging with identified stakeholders and neighbours who may be affected by planned forest operations, to take their concerns and input into account during planning;
- determining the locations of roads, extraction tracks and landing sites;

- confirming the type and volume of products that will be sourced from the site and the markets (customers) for those products;
- identifying any site-specific environmental hazards and values; and
- determining operational boundaries.

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

Once the FPA certifies an FPP, STT issues a notice of intent to conduct operations 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. STT can provide copies of certified FPPs to members of the public upon request.

As part of STT's Environmental Management System, each aspect of its operations, not just timber harvesting, has documented operating procedures prescribing how operations are to be undertaken, who is responsible and what standards are applicable, including legal requirements. Potential environmental impacts are identified. This includes processes for approval of non-forestry uses and activities.

Any activity or project on the PTPZL, undertaken by a third party requires a STT environmental permit. Before providing a permit, STT makes sure that the project will not affect any special values that may occur in the proposed activity area. Any approval may include special prescriptions. Approved ongoing activities (e.g. apiary use or hut construction and occupancy) are usually authorised under a formal occupation permit or licence.

6.5 Monitoring, reporting, review and continual improvement

STT's Sustainable Forest Management Policy commits the organisation to regular monitoring, reviewing and auditing of all forest management activities. Undertaking these commitments in a systematic way leads to opportunities to continually improve performance.

Forest management operations are monitored regularly in the field. Monitoring involves checking that operational objectives and procedures 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.

STT implements an internal audit program that assesses overall compliance with its forest management system requirements and standard operating procedures. This is in addition to audits by regulators (e.g. FPA) and forest management certifying bodies. The results of external audits are available on STT's website.

STT maintains a database to record forest management system non-conformances and incidents and to manage corrective actions. Direct complaints from the public about STT's activities are also included in the database. The forest management system requires the

identification and implementation of corrective actions in order to reduce the likelihood of incidents or non-conformances recurring and includes prompts for staff so that identified actions are carried out and monitored for effectiveness.

STT maintains a capacity for research, development and extension work to improve the productivity, health and sustainability of the management of its land base. STT also supports research carried out by other parties (including a range of universities) that is related to its core business. STT uses research results to inform both decision-making and forest management activities and drive continuous improvement.

Each year STT develops a set of short-term targets to assist in achieving its long-term forest management objectives. It regularly reviews performance against objectives, operational statistics, legal compliance, corrective actions, and the results of research, monitoring and audit and publishes a summary in its annual report. These results are used to benchmark future forest management objectives and strive for continual improvement in STT's forest management.

7. Forest management systems for privately owned forests

The private estate provides two thirds of the forest products used by Tasmania's forest products processing sector and comprises a mosaic of native forests and plantations.

The private plantation estate (250,000 hectares) is largely owned by industrial forestry companies and investment managers and the private native forest estate (855,000 hectares) is largely owned by individuals, mainly farmers. A small percentage of the plantation estate exists as smaller plantations and woodlots on farmland and this area has increased subsequent to the cessation of managed investment scheme programs. In addition, some larger areas of native forest are owned by the industrial forestry companies and forest investment managers, but these areas are primarily managed as informal forest reserves providing ecosystems services as part of the requirements of voluntary third-party forest management certification schemes (Australian Forestry Standard, FSC and Responsible Wood).

Forestry activities must be carried out in accordance with the Code and other regulatory requirements, as well as any requirements self-imposed by relevant market-based forest management certification schemes.

The management systems applied across the native forest estate are more diverse, reflecting the management intentions of the forest owner. The proportion of forest owners that engage in active forest management varies over time, largely reflecting general forest industry activity. Private native forests are an important social, environmental and economic asset for Tasmania that are managed by their owners at their own cost.

In Tasmania, PTRs are an integral part of the State's commitment to encouraging and fostering the sustainable management of private forests. The concept of PTRs was created by the Tasmanian Parliament to enable landowners to have their land dedicated for long term forest management. PTRs create security for private forest owners through a consistent state-wide planning system under the controls of the FP Act and the Code. PTRs

create a secure environment for investment in private forestry within Tasmania and help to deliver commitments for the sustainable management of private forests. PTRs make up approximately 39 per cent of the private forest estate.

Landowners may voluntarily enter into formal conservation arrangements for private forested land. These are described in more detail in Section 8.1.

8. Management of Tasmania's CAR reserve system

Under the RFA, the Tasmanian and Australian governments agreed to establish a CAR reserve system for forests, which meets the national agreed criteria to ensure the long-term conservation and protection of Tasmania's forest biodiversity, old-growth forest and wilderness values.

Through the addition of new reserves on both public and private land, the CAR reserve system added to Tasmania's existing reserve estate. The reserve system has been further extended through a range of programs and agreements. Those relevant to forest management include the:

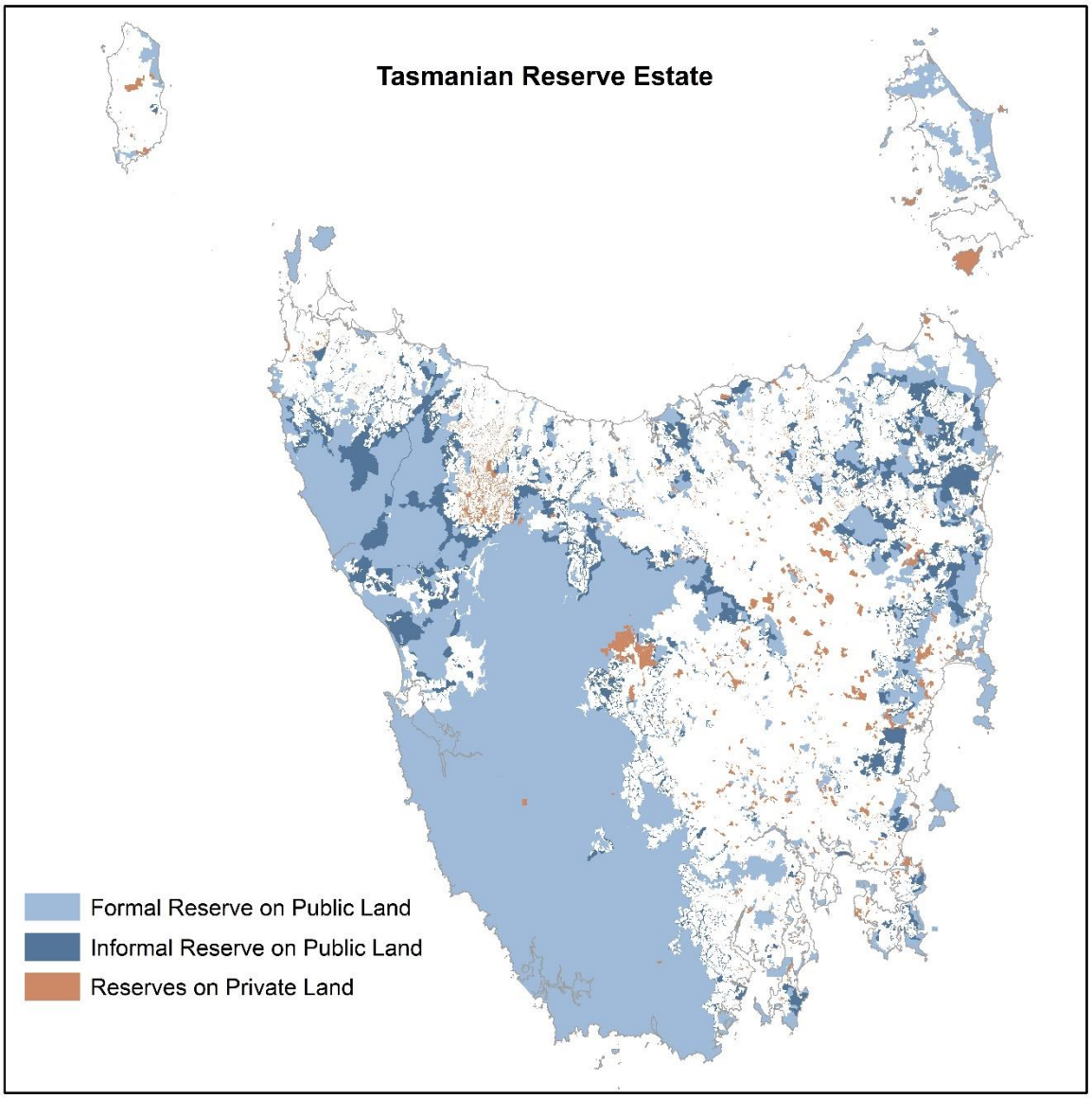
- 2005 Tasmanian Community Forest Agreement;
- 2010-13 Tasmanian Forest Agreement process;
- Crown Land Assessment and Classification Project; and
- various private land conservation programs.

The reserve system extends over land, inland waters, estuaries and marine areas and includes both public and private land. The mapped extent of the reserve system is depicted in the Tasmanian Reserve Estate (TRE) spatial layer administered by DNRET.

As at 30 June 2021, the terrestrial component of the TRE comprised 3.43 million hectares, or 50.3 per cent of the land area of Tasmania. Of Tasmania's native forests, 58.5 per cent (1.79 million hectares) are reserved. Reserved public land comprised 3.26 million hectares (of which 2.73 million ha is formal reserve). In addition, there are 162 700 ha of private land reserved, of which 120 200 are contained in perpetual reserves.

Of the total area of all public reserves, including Marine Protected Areas and other marine areas, almost 84 per cent (2.89 million hectares) is managed by the PWS in 806 individual reserves. Figure 4 shows the extent of the TRE, both public and private, as at 30 June 2021.

Figure 4. Tasmania's total reserve estate - June 2021



8.1 Reserve classification

The International Union for the Conservation of Nature has developed protected area management categories to classify protected areas according to their management objectives. This categorisation has broad international acceptance and the Tasmanian Government has used it to categorise the Tasmanian reserve system based on the primary management objective.

The majority of reserves are established under the NC Act. However, reserves can also be established on public land under the *Wellington Park Act 1993* (WP Act) and the *Crown Lands Act 1976* (CL Act).

The Tasmanian reserve system includes the following elements:

Public land

Formal reserves are established on public land, usually under the NC Act or the WP Act. Once established, the status of formal reserves is considered secure as revoking a formal reserve requires the approval of both Houses of the Tasmanian Parliament. Some formal reserves are referred to in the RFA as **Dedicated reserves**, which, in Tasmania, comprise the following NC Act reserve classes: national park, State reserve, game reserve, nature reserve and historic site; as well as the Wellington Park. All public land within the TWWHA is considered to be a formal (dedicated) reserve. In dedicated reserves, the exercise of other statutory powers is prohibited except as authorised under a statutory management plan. Other classes of (non-dedicated) formal reserves on public land are conservation area, nature recreation area and regional reserve.

The values and purposes for the various reserve classes are set out in Schedule 1 of the NC Act 2002.

Informal reserves on public land are recognised under the RFA. It includes areas which have CAR values protected by prescription. Attachment 6 of the RFA describes "values managed by prescription" as those areas protected by management prescription under the Code or in forest management plans (e.g. streamside reserves, landscape connectivity corridors, eagle nest exclusion areas). These areas are identified as a protection zone under STT's MDCS.

Other informal reserves include public reserves under the CL Act and the Future Potential Production Forest (FPPF) land established by the *Forestry (Rebuilding the Forest Industry) Act 2014*.

Private land

Private reserve (perpetual). Reserves on private freehold land that are perpetual under state legislation (NC Act), or Commonwealth legislation (EPBC Act) and require approval for revocation by the relevant Tasmanian and (typically) Australian Government Minister/s and/or Parliament.

Private reserves (perpetual) comprise:

- private nature reserves;
- private sanctuaries;

- perpetual conservation covenants (NC Act); and
- private land within the TWWHA.

Private reserve (fixed term). Reserves on private freehold land established as fixed-term Conservation Covenants under state legislation (NC Act) and requiring approval for revocation prior to the term expiry by the relevant Tasmanian and (typically) Australian Government Minister/s.

Private reserve (variable term). These are reserves on private freehold land that are established under contractual arrangements between the landowner and the Crown, or independently certified management systems, or other agreements that do not require approval from the Minister or Parliament for revocation.

Private reserve (variable) comprises of:

- management agreements (including vegetation management agreements) (NC Act);
- Part 5 Agreements (under the *Land Use Planning and Approvals Act 1993* (LUPA Act)) secured as offsets for the Meander Dam development; and
- other private reserves (reserves under independently certified management systems).

Indigenous Protected Area. An Indigenous Protected Area is an area of freehold land over which the traditional Indigenous owners have entered into a voluntary agreement with the Australian Government for the purposes of promoting biodiversity and cultural resource conservation. An Indigenous Protected Area is declared in perpetuity by the Indigenous landowners on behalf of their community members. An Indigenous Protected Area declaration is not a legal process that affects land tenure.

8.2 Reserve estate spatial layer

A Tasmanian reserve estate spatial layer has been created by DNRET to be used as the authoritative source of information on the extent, type and distribution of the reserve system in Tasmania. The business rules for compiling the Tasmanian reserve estate spatial layer have been documented to ensure the layer is updated in a consistent manner and to provide users with clear information on attributes of the Tasmanian reserve system.

The Tasmanian reserve estate spatial layer supports natural resource management planning, prioritisation, reporting and decision-making and has been explicitly created to provide the basis of a range of reporting reservation statistics for:

- the CAR reserve system developed under the RFA;
- state and national State of the Environment and State of the Forest Reports;
- the National Reserve System;
- Marine Protected Areas reporting; and
- Government annual reports.

8.3 Public land reserve management

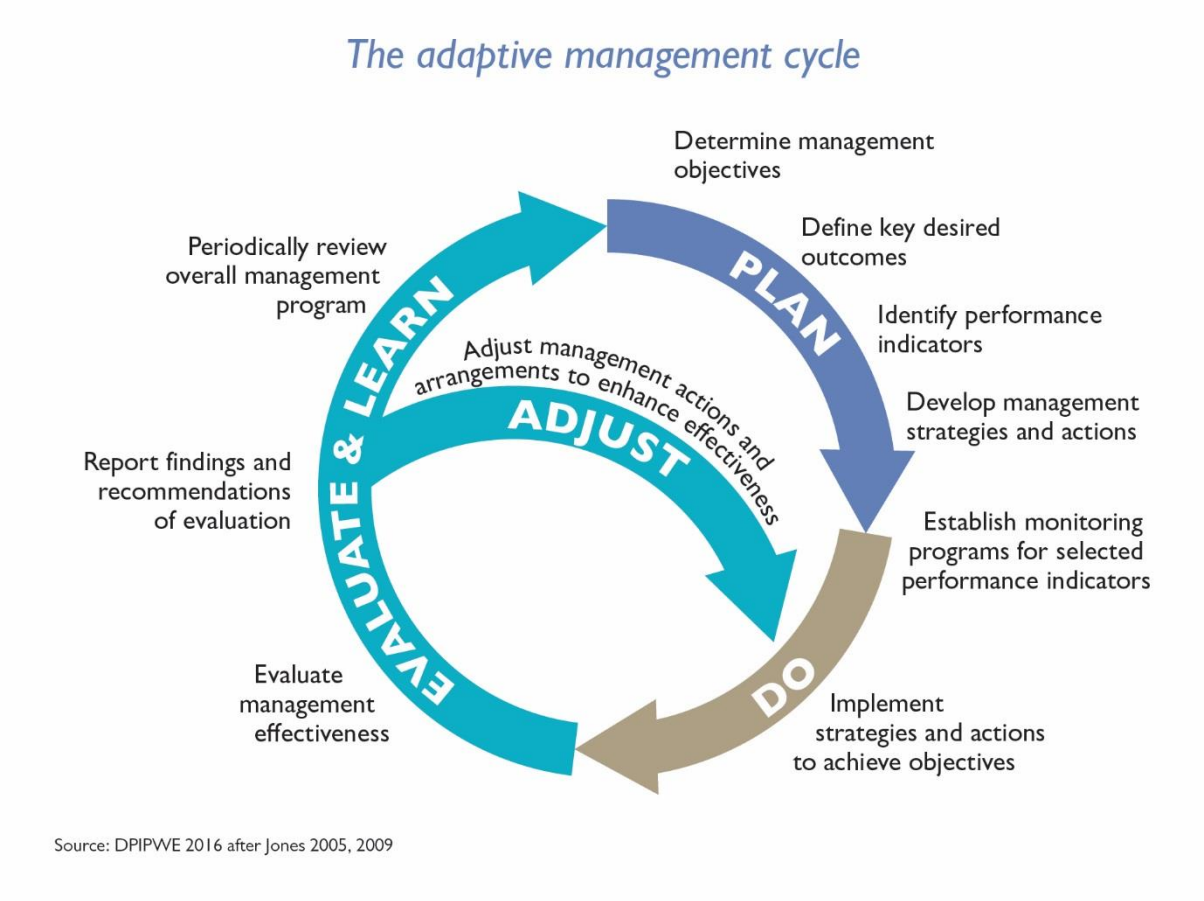
DNRET is responsible for the management of nearly all formal reserves, many informal reserves and the FPPF land. Management of formal reserves is subject to the NPRM Act and

associated regulations. The FPPF land is managed as Crown Land as defined under the CL Act and the Wellington Park Trust manage Wellington Park under the WP Act.

The NPRM Act sets out the management objectives for each reserve class and this determines the broad categories of use and development for each class. The NPRM Act is the central legislation that manages and regulates the activities in reserves.

The PWS has adopted an adaptive management approach to its reserve management (see Figure 5).

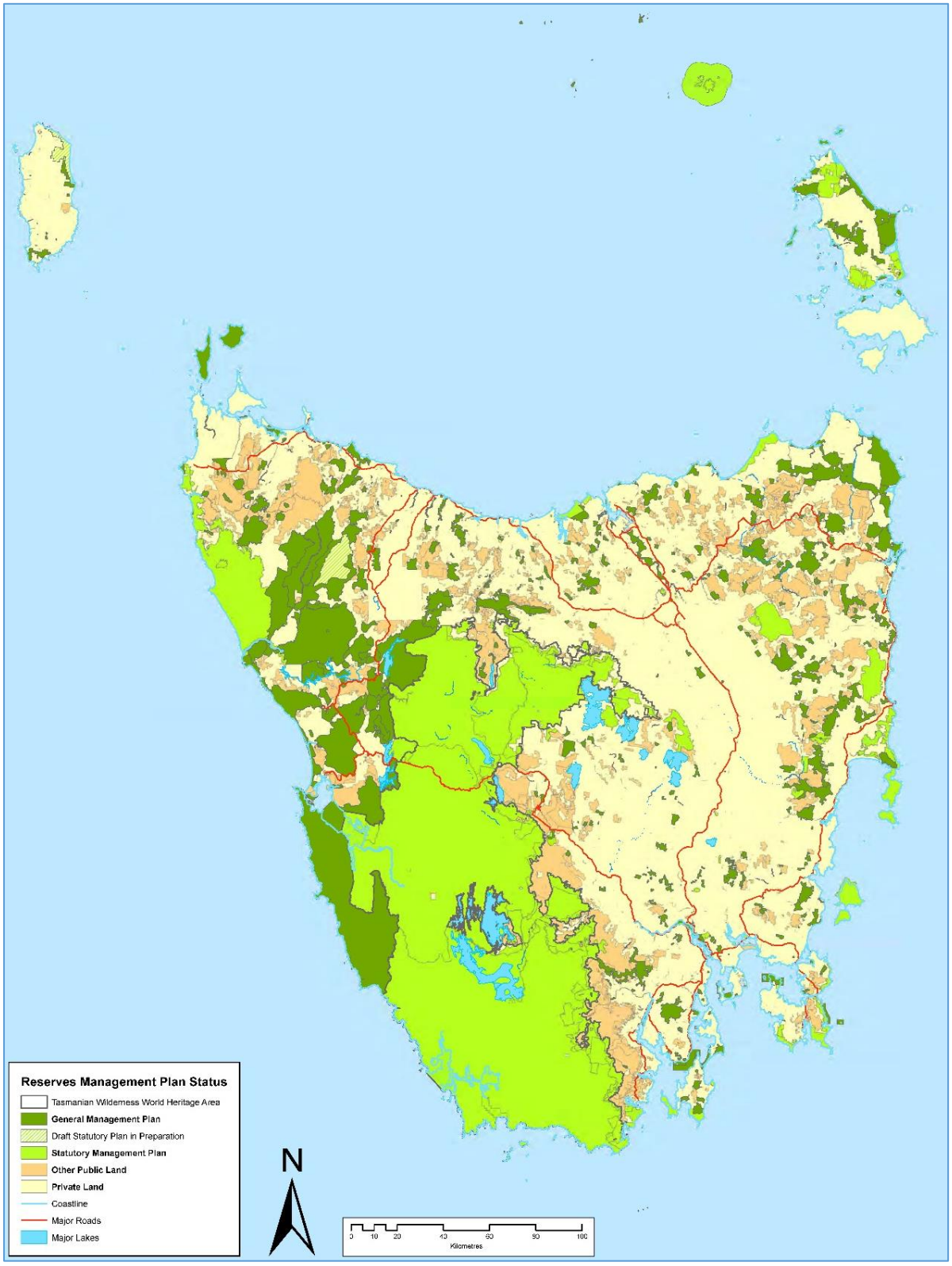
Figure 5. The adaptive management cycle in Tasmanian reserve management



8.4 Planning

The PWS undertakes both statutory and non-statutory management planning processes for the reserves it manages (see Figure 6).

Figure 6. Tasmanian PWS reserve management planning approach



Statutory management plans are prepared for reserves under sections 18 – 28 of the NPRM Act. This act requires a formal public exhibition of draft management plans. The managing authority's response to public comments on the draft plan is subject to independent review

by the Tasmanian Planning Commission, prior to recommendation of the plan for approval by the Governor.

As at 30 June 2021, statutory management plans are approved for 90 reserves covering approximately 65 per cent of the area of reserves on public land.

In response to the greatly increased number of reserves following the Tasmanian RFA, a general plan for all reserves without a statutory management plan or non-statutory management statement (approximately 35 per cent of public reserve areas) is in preparation. This plan will consist of a broad state-wide policy and strategy approach, complemented by a suite of concise reserve management actions. The General Plan will cover more than 700 parks and reserves, and an area of 878 499 hectares.

Additionally, there are a range of non-statutory plans prepared for specific areas or activities and a suite of departmental policies to guide use and development across the public reserve estate. Management plans, recreation zone plans, site plans and other publications are available on the PWS website.

A reserve management zoning system is applied to the reserves through specific management plans and PWS policy to provide guidance for recreational use and development. The PWS policy and planning framework is outlined in Figure 7.

Figure 7. PWS Planning Framework

8.5 Operations

Tasmania's reserve system is managed within the context of state and Commonwealth legislation, international treaties, government policies and best-practice principles, strategies and guidelines.

Section 30(1) of the NPRM Act requires the managing authority to manage reserved land to give effect to, and in accordance with, any management plan. Where there is no plan, the managing authority is to manage the land "*in a manner that is consistent with the purposes for which the land was reserved'* and *'having regard to the management objectives for the class of that reserved land.'*

The Australian Government is a signatory to a number of cultural and environmental international treaties and agreements, which are considered in managing reserves (see Section 2).

The PWS's environmental management processes are modelled on the international standards Environmental Management ISO 1400 and Risk Management 31000. The system includes Environmental Management Policy, an aspects and impacts register of priority risks for reserve management and a suite of policy and procedures. A key element is the impact assessment process, implemented through the Reserve Activity Assessment System, to address potential risks from both proposed developments and reserve management activities. The Reserve Activity Assessment process is used to assess potential impacts on natural, cultural and social values of new proposals and enable informed decisions to be made about whether a proposal should proceed and, if so, under what conditions in order to avoid or mitigate potential impacts on reserve values.

Policy, systems and processes developed to facilitate management, include:

- The Tasmanian Reserve Management Code of Practice;
- The PWS Reserve Standards Framework for assessing and assigning appropriate standards to visitor facilities;
- a fire management program and system for managing fire integrated with other fire management agencies;
- a permitting/authorising system for regulating activities and operations;
- a visitor services and engagement program;
- a community engagement program; and
- an enforcement program.

The Tasmanian Reserve Management Code of Practice is the result of a commitment under the RFA to develop and implement a code of practice to cover all environmental practices in reserves. The Reserve Management Code of Practice is an important element in the framework for protecting conservation values encompassed by the CAR reserve system, which was expanded under the RFA to meet agreed reservation targets for wilderness, old-growth forest and biodiversity. This includes values that are identified as MNES under the EPBC Act.

A licensing system for tourism based commercial operations:

- provides a mechanism for measuring and directing the use of reserved land with the prime aim of ensuring these activities do not compromise conservation values;
- provides a set of minimum standards of public safety and public liability cover;
- provides security of access for licence holders; and
- may require tourism operators to inform their customers of conservation values and the importance of conservation.

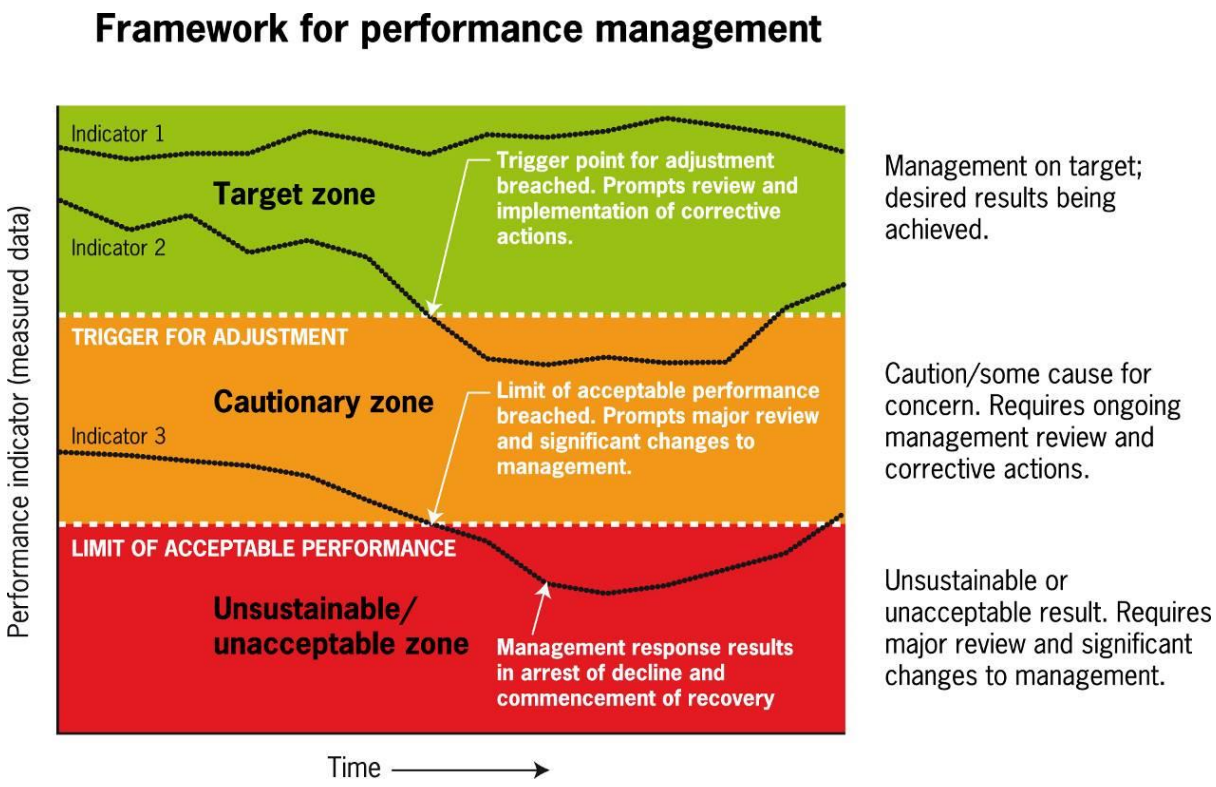
8.6 Monitoring and reporting system for national parks and reserves

The Tasmanian PWS has developed a state-wide monitoring and reporting system to measure and report on evidence of management progress, achievements and challenges across Tasmania's public national parks and reserves estate. An important component of the monitoring and reporting system is evaluated case studies of significant and selected projects. These evaluations examine the monitored effectiveness of selected projects in achieving the project objectives.

The primary evaluation report for the TWWHA is the periodic State of the TWWHA report, which examines management effectiveness under the management plan. There are ongoing commitments in the statutory TWWHA Management Plan 2016 for preparing regular State of the TWWHA reports, supported by a range of evaluated case study reports and status and trends reports. The first State of the TWWHA Report established a sound reference platform of detailed information and evidence against which ongoing performance can be compared. A second report was released in 2019.

The PWS is progressively integrating monitoring and evaluation into reserve management plans as a basis for adaptive management to enhance the delivery of the intended results. For key outcomes and selected performance indicators, this may include identifying trigger points that would prompt a review and identify any necessary corrective management actions. This establishes an explicit framework for evaluating and managing performance to identified standards and/or outcomes (see Figure 8).

Figure 8. Framework for performance management (source PWS)



8.7 Private reserved land management

A number of programs run by DNRET, non-government organisations, and partnerships between the two provide support to landowners for the management of forest on private land.

The Private Land Conservation Program was established by DNRET in 2006 to provide a single point of management for all of DNRET's conservation programs that focus on private land. The program works with landowners to sustainably manage and conserve natural values (e.g. native flora and fauna, natural wetlands, geo-conservation areas) on private land, including through the establishment of formal covenants on title to provide for long term protection of natural values. As at 1 July 2021, the Private Land Conservation Program had resulted in the establishment of 911 covenants covering 109,675 hectares.

Monitoring of covenanted areas is undertaken by the Private Land Conservation Program to measure vegetation condition, including changes over time, and to support the identification and management of threats and issues. Monitoring methods include Vegetation Condition Assessments and evaluated case studies that examine particular issues in detail. Monitoring activities are undertaken on a strategic basis informed by a prioritisation tool, which takes into account the threats and natural values of the reserves. All monitoring information is provided back to landowners through comprehensive reports

that may include condition assessment information, species lists, threatened species information, photos and management advice.

In addition to monitoring and reporting by specific conservation programs, the state undertakes a range of other more general natural values monitoring and reporting. These include, the:

- Tasmanian Vegetation Monitoring and Mapping Program, which develops and maintains vegetation community mapping layers and supporting information; develops tools for assessing the condition and change in Tasmania's vegetation; and provides expert advice on vegetation community matters for a range of audiences, including natural resource managers, land-use decision makers/regulators, educators and the general public; and
- TRE spatial layer.

These monitoring and reporting systems underpin the application of adaptive management approaches to the ongoing management of forests and the natural and cultural values they support on both public and private land. They are used to inform regulatory approaches and extension activities (e.g. to inform private land owners) to ensure the protection of MNES across the forest estate and at the landscape level.

9. Management of non-forestry activities in Tasmania's forests

This section provides a brief and non-comprehensive overview of the regulation of non-forestry activities with the potential to impact on forests (and therefore potentially impact forest management).

Small scale development activities (also known as level 1 activities) are regulated by local government under the LUPA Act. This Act establishes local government planning schemes, under which development, including the clearance of native vegetation, is regulated.

Level 2 activities are those defined in Schedule 2 of the *Environmental Management and Pollution Control Act 1994.* Defined level 2 activities include mines, quarries beyond a certain volume, and wind farms. These activities must be referred to the Environment Protection Authority for assessment. This process identifies any values that may be impacted by the activity and assesses whether those impacts can be avoided or mitigated. This advice may inform the decision to refuse approval of the activity, or to apply conditions to minimise impact.

A bilateral agreement is in place between the Tasmanian and Australian governments under Part 8 of the EPBC Act, which provides for a single assessment process for non-forestry development activities, where the activity may have potential for significant impact to MNES.

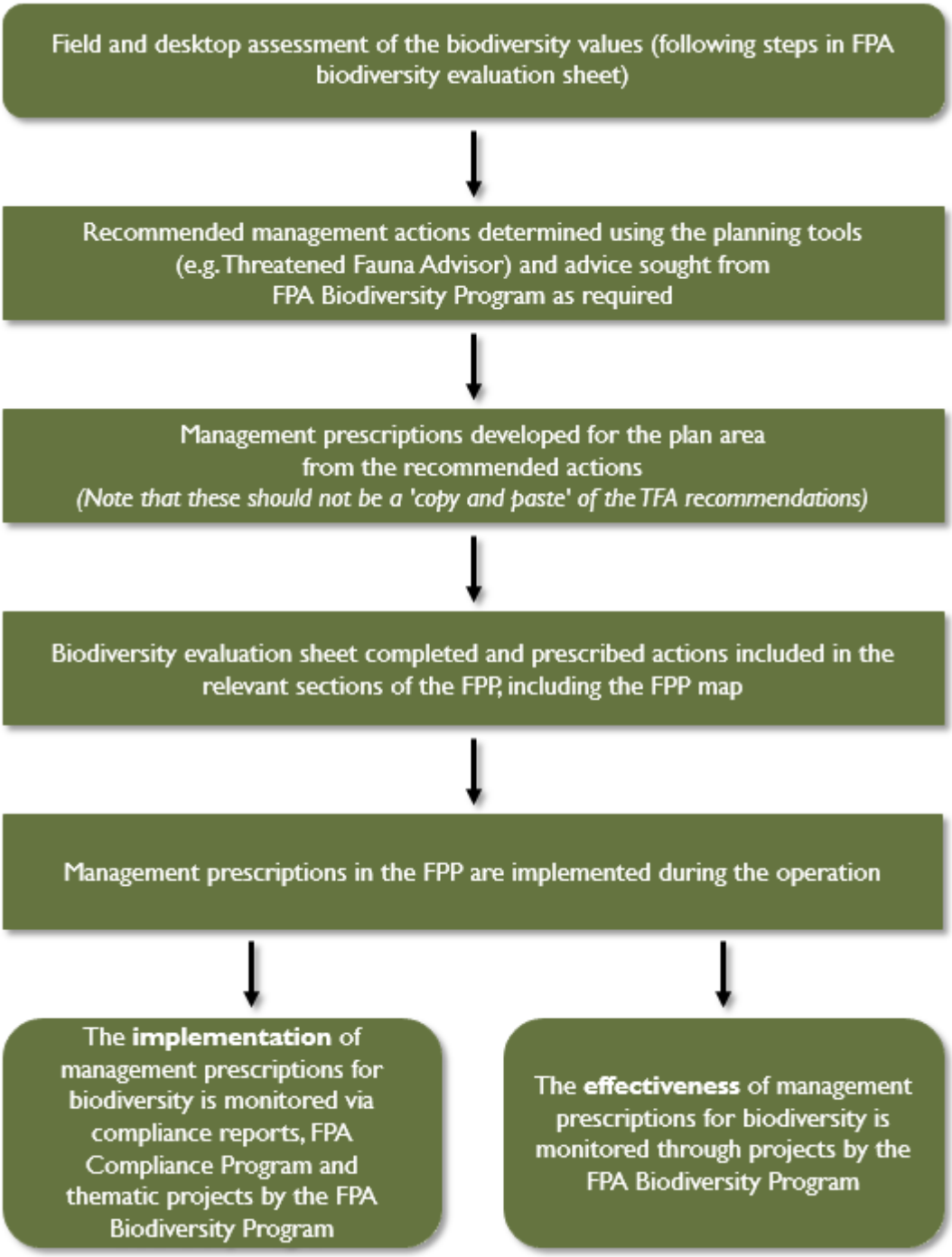
10. Appendices

Appendix 1. Legislation relevant to forest management in Tasmania

Legislation	Responsible Agency	Purpose
Aboriginal Heritage Act 1975	DNRET	Provides for the identification and protection of all Aboriginal relics (sites).
Crown Lands Act 1976	DNRET	Provides for the management, sale and disposal of the lands of the Crown.
Environmental Management and Pollution Control Act 1994	DNRET	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.
Fire Service Act 1979	Department of Police, Fire and Emergency Management (Tasmania Fire Service)	Provides for the control and use of fire in the urban and rural environment
Forest Management Act 2013	STT	Empowers the Forestry Corporation (now known as STT) with responsibility for exclusive control and management of forest products and forest operations for PTPZL.
Forest Practices Act 1985	FPA	Establishes the Code and forest practices system to provide for the sustainable management of forests on any land subject to forest operations. Requires production of an annual report and State of the Forests Report (every five-years). Provides for preparation of Three-Year Plans and forest practices plans. Provides for the establishment of private timber reserves on private land to provide security of long-term forestry use for landowners. Implements the Permanent Native Forest Estate Policy that controls clearance and conversion of native forests to other non-forest land uses.
Forestry (Rebuilding the Forest Industry) Act 2014	Department of State Growth	Establishes and provides for the management of Future Potential Production Forest land and its possible future transfer to PTPZL. Provides for the development of a special species management plan.
Forestry Rights Registration Act 1990	DNRET	Provides for the registration on land title of certain forestry rights.
Historic Cultural Heritage Act 1995	DNRET	Identifies, assesses and protects places of historic cultural heritage significance.

Legislation	Responsible Agency	Purpose
Inland Fisheries Act 1995	DNRET	Provides for the management of inland fisheries and the protection of inland waters from substances likely to be injurious to fish.
Land Use Planning and Approvals Act 1993	Department of Justice	Establishes the Resource Management and Planning System for Tasmania. Exempts forest practices on State forest, and forest operations on private timber reserves from requirement for separate planning approvals.
Mineral Resources Development Act 1985	Department of State Growth	Provides for the development of mineral resources consistent with sound economic, environmental and land use management.
National Parks and Reserves Management Act 2002	DNRET	Provides for the management of reserves declared under the *Nature Conservation Act 2002* according to management objectives for each reserve class.
Nature Conservation Act 2002	DNRET	Provides for the declaration of certain types of reserves and sets out the values and purposes of each reserve class. Provides for the listing of threatened native vegetation communities.
Natural Resource Management Act 2002	DNRET	Outlines a collaborative framework to provide for effective natural resources management in Tasmania.
Private Forests Act 1994	Private Forests Tasmania	Establishes an authority to provide assistance and advice on private forest management.
Public Land (Administration and Forests) Act 1991 and Resource Planning and Development Commission Act 1997	Department of Justice	Provides authority to conduct public land use inquiries, approve planning schemes and report on State policies.
Threatened Species Protection Act 1995	DNRET	Provides for the conservation management of scheduled threatened species of flora and fauna.
Water Management Act 1999	DNRET	Provides for the management of groundwater and surface water.
Weed Management Act 1999	DNRET	Provides for the management and control of declared weeds.

Appendix 2. Summary of FPA process for biodiversity special values assessment and planning



Appendix 3. Mitigating the impacts of forest practices on the swift parrot. A Case study example of the Tasmanian forest practices system.

The swift parrot (*Lathamus discolor*) is a migratory bird that only breeds in Tasmania (in tree hollows of particular size), chiefly in the forests and woodlands of the south-east within a few kilometres of the coast and within easy reach of its primary food-source, flowering blue gums (*Eucalyptus globulus*) or black gums (*E. ovata*).

The available foraging resource for the swift parrot is variable in space and time with poor predictability. That is, the primary food source does not flower consistently every year, and in some years the extent of available foraging resource can be very small. Suitable tree cavities for swift parrot nesting sites are also rare in the landscape in Tasmania. These limitations, and the fact that some aspects of the species ecology remain poorly known, necessitate a strategic and adaptive approach to land management and to conservation planning within its breeding-range.

Under Commonwealth legislation, the swift parrot was listed as vulnerable in 1995, and up-listed to endangered in 2000 due to its small population size and loss of habitat. It was further up-listed to critically endangered in 2015, due to the predation threat of sugar gliders.

The following case study gives an example of how the swift parrot is specifically taken into account in the planning of forest practices. In particular, it shows the processes of adaptive management and review have changed the way the species has been managed as new information and research has been made available.

Adaptive management: 1996-2006

The management of swift parrot habitat between 1996-2006 was based on available knowledge and included the identification of:

- the breeding range as occurring up to 15km from the east coast;
- potential foraging habitat, focussed on dry forest with > 50% *E. globulus* and/or *E. ovata*;
- nesting habitat, with a focus on known nest sites. Forestry activities at these locations required surveys.

The following management prescriptions were applied:

- on public land (State forest) – potential foraging habitat excluded from operations
- on private land - referred to Private Forest Reserves Program and if forestry operations proceeded, then habitat regenerated to native forest and management by prescription (clumps of mature blue gums retained).

Monitoring of the standard of implementation of this approach by FPA and DNRET scientists found that while the approach was applied to a high standard on public land, standards were lower on private land.

This finding resulted in an improvement to the delivery and wording of the recommended actions through the Threatened Fauna Adviser (decision support tool), further training on

habitat identification for planners, and a change to the FP Act to ensure that any areas set-aside for this species under an FPP would become 'vulnerable land' after the FPP has expired (therefore requiring a new FPP for any future harvesting). This provided some security of habitat 'set-aside' in private areas as the harvested coupes regenerated.

Adaptive management: 2006-2014

Monitoring by DNRET specialists found that swift parrot populations were still in decline. The specialists reported:

- ongoing habitat loss (foraging and nesting)
- nesting reported >10km from the coast, and up to 30km inland
- an increased understanding of the importance of wet *E. globulus* dominated forest.

Following this new information, specialists within the FPA and DNRET reviewed the way in which swift parrot habitat was managed under the forest practices system. An interim revised management approach was developed incorporating a requirement for planners to take into account wet *E. globulus* forest when developing FPPs in the south-east of the State.

An '*Interim Species Habitat Planning Guideline'* for the swift parrot was produced following a lengthy review carried out by a stakeholder group (FPA/ DNRET/ STT/ Private Forests Tasmania/ Gunns Ltd/ private planners) which included species specialists. This guideline covered some of the issues relating to forest practices and a proposed management approach.

A further review of the 'risks' was undertaken as part of the Threatened Fauna Adviser review (2009-2014) and the outcome was included as a chapter on the swift parrot (Background document 2 of the Threatened Fauna Adviser review, available on the FPA website).

Swift parrot range maps, management zoning (including the Swift Parrot Important Breeding Areas (SPIBAs)), habitat descriptions and Threatened Fauna Adviser recommended actions were developed concurrently with the Interim Planning Guideline. These were then endorsed by the Board and Secretary of DNRET in 2014.

This combination of planning tools, based on research and monitoring of the effectiveness of swift parrot habitat management, produced more comprehensive and refined decision tools to inform the design and implementation of forestry activities in swift parrot habitat.

Ongoing adaptive management

The DNRET and the FPA have supported a number of research and monitoring projects undertaken since the 2009-10 review was completed (e.g. Heinsohn et al, 2015; Stojanovic et al, 2014a,b; Stojanovic et al, 2015; Webb et al, 2012; Webb et al, 2014).

The key points from these studies are as follows.

- Swift parrots are challenging to monitor because (1) spatio-temporal fluctuation in food availability causes them to select entirely different breeding sites each year

over a 10,000 km^2 range, and (2) they suffer high but variable rates of predation from the introduced sugar glider (*Petaurus breviceps*) depending on where they breed.
- In one study, 50.9% of nesting females on the Tasmanian mainland were killed by sugar gliders while incubating eggs, but there was no predation from this source on offshore islands. Over a four-year period, 16.5% (0–29%) of the population bred on offshore islands.
- Population viability analyses to examine the likely extent of future population decrease due to sugar glider predation demonstrate that the remaining swift parrot population is likely to decrease by 78.8–94.7% (mean over four models = 86.9%) over only three generations (12–18 years).
- Predation risk varies dramatically across the breeding range of swift parrots, depending on the presence of sugar gliders. Offshore islands are an important refuge for swift parrots because sugar gliders are absent. However, modelling has shown that Tasmania's islands are bioclimatically suitable for sugar gliders, should they be introduced.
- Synergistic interactions between predation and habitat loss combined with low breeding-site philopatry expose swift parrots to dramatic variation in predation risk depending on nesting location.
- Conservation actions need to account for spatio-temporal variation in the availability of swift parrot breeding habitat and recognise there may be several years between the use of a particular site. Given the number of nests found at individual sites this will require the management or reservation of suitable forest stands with old-growth characteristics across the landscape, rather than just focussing on individual trees or historic nesting sites.
- Occupancy and detectability are strongly linked to food availability, but the strength of this relationship varies annually.

As a result of this work a moratorium was declared on forest harvesting within the PTPZL on Bruny Island, a significant swift parrot breeding area free from sugar gliders.

In light of the recent research findings the FPA has considered the following.

- Ensuring implementation of the Threatened Fauna Adviser recommended actions 'in full' in areas where the swift parrot is at highest risk from forest practices as determined through the planning tools.
- Application of the duty of care provision at a larger forest management unit scale to ensure greater landscape-scale protection of swift parrot habitat.
- Ongoing commitment to support strategic planning, monitoring and further research on this species in areas subject to forest practices.

Current management approach

The way in which the swift parrot is currently taken into account within the forest practices system is as follows.

- FPOs are trained in the identification of the species and its habitat through FPA training courses.

- The Code (SD3.3) requires threatened species to be taken into account in the planning and implementation of an FPP.
- Other provisions of the Code that aim to mitigate impacts on biodiversity in general also contribute to management of habitat for the swift parrot in areas covered by the forest practices system.
- SD3.3 of the Code refers to procedures that are agreed between the DNRET and FPA for the management of threatened species and communities in areas covered by the forest practices system (Agreed Procedures). The Agreed Procedures outline the roles and responsibilities of the two agencies and the FPO. They also provide the 'procedures' that need to be followed in the development of management prescription to be incorporated into an FPP. Clause 4.2 and 4.3 of the procedures outlines the need to notify the DNRET where the endorsed management approach (delivered through a particular planning tool) may need to be modified in order to comply with the duty of care provision of the Code (see Guiding policy at the front of the Code for this duty of care requirement).
- The Agreed Procedures refer to the 'planning tools', developed by the research and advisory programs of the FPA. These are made available to the FPOs through the FPA web site.

The main planning tools relevant to taking a threatened species, such as the swift parrot into account are as follows.

- **The biodiversity evaluation sheets**
  Planners use these sheets to help them follow due process when assessing the risk of a proposed operation on a particular value. They document the information gathered and provide information to show how they determined the 'prescription' for the FPP to mitigate any impacts.
- **Recommended actions of the Threatened Fauna Adviser**
  These are used in developing management prescriptions for a particular operation. The current version of the Threatened Fauna Adviser released in March 2014. The adviser and supporting information, such as range boundaries and habitat descriptions, is updated to reflect new research information.
- **Technical guidelines**
  Are available on the FPA website and are provided to trained planners to help in the identification of habitat for the swift parrot (current swift parrot technical guidelines were released in June 2014).

Swift Parrot Public Authority Management Agreement

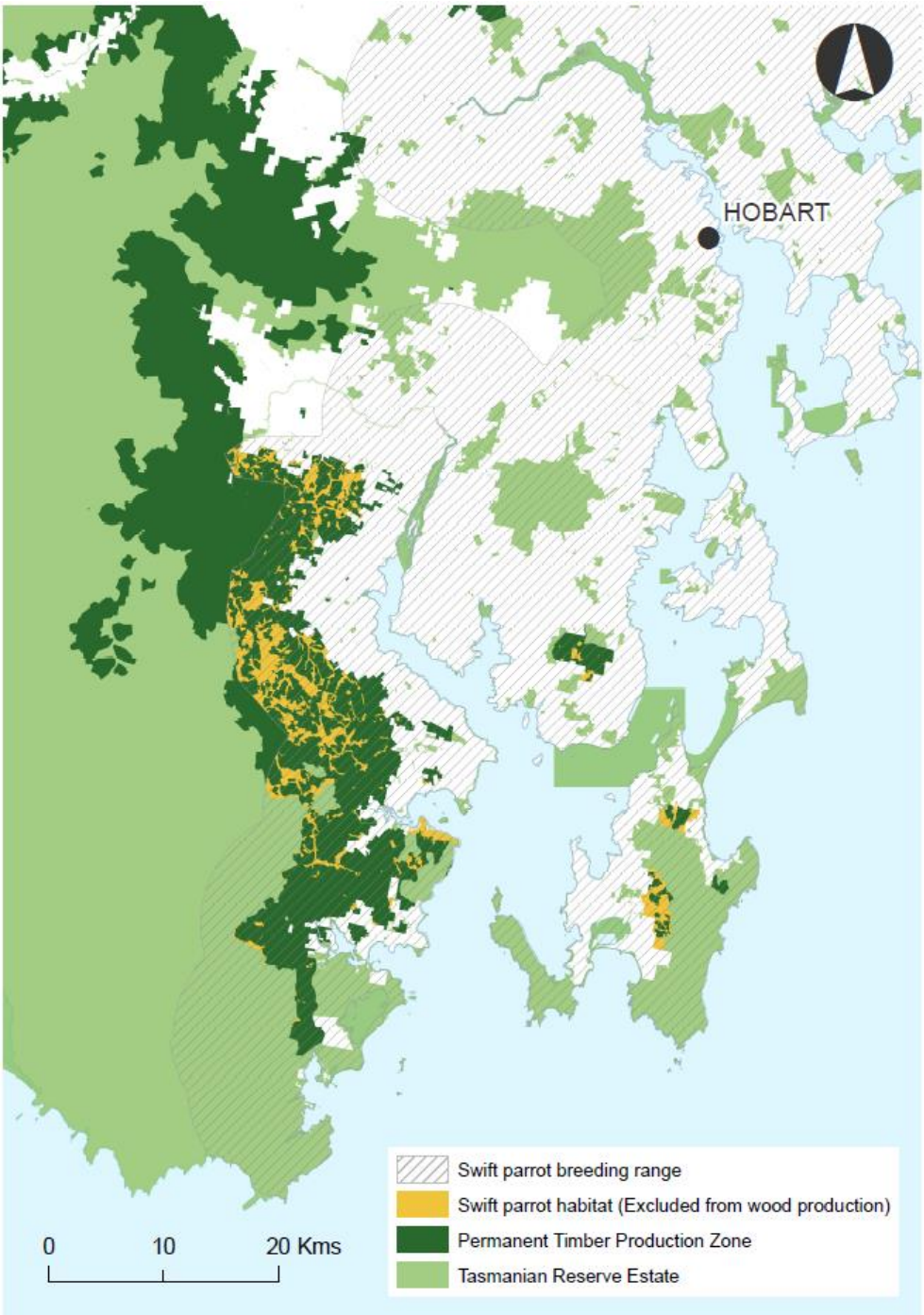
Section 31 of the *Threatened Species Protection Act 1995* provides for the creation of statutory public authority management agreements (PAMAs) for the purpose of managing threatened species that occur on land managed by public authorities such as STT.

A PAMA has been finalised between STT and DNRET for the enhanced protection of swift parrot nesting habitat in a key breeding area for the species. The PAMA was gazetted on the 19 August 2021. It will formally be given effect when the FPA Board's approved amendments are made to the Threatened Species Adviser.

This PAMA requires potential nesting habitat to be excluded from harvesting in on Bruny Island and in the Southern forests except in exceptional circumstances (such as for safety, fire management) and in such circumstances, STT must use its best endeavours to avoid disturbance. Almost 10,000 hectares of potential nesting habitat are excluded from wood production under the agreement (Figure 9).

To identify this potential nesting habitat STT developed a spatial modelling tool based on LiDAR imagery, with the purpose of identifying swift parrot nesting habitat at a landscape scale. The model is designed to be complemented by on-ground surveying.

Figure 9. Swift parrot Public Authority Management Agreement (PAMA) map.



Appendix 4. Management of Commonwealth listed ecological communities within Tasmania's forest practices system.

Ecological communities listed under the EPBC Act can be quite broad and include all or part of a number of different vegetation communities that are mapped in the state-wide TASVEG database under Tasmania's Vegetation Monitoring and Mapping Program. Tasmanian vegetation communities that are identified as threatened are listed as threatened native vegetation communities (TNVC) under Schedule 3A of the NC Act and are protected from clearance and conversion under the FPA Act. Through the TNVC spatial layer, TASVEG mapping provides the basis for understanding the distribution of TNVCs in Tasmania.

The following six ecological communities, listed under the EPBC Act, occur in Tasmania.

- **Alpine sphagnum bogs and associated ferns** – for this ecological community there is a direct Tasmanian TNVC equivalent – sphagnum peatland. Sphagnum peatland is listed at the State level as a threatened native TNVC under the NC Act, and therefore managed under the forest practices system.

- ***Eucalyptus ovata – Callitris oblonga* forest** – this includes several TASVEG communities, but it is usually dominated by *E. ovata* or *C. oblonga*. If dominated by *E. ovata*, the community would also be described as "*Eucalyptus ovata* forest and woodland", which is listed as a threatened native vegetation community (TNVC) under the NC Act and therefore managed under the forest practices system. If dominated by *C. oblonga* (less likely), the community would be managed under the forest practices system because *C. oblonga* is listed as a threatened species under the Tasmanian *Threatened Species Protection Act 1995*.

- **Lowland native grasslands of Tasmania** – includes lowland *Poa* and *Themeda* grasslands.

- **Subtropical and temperate coastal saltmarsh** – not listed under Schedule 3A, NC Act.

- **Tasmanian Forests and Woodlands dominated by *Eucalyptus ovata* (Black gum) or *E. brookeriana* (Brookers gum)** - covers the native forests and woodlands where *E. ovata* is the main tree canopy species present. Both tree species typically occur on damp to wet sites, and both forest types are on Tasmania's list of TNVCs.

- **Tasmanian white gum (*Eucalyptus viminalis*) wet forest –** This corresponds best to the TASVEG unit WVI – *Eucalyptus viminalis* wet forest. It may also include the wet forest components of DVF – *Eucalyptus viminalis* Furneaux forest and woodland, the *E. viminalis*-dominant components of DOV – *Eucalyptus ovata* forest and woodland, and locally *E. viminalis*-dominant components in DSC – *Eucalyptus amygdalina* – *Eucalyptus obliqua* damp schlerophyll forest. The TASVEG unit WVI is likely to comprise most of the ecological community's extent. Areas mapped as other units are likely to collectively account for mostly small patches and only a low proportion of the ecological community's extent.

EPBC Act listed ecological communities are protected from significant impacts under the forest practices system, via the following mechanisms.

The FP Act stipulates that a forest practices plan is required for the following forest practices, including:

- land clearing
- harvesting and regenerating native forest
- harvesting and/or establishing plantations
- clearing forests for other purposes
- clearing and converting threatened native vegetation communities
- constructing roads and quarries for the above purposes
- harvesting tree ferns.

The Code requires consideration of EPBC Act threatened species and communities in planning forest practices and preparing FPPs.

Preparation of an FPP requires a 'planner' to conduct a site assessment and complete the evaluation sheets for natural and cultural values. The FPA has a set of evaluation sheets for biodiversity values. These sheets are a risk assessment completed by the planner to determine the potential impacts of the operation on the biodiversity values, and whether these impacts can be mitigated through standard endorsed actions or if advice is required from FPA biodiversity staff.

For vegetation communities, the biodiversity evaluation sheets require the planner to use the Forest Botany Manual to identify the vegetation communities on site. The Forest Botany Manual is explicitly referred to in the Code. Those communities with high conservation priorities (e.g. Commonwealth listed ecological communities are priority 'A' or 'Y'). The biodiversity evaluation sheets require the planner to seek advice from FPA biodiversity program for all priority 'A' or 'Y' communities, regardless of operation type.

For the EPBC Act listed ecological community *E. ovata – C. oblonga* forest it is likely that this community would key out as *E. ovata* forest/woodland. This is also a state listed TNVC and therefore would be referred to the FPA for advice. If the *E. ovata – C. oblonga* forest was not dominated by *E. ovata*, the presence of *C. oblonga* (a listed threatened species) would also prompt referral to the FPA for advice through the evaluation sheets. It is also worth noting that this community mostly occurs in riparian areas and would be further protected under the streamside reserve requirements of the forest practices system.

There are three EPBC Act listed 'non-forest' communities. The Forest Botany Manual does not provide detailed keys for non-forest communities. Non-forest communities are more complex to key out, and often require a more detailed assessment and a specialist to identify the community. All non-forest communities are given a priority 'A' in the Forest Botany Manual. Therefore, the biodiversity evaluation sheets require the planner to seek advice from FPA for all FPPs involving non-forest. This is designed to pick up any occurrences of the non-forest EPBC Act listed communities and ensure advice on management of these areas is sought from FPA specialists.

Once a planner has referred to the FPA for advice for a community, FPA specialists assess it and determine the potential impacts based on the community conservation priority, condition, patch size and other characteristics. This would normally involve a site assessment. The FPA considers both state and Commonwealth listed communities (including both forest and non-forest communities). In some circumstances, the FPA may also provide advice to the FPP applicant that they may need further advice from the relevant Australian Government departments for advice on management of EPBC Act listed communities.

In summary, if an FPP is required then the system would take ecological communities listed under the EPBC Act into consideration. Notwithstanding this, the reality is that the EPBC Act listed ecological communities do not often occur in areas subject to forestry activities, given the ecological character of the Tasmanian listed communities (i.e., high elevation, or riparian areas, or wetland/coastal environments), that three out of six of the Tasmanian EPBC Act communities are 'non-forest', and that there is currently little demand for plantation establishment on native non-forest vegetation.

Appendix 5. Glossary of acronyms and other definitions

Agreed Procedures	Procedures for the management of threatened species under the forest practices system:
Arisings	Consequent volume of other wood products
CAR	Comprehensive, adequate and representative
CFPO	Chief Forest Practices Officer
CODE	Forest Practices Code
CL Act	*Crown Lands Act 1976*
DNRET	Department of Natural Resources and Environment Tasmania
EPA	Environment Protection Authority
EPBC Act	*The Environment Protection and Biodiversity Conservation Act 1999 (Cth)*
FM Act	*Forest Management Act 2013*
FPA	Forest Practices Authority
FPP	Forest Practices Plan
FSC	Forest Stewardship Council
IUCN	International Union for the Conservation of Nature
LUPA Act	*Land Use Planning Approvals Act 1993*
MDCS	Management Decision Classification System
MNES	Matters of National Environmental Significance
NPRM Act	*National Park and Reserve Management Act 2002*
NC Act	*Nature Conservation Act 2002*
NFPS	National Forest Policy Statement 1992
PTPZL	Permanent Timber Production Zone land

PTR	Private Timber Reserves
PWS	Parks and Wildlife Service
RFA Act	*Regional Forest Agreement Act 2002 (Cth)*
RFA	Tasmanian Regional Forest Agreement
STT	Sustainable Timber Tasmania
TNVC	Threatened Native Vegetation Communities
TWWHA	Tasmanian Wilderness World Heritage Area
WP Act	*Wellington Park Act 1993*

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