Swift Parrot Management Plan 2021-2026

Sustainable Timber Tasmania

Document Summary

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Contents

1 Context

1.1 Purpose

The Swift Parrot Management Plan (the Plan) outlines Sustainable Timber Tasmania's management approach for the Swift Parrot (*Lathamus discolor*).

The Swift Parrot is listed as endangered under the Tasmanian Threatened Species Protection Act 1995 and Critically Endangered on the *Commonwealth's Environment Protection and Biodiversity Conservation Act 1999*. The listing status of the Swift Parrot was upgraded from Endangered in 2016 primarily due to new information showing predation by the introduced Sugar Glider (*Petaurus breviceps*). The Swift Parrot is at risk of extinction (Geyle et al. 2018), with significant population decline predicted by both modelling (Heinsohn et al. 2015) and local observations (Hingston 2019).

Historically, management of Swift Parrot habitat in Tasmania's production forests has evolved in response to new knowledge regarding the ecology and distribution of the Swift Parrot. Since the species was first recognised as a threatened in 1992 (Gaffney & Brown, 1992), management prescriptions for Swift Parrot habitat in Tasmania's production forests have been delivered through the Tasmanian Forest Practices System (Forest Practices Authority, 2014).

The Tasmanian Forest Practices System provides management prescriptions that aim to identify and protect Swift Parrot breeding habitat where it occurs within a forest operational area. This approach, although it has provided improved habitat protection, is limited for broad ranging species such as the Swift Parrot as the prescriptions are restricted to the area covered by a Forest Practices Plan. Sustainable Timber Tasmania recognises the need for a more comprehensive approach to Swift Parrot management, specific to Permanent Timber Production Zone land, and has developed the Plan in response.

The Plan aims to address the conservation requirements of the Swift Parrot. It incorporates existing legislative requirements as well as additional proactive measures to provide a comprehensive management approach. The Plan details the strategies and corresponding actions that aim to provide increased conservation for the Swift Parrot on PTPZ land.

The draft National Recovery Plan for the Swift Parrot (*Lathamus discolor*) (Commonwealth of Australia, 2019) provides a broader context for the management actions within this document.

1.2 Scope

The Plan applies to PTPZ land within the identified Swift Parrot core breeding range (Figure 1). The core breeding range, defined as the area within the South East (SE) potential breeding range that is within 10km of the coast or recognised as important for breeding (Forest Practices Authority 2010), is comprised of a mix of land tenures and reservation (Table 1). The extent of the core breeding range can be reviewed in response to new information, and as such the scope of this Plan is applicable to any revised core breeding range extent.

Table 1 Area (hectares) within Swift Parrot core breeding range.

Tenure	Total	Reserved (includes both formal and informal reserves)
PTPZ	108,000	18,000 (17%)
Other Public	277,000	248,000 (90%)
Private	479,000	26,000 (5%)
Total	864,000	292,000 (34%)

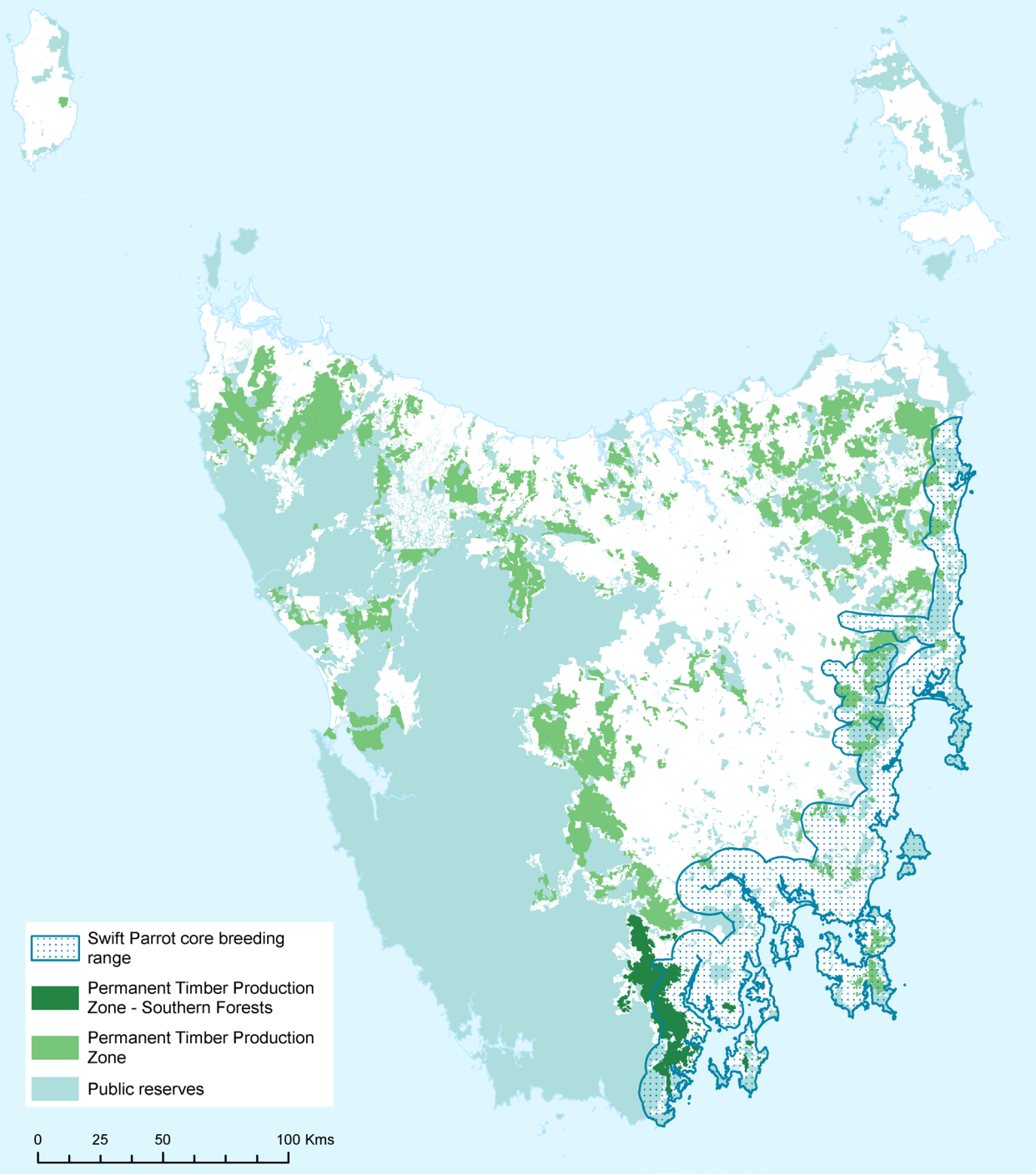

Figure 1 Map of Tasmania showing Permanent Timber Production Zone land and the Swift Parrot core breeding range.

2 Ecology

2.1 Species description

The Swift Parrot (*Lathamus discolor*) (White 1790) is a small fast-flying, nectarivorous parrot that occurs in eucalypt forests in south eastern Australia. Bright green in colour, this species is identified by a distinctive call of pip-pip-pip (usually given while flying), a streamlined body, long pointy tail and flashes of bright red under the wing.

2.2 Distribution

The Swift Parrot migrates from mainland Australia during the summer to breed in the eucalypt forests of Tasmania. The breeding range of the Swift Parrot is largely restricted to the east and south-east coast of Tasmania. Swift parrot breeding occurs within the range where foraging and nesting habitat co-occur, with the specific breeding location(s) determined each year by the distribution and intensity of Tasmanian blue gum (*Eucalyptus. globulus)* and black gum (*E. ovata*) flowering (Brereton et al. 2004, Webb et al. 2017).

2.3 Habitat

The breeding success of Swift Parrots requires the co-occurrence of both suitable nesting habitat and foraging habitat (Webb et al. 2017).

2.3.1 Nesting habitat

Swift Parrots nest in the hollows of live and dead eucalypt trees that occur in eucalypt forests and woodlands (Webb et al. 2017). Nest trees are typically characterised as larger, older eucalypt trees with several visible hollows and showing signs of senescence (Stojanovic et al. 2012, Webb et al. 2012;). Eucalypt trees in Tasmania usually take a minimum of 100 years to start forming hollows, and at least 140 years before deeper hollows are formed (Koch et al. 2008). While tree hollows can be found in trees with a range of diameters, studies show that:

a) trees in wet eucalypt forest grow faster than those in dry eucalypt forest, meaning hollow bearing trees in wet eucalypt forest generally have larger diameters than those in dry eucalypt forest (Koch et al. 2008);
b) the average diameter of trees with suitable hollows for Swift Parrots is >100cm (reported as 120cm in Brereton 1997; 102cm in Stojanovic et al. 2012; 100 cm in Webb et al., and 105cm in Stojanovic et al. 2014)
c) larger trees are more likely to provide more hollows, including more hollows specifically suitable for the Swift Parrot (Gibbons and Lindenmayer 2002; van der Ree et al. 2006; Koch et al. 2008; Stojanovic 2012;);
d) tree diameter is a more important indicator of Swift Parrot nesting habitat presence than tree density (Stojanovic et al. 2014); and
e) the traits of tree cavities are the main factor that predicts whether a tree is used as a nest. The tree hollows preferred by Swift Parrots for nesting have small entrances (~5 cm), deep chambers (~40 cm) and ~12cm wide floor spaces.These traits are rare, and only 5 per cent of tree hollows in a given forest area may meet these criteria (Stojanovic et al. 2012).

The prevalence of hollows in eucalypt forests and woodlands and close proximity to a foraging resource is more important than forest type and/or tree species in determining where nests occur. Where suitable hollows are available, nest sites can be found in all topographic positions and aspects (Webb et al. 2012). Similarly, where there is an abundance of food and suitable nest trees, large numbers of Swift Parrots can nest in close proximity to each other (Webb et al. 2012)

While Swift Parrots can breed in different regions each year, as determined by the presence of the flowering activity of foraging habitat (Webb et al. 2014), they can reuse nesting sites and individual nest hollows over different years (Stojanovic et al. 2012). This highlights the importance of protecting these sites for future breeding events.

2.3.2 Foraging habitat

In Tasmania, the nectar and pollen from the flowers of Tasmanian blue gum (*E. globulus*) and black gum (*E. ovata*) are recognised as a primary food source for breeding Swift Parrots. These eucalypt species are important because their flowering coincides with the breeding period of the Swift Parrots. The importance of Brooker's Gum (*E. brookeriana*) on the east coast is also currently being investigated.

Flowering in these eucalypt species is sporadic and varies in location from year-to-year (Williams and Potts 1996). As Swift Parrots breed primarily where food is locally abundant, flowering largely determines where breeding will occur in any given year (Webb et al. 2017).

It is well established that *E. globulus* is an important foraging source for the Swift Parrot. However, the size of the tree is also important. Larger *E. globulus* trees flower more intensively and frequently than smaller trees, and so provide higher quality and quantity of foraging habitat (Brereton et al. 2004; Saunders and Tzaros 2011).

2.4 Threats

The major threats to the survival of the Swift Parrot, as identified by the *Draft National Recovery Plan for the Swift Parrot Lathamus discolour* (Commonwealth of Australia, 2019), are predation by Sugar Gliders and the loss of habitat. Although threats exist on the mainland of Australia, this plan focuses on Tasmanian specific threats as they are most relevant to this Plan.

2.4.1 Predation

Predation by invasive Sugar Gliders (*Petaurus breviceps*) has been identified as a major threatening process for Swift Parrots in their Tasmanian breeding range. Stojanovic et al. (2014) found that Sugar Gliders are the principal cause of Swift Parrot breeding failure on mainland Tasmania as they predate on both nestlings and nesting females. A positive relationship between nest survival and increasing mature forest cover at the landscape scale was also identified. Allen et al. (2018) highlighted the severity of the predation threat, by demonstrating that, specifically in southern Tasmania, the "best areas of potential Swift Parrot nesting habitat" (i.e. where mature forest cover is high) have the highest likelihood of supporting Sugar Glider populations.

2.4.2 Habitat loss and alteration

The long-term cumulative loss of both overwintering habitat on the Australian mainland and breeding habitat in Tasmania has been a key threatening process for Swift Parrots.

Historical land clearance was the major source of breeding habitat loss in Tasmania, however it is now largely restricted since broadscale clearance and conversion of native forest ceased on public land in 2010 and then in 2015 on private land (Department of State Growth 2017).

Loss of potential breeding habitat in Tasmania via clearance for conversion to agriculture or coastal and urban development on private land, and native forest harvesting and intensive native forest silviculture practices continues to remain a key threat to Swift Parrot.

Without appropriate controls, forest harvesting can result in the reduction of potential nesting and foraging trees. There is also a habitat recruitment threat: although not resulting in deforestation, the rotation lengths on which these stands are managed is generally shorter than the time required for tree hollow development.

Firewood collection can be an additional cause of habitat loss and can be particularly acute as trees targeted by firewood collectors are often mature trees showing signs of senescence, which can provide both foraging and nesting habitat.

Fire is also identified as a threat as it has been shown to destroy nesting cavities and lead to tree collapse (Stojanovic et al. 2016), and has the potential to kill foraging trees, however the relationship between fire and tree hollows is complex as it also has the potential to lead to the creation of hollows (Stojanovic et al. 2015).

2.4.3 Competition

Increased competition for both foraging and nesting habitat – from European honey bees (*Apis mellifera)* and introduced nectar-feeding birds – is also considered a threat for Swift Parrots which is exacerbated by any reduction in available habitat (Hingston et al. 2004; Heinsohn et al. 2015).

2.4.4 Climate change

Climate change is recognised as a threatening process as it is likely to increase of frequency and intensity of wildfires as well as influence changes in flowering and distribution of eucalypt species (Grose et al. 2014; Porfirio et al. 2016).

3 Management

3.1 Objective

To contribute to the conservation of the Swift Parrot through targeted management on PTPZ land and collaboration.

3.2 Approach

Sustainable Timber Tasmania's management approach for Swift Parrot conservation on PTPZ land involves four key interacting strategies:

1. Manage and protect Swift Parrot habitat;
2. Enhance existing Swift Parrot habitat;
3. Reduce threats to Swift Parrot breeding success; and
4. Engage with species experts and land managers to improve Swift Parrot conservation.

Priorities assigned to actions should be interpreted as follows:

Priority 1: Action is critical to mitigate the key threats to Swift Parrot.

Priority 2: Action is desirable, but not critical for the conservation of Swift Parrot.

Strategy 1: Manage and Protect Swift Parrot habitat

Action		Priority	Performance measures
1.1	Maintain the precautionary approach on Bruny Island which precludes any native forest harvesting on the 1,800 ha of PTPZ land.	1	No native forest harvested on Bruny Island.
1.2	Maintain protection of informal reserve system (includes18,000 ha within core breeding range).	1	No loss of informal reserve area.
1.3	Manage 9,300 ha of potential nesting habitat as identified in Public Authority Management Agreement (DPIPWE and STT, 2020).	1	No harvesting of potential nesting habitat identified in PAMA.
1.4	Plan and conduct harvest operations to exclude Swift Parrot habitat from operational areas in accordance with regulatory requirements (refer Appendix 1)	1	All harvest operations are compliant with the requirements of the Forest Practices System.
1.5	Trial harvesting operations that retain potential Swift Parrot habitat within operational areas where safety and access allows (Refer Appendix 2).	1	Retention of Swift Parrot potential nesting or foraging habitat within trial coupes, except in situations where harvesting is required for safety or access.
1.6	Protect all known nest trees from harvesting with 50 meter buffer.	1	No harvesting of known nest tree buffers

1.7	Maintain worker competence in ability to identify Swift Parrot habitat and activity.	1	Relevant employees have attended Swift Parrot habitat management field days. Relevant contractors briefed on characteristics of Swift Parrots and Swift Parrot habitat prior to operations commencing.
1.8	Maintain pre-harvest composition of foraging species.	1	All harvested coupes containing potential foraging habitat are resown with proportionate amounts of same species.
1.9	Develop an STT specific monitoring program	1	Established monitoring program on Permanent Timber Production Zone land that: a) Identifies and monitors seasonal breeding activity; b) Verifies third party reporting and c) Assesses effectiveness of habitat retention strategies;
1.10	Practice adaptive management in response to Swift Parrot monitoring information	1	Where required, operational activities are adjusted in response to monitoring information
1.11	Promote the adoption of a single, strategic approach to Swift Parrot habitat retention over all PTPZ land.	2	A single species management plan for PTPZ land endorsed by relevant agencies.

Strategy 2: Enhance Swift Parrot Habitat

Action		Priority	Performance measures
2.1	Restore suitable ex-plantation and pasture sites on Bruny Island with foraging habitat.	2	Suitable areas are identified and restored.
2.2	Investigate the potential for silvicultural treatment to improve flowering in established regrowth forests containing high proportions of Blue gum (*Eucalyptus globulus*).	2	Silvicultural trials established and reported on,
2.3	Investigate the potential of flower promoting treatments to enhance flowering in foraging species.	2	Flower promoting treatment trial established and reported on. Gf
2.4	Identify key breeding areas that have limited nesting habitat and increase nesting habitat with artificial hollows.	2	Increased nesting habitat in identified areas.

Strategy 3: Reduce Threats to Swift Parrot breeding

Action		Priority	Performance measures
3.1	Identify and support predation management research and programs.	1	Improved knowledge of Sugar Glider ecology, the potential for pest control and consequently the capability to reduce Swift Parrot predation.
3.2	Limit apiary foraging competition in areas predicted to support breeding through management of apiary licences on PTPZ land.	2	No increase in number of hives placed in identified key breeding sites.
3.3	Minimise the impact of bushfire and planned burns.	1	All bushfires responded to in accordance with Fire Action Plans. All planned burns conducted with due consideration for conservation values.
3.4	Minimise the impact of firewood collection by implementing measures that encourage legal collection and discourage illegal collection.	1	Access restricted to key breeding areas or areas with known nests. Provision of legal firewood collection areas.

Strategy 4: Engage with species experts, researchers and land management agencies to improve Swift Parrot conservation

Action		Priority	Performance measures
4.1	Engage with experts	1	Expert input is sought and considered for strategic management actions related to Swift Parrots.
4.2	Contribute to Swift Parrot monitoring programs.	1	Formalised process is established for sharing of seasonal breeding information to both: a) contribute information to monitoring programs; and b) improve awareness of breeding activity on PTPZ land. Opportunities to contribute funding to breeding monitoring programs are identified.
4.3	Collaborate with researchers to develop bio-acoustic surveys for identifying Swift Parrot activity.	2	Tool is developed and incorporated into annual monitoring program.
4.4	Collaborate with land owners to increase establishment of foraging habitat on Bruny Island.	2	Partnerships developed that results in establishment of foraging habitat.
4.5	Facilitate a multi-agency cross tenure approach to illegal firewood harvesting	2	Committee established with mandate to develop plan to address illegal firewood harvesting.

4.6	Where relevant to STT, work with species experts, regulators, land managers and other stakeholders to implement conservation and management actions aligned with formal recovery plans.	2	Cooperation with relevant agencies to implement projects aligned with management plans.

4 Review

This plan will be reviewed no later than five years from when it was endorsed or if relevant new information relevant to Swift Parrots in Tasmania becomes available.

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Glossary

Core breeding range	the area within the South East potential breeding range that is within 10km of the coast or is designated as a Swift Parrot Important Breeding Area (SPIBA).
Interested stakeholder	Groups and individuals that have an interest in the conservation of the Swift Parrot.
Key breeding sites	areas identified as breeding locations in a given season.
Key stakeholder	Groups and individuals, including State government, who can provide expert input into Swift Parrot conservation and management.
Known nest tree	a verified swift parrot nest record in the Natural Values Atlas.
Natural Values Atlas	Tasmanian government's database of natural values.
PAMA	a Public Authority Management Agreement, facilitated under the *Threatened Species Protection Act 1995*, is statutory agreement made between the Tasmanian government and a public authority to provide for the management of any listed taxon of flora or fauna or potentially threatening process. In this case, PAMA refers to the agreed Management Plan for *Lathamus discolor* (Swift Parrot) in the Southern Forests).
PTPZ	Permanent Timber Production Zone
Potential foraging habitat	Blue Gum (*E. globulus*) and Black Gum (*E. ovata*) trees in native forest and woodland that are mature enough to flower.
Potential nesting habitat	Hollow-bearing eucalypt trees within foraging range (~10km) of potential foraging habitat.

Sustainable
Timber
Tasmania

Level 1, 99 Bathurst Street
Hobart TAS 7000

GPO Box 207
Hobart TAS 7001

+61 (0)3 6235 8333

sttas.com.au