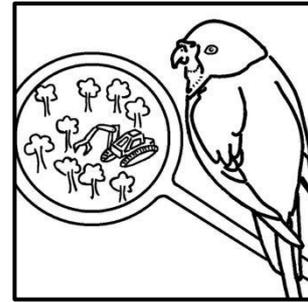


Forestry Watch Survey Report

Coupe Number: RU001J

Location: The Little Denison River, near Lonnavale

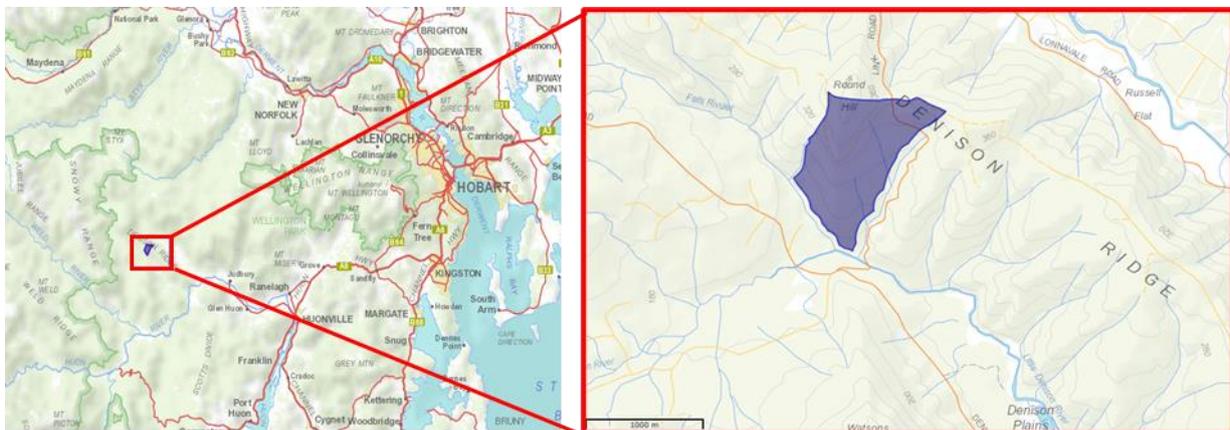
Survey Date: 10/10/2020



Excellent nesting and foraging habitat for the swift parrot was found in the logging coupe RU001J. Forestry watch’s citizen science team found a high density of hollow bearing trees and habitat structures important for many denning and hollow nesting species. The high density of mature Tasmanian blue gum is especially important for the critically endangered Swift Parrot.

Coupe Snapshot:

Size:	44 ha	Year to be logged:	2021
Percentage mapped old-growth¹:	0%		
Natural Values:	Stands of large mature rainforest trees, swift parrot foraging and nesting habitat, masked owl habitat, spotted tailed quoll habitat, numerous hollow-bearing trees, high carbon storage capacity, large area of old-growth.		



¹ Based on Sustainable Timber Tasmania Old-growth GIS layer.

EXECUTIVE SUMMARY

Forestry Watch conducted a survey of coupe RU001J on the 10th September 2020. This coupe was selected by the team due to its diversity of forest types including *Eucalyptus globulus* forest, dry *Eucalyptus* forest and potential to contain unmapped old growth forest.

The coupe is mapped as three vegetation types on LISTmap; *Eucalyptus obliqua* dry forest, *Eucalyptus obliqua* wet forest and *Eucalyptus globulus* wet forest. Surveys on the west of the coupe found a high density of *E. Globulus* outside of the mapped *E. Globulus* forest area, so we advise that this mapping be revised.

Surveys in forest on the East side of the coupe found no evidence of anthropogenic disturbance, so we advise that this be revised to old growth status.

The primary findings of the survey include:

- Stands of large mature *Eucalyptus regnans* and *Eucalyptus globulus*
- Stands of high quality Swift Parrot nesting and foraging habitat
- High quality masked owl habitat
- Large section of growth forests, with high carbon storage potential
- Density of Large Habitat Trees:

Density of High Quality Habitat Trees >150cm diameter or containing hollows	Density of Medium Habitat Trees 150cm>100cm diameter	Density of fallen logs >15cm height
80 per ha	3 per ha	37 per ha

The surveyed forest is of high mature availability class. The survey indicates the forest within this coupe contains a high density of hollow bearing trees critical for hollow nesting trees such as swift parrots and masked owls. It contains quality swift parrot foraging habitat. It contains three forest types with structural heterogeneity, and a high density of fallen logs providing quality denning habitat for spotted tailed-quolls and Tasmanian Devils.

© Forestry Watch 2020.

Location maps throughout this report are representative only; for precise GPS coordinates, see the appendices. All satellite imagery used throughout is sourced from The Land Information System Tasmania (LIST).

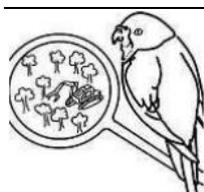
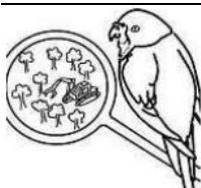


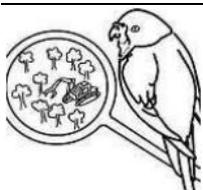
TABLE OF CONTENTS

Executive Summary.....	2
1 Introduction	5
1.1 Proposal Brief.....	5
1.2 Purpose and Scope.....	5
2 Desktop Assessment	7
1.1 Protected Matters Summary	7
3 Threatened and Protected Species/Communities.....	8
1.1.1 Masked owl	10
1.1.2 Swift Parrot	10
1.1.3 Spotted tail quoll.....	10
1.1.4 Tasmanian devil	10
1.1.5 Mt Mangana stag beetle.....	10
1.1.6 Eastern Quoll.....	11
1.1.7 Tasmanian Wedge-Tailed Eagle	11
1.1.8 Grey Goshawk.....	11
1.1.9 White Bellied Sea Eagle.....	11
1.1.10 Narrow Leaf Westringia	11
1.1.11 Small-leaf Dogwood	11
1.2 Migratory Species	12
4 Habitat Assessment	13
1.3 Habitat quality assessment.....	13
1.3.1 Methods.....	13
1.3.2 Results.....	15



Conclusion..... 16

References 17



1 INTRODUCTION

1.1 PROPOSAL BRIEF

Forestry Watch conducted a natural values assessment at Sustainable Timber Tasmania coupe RU001J on the 10/10/2020 (Figure 1). This assessment was conducted to quantify and record the natural values within RU001J.

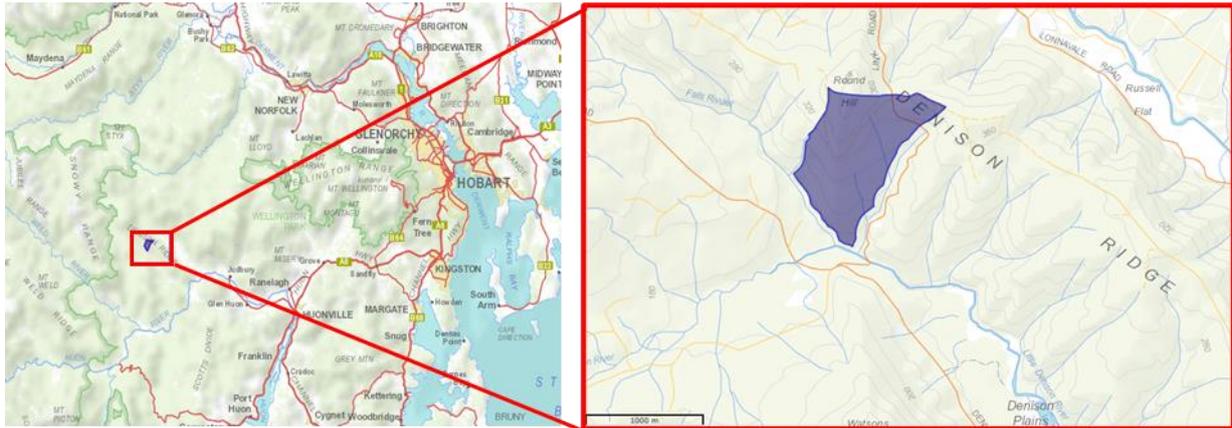


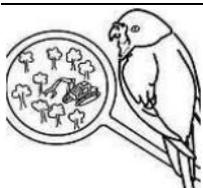
Figure 1 Location of coupe RU001J, southern Tasmania

The survey works have been prepared based on the requirements for the assessment of potential impacts as outlined in the *Guidelines for Natural Values Surveys – Terrestrial Development Proposals*, produced by the Natural and Cultural Heritage Division (NCH) within the Department of Primary Industries, Parks, Water and Environment (DPIPWE). Additionally, technical procedures recommended for Forest Practices Officers by the Forest Practices Authority (FPA) have been followed to assess habitat quality.

1.2 PURPOSE AND SCOPE

The purpose of this report is to assess the terrestrial environment within the footprint of coupe RU001J to report any potential environmental impacts that proposed harvest works may impose. Specifically, the project includes the following:

- Identify natural values within the harvest footprint and surrounding impacted area;
- Identify any sensitive receptors and ecological communities; and



- Characterise potential environmental impacts of proposed activities within the harvest footprint and surrounding impacted zone.

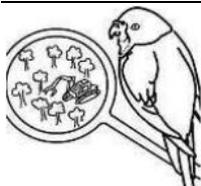
Our proposed scope of works includes:

- Desktop research to identify likely sensitive receptors, including:
 - Natural Values Atlas (NVA) report
 - Protected Matters Search Tool (PMST) report
- Habitat assessment
 - Mature habitat availability assessment according to FPA guidelines²
 - Swift parrot foraging habitat assessment according to FPA guidelines³
- Reporting, including details of desktop research, field survey methods and results, and discussion around potential environmental impacts of the proposed activity.

The scope of this report extends to a detailed summarisation of available information regarding natural values and ecology of the area. Please note that the scope does not extend to aquatic ecology.

² Forest Practices Authority , 2016, Fauna Technical Note 2; Assessing Mature Habitat Availability, https://www.fpa.tas.gov.au/__data/assets/pdf_file/0016/113560/Fauna_Tech_Note_03_Swift_parrot_breeding_habitat.pdf

³ Forest Practices Authority, 2014, Identifying Swift Parrot Breeding Habitat, https://www.fpa.tas.gov.au/__data/assets/pdf_file/0016/113560/Fauna_Tech_Note_03_Swift_parrot_breeding_habitat.pdf



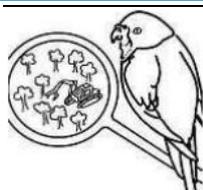
2 DESKTOP ASSESSMENT

1.1 PROTECTED MATTERS SUMMARY

The *Environment Protection and Biodiversity Conservation (EPBC) Act 1999* Protected Matters Search Tool (PMST) is a tool managed by the Department of the Environment to help determine whether Matters of National Environmental Significance (MNES) or other matters protected by the *EPBC Act* are likely to occur in a given area of interest (Table 1). The PMST was used to identify protected matters relating to the survey coupe, with a buffer of 5000 m. Threatened and protected species, migratory species and invasive species are discussed in further detail in Section 3 below. Full reports are available upon request from Forestry Watch (DPIPWE, 2020).

Table 1 Summary of findings of the *EPBC Act* PMST.

	Item	No. Identified by PMST	Description
Matters of National Environmental Significance	World Heritage Properties	-	
	National Heritage Places	-	
	Wetlands of International Importance	-	
	Great Barrier Reef Marine Park	-	
	Commonwealth Marine Area	-	
	Listed Threatened Ecological Communities	1	Tasmanian Forests and Woodlands dominated by black gum or Brookers gum likely to occur within area
	Listed Threatened Species	17	Includes Tasmanian Wedge-tailed eagle, Curlew Sandpiper, Tasmanian Azure Kingfisher, White-throated Needle-tail, Swift Parrot, Eastern Curlew, Goulds Petrel, Masked Owl (Tasmanian), Australian Grayling, Spotted-Tail Quoll, Eastern Quoll, Eastern Barred Bandicoot, Tasmanian Devil, Naiver Wintercross, Curtis' Colobanth, Tapered Leek-Orchid, Swamp Everlasting terrestrial species
	Listed Migratory Species	9	Includes Fork-tailed Swift, White Throated Needle-tail, Satin Flycatcher, Common Sandpiper, Curlew Sandpiper, Sharp-Tailed Sandpiper, Pectoral Sandpiper, Latham's Snipe, Eastern Curlew terrestrial species
Other Matters Protected by EPBCA	Commonwealth Land	-	
	Commonwealth Heritage Places	-	
	Listed Marine Species	-	
	Whales and Other Cetaceans	-	



	Critical Habitats	-	
	Commonwealth Reserves Terrestrial	-	
	Commonwealth Reserves Marine	-	
Extra Information	State and Territory Reserves	-	
	Regional Forest Agreements	1	Tasmanian RFA
	Invasive Species	21	Includes Skylark, Mallard, European Goldfinch, European Greenfinch, Domestic Pigeon, House Sparrow, Common Starling, Common Blackbird, Domestic Dog, Cat, Brown Hare, Rabbit, Black Rat, Red Fox, Boneseed, English Broom, Common Broom, Blackberry, Willow sp, Gorse terrestrial species
	Nationally Important Wetlands	-	
	Key Ecological Features	-	

3 THREATENED AND PROTECTED SPECIES/COMMUNITIES

There are several terrestrial species listed as threatened that may occur in the vicinity of coupe RU001J. Threatened species are protected under the *Threatened Species Protection (TSP) Act 1995* (Tasmanian state legislation)⁴ and/or the *EPBC Act* (Australian Government legislation)⁵. The logging industry is exempt from the assessment and approval provisions of the EPBC Act, as forestry operations are regulated by the Regional Forestry Agreements (RFAs).

Under an RFA, priority threatened species and ecological communities should be protected by reserve systems and management systems. Threatened species that could potentially occur within the vicinity of the study area are discussed in greater detail in this section.

In a search of the EPBC PMST (DoEE 2020) and Natural Values Atlas (DPIPWE 2020) 2 plant and 12 animal threatened species were identified as possibly occurring in the area or known to occur in the area (Table 2). Verified records of 11 threatened species within a 5000 m radius of the study area were found (NVA, 2020) (Table 2).

⁴ Under the *TSP Act*, no listed species can be collected, disturbed, damaged or destroyed without a permit.

⁵ Under the *EPBC Act*, any action with significant impact on a listed threatened species and/or community is prohibited without approval (Section 18 and 18A).

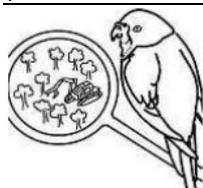
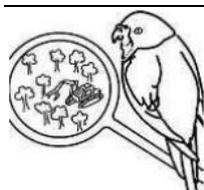


Table 2 Summary of threatened terrestrial, freshwater and avian species identified in a search of the Natural Values Atlas and the EPBC PMST.

Species	Listing		NVA findings	EPBC PMST findings
	EPBC Act	TSP Act		
Small-leaf dogwood (<i>Pomaderris elachopylla</i>)	-	Vulnerable	8 observations within 5000m (based on range boundaries)	-
Narrow leaf westringia (<i>Westringia angustifolia</i>)	-	Rare	2 observations within 5000m	-
Swift parrot (<i>Lathamus discolor</i>)	Critically Endangered	Endangered	Verified record within 500m	Breeding likely to occur within area
Masked owl (<i>Tyto novaehollandiae castanops</i>)	Vulnerable	Endangered	Verified record within 500m	Species or species habitat known to occur within area
Eastern quoll (<i>Dasyurus viverrinus</i>)	Endangered	Endangered	Verified record within 500m	Species or species habitat known to occur within area
Mt Mangana stag beetle (<i>Lissotes menalcas</i>)	-	Vulnerable	Verified record within 500m	-
Tasmanian wedge-tailed eagle (<i>Aquila audax fleayi</i>)	Endangered	Endangered	Verified record within 5000m	Breeding likely to occur within area
Grey goshawk (<i>Accipiter novaehollandiae</i>)	-	Endangered	Verified record within 5000m	-
Tasmanian devil (<i>Sarcophilus harrisi</i>)	Endangered	Endangered	Verified record within 5000m	Species or species habitat likely to occur within area
White-bellied sea eagle (<i>Haliaeetus leucogaster</i>)	-	Vulnerable	Verified record within 5000m	-
White-throated needle tail (<i>Hirundapus caudacutus</i>)	Vulnerable	-	Verified record within 5000m	Species or species habitat may occur within area
Spotted tail quoll (<i>Dasyurus maculatus</i>)	Vulnerable	Vulnerable	Present within 500m based on range boundaries	Species or species habitat likely to occur within area



1.1.1 Masked owl

The Tasmanian Masked owl is estimated to have only 500 breeding pairs remaining. Masked owls require large hollows only found in mature forests. The main threat to the masked owl is the clearing of nesting and foraging habitat. High quality masked owl habitat is considered to have more than eight trees over 150cm dbh per hectare.

1.1.2 Swift Parrot

The swift parrot is a fast-flying, nectarivorous parrot which occurs in eucalypt forest in south eastern Australia (Commonwealth of Australia, 2019). The swift parrot migrates to breed in Tasmania during summer, then travels to mainland Australia in winter. The major threats to the survival of the Swift Parrot are the ongoing loss of breeding and foraging habitat in Tasmania through forestry operations and land clearing, and predation by Sugar Gliders of nestlings and sitting females (Commonwealth of Australia, 2019).

In June 2019, forests and woodlands dominated by Black Gum (*Eucalyptus ovata*) - an important habitat for Swift Parrots - was EPBC-listed as a Critically Endangered ecological community.

1.1.3 Spotted tail quoll

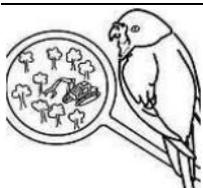
The spotted tailed quoll requires large tracts of forest with potential den sites. Den sights and hollows required by prey are removed by intensive forestry practices, especially when logging is followed by burning, rendering the area unsuitable habitat.

1.1.4 Tasmanian devil

The Tasmanian Devil have large ranges which span over several square kilometres. Old-growth forests provide important habitat for denning, which includes hollow logs and dense vegetation. Logging native forests can destroy dens or potential denning habitat.

1.1.5 Mt Mangana stag beetle

The Mount Mangana stag beetle is endemic to the wet forests of southern Tasmania. It lives in logs rotting on the forest floor. The greatest threat to the beetle is the removal of these logs by forest clearing and burning.



1.1.6 Eastern Quoll

Eastern quolls are solitary carnivores and scavengers which nest in dens under rocks, in burrows or in hollow logs. They are associated with forest grassland mosaics and the main threats are predation by feral cats, disease, climate change, non-target poisoning and road mortality.

1.1.7 Tasmanian Wedge-Tailed Eagle

The Tasmanian wedge-tailed eagle is an extremely large bird with a population estimated as less than 1000 birds. They require mature forests as nesting habitat, and are sensitive to disturbance while nesting. Primary threats include loss of nesting habitat, nest disturbance, collisions, electrocution and persecution.

1.1.8 Grey Goshawk

Grey goshawks are large pure white raptors that require mature forests as nesting habitat. Their population is currently estimated at less than 110 breeding pairs in Tasmania. The primary threat is loss of nesting habitat, and other threats include collisions and poison.

1.1.9 White Bellied Sea Eagle

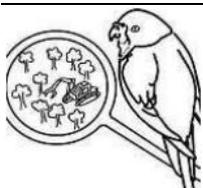
The white bellied sea eagle is a distinctive large eagle found inland as well as on the coast. Similar to the wedge-tailed eagle, the white bellied sea eagle requires mature forest to nest in, and is sensitive to disturbance.

1.1.10 Narrow Leaf Westringia

Westringia angustifolia is an endemic Tasmanian shrub found in dry shrubby forest from 300 to 900m. Its range appears to have decreased in recent years.

1.1.11 Small-leaf Dogwood

Pomadouris elachophylla occurs in isolated patches of wet shrubby woodlands across Tasmania. The species currently has no known reserved population.



1.2 MIGRATORY SPECIES

Migratory species are those animals that migrate to Australia and its external territories or pass through or over Australian waters during their annual migrations (DoAWE, 2020).

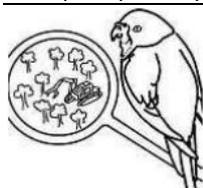
Listed migratory species⁶ protected under international agreements are those listed in the:

- Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention)
- China-Australia Migratory Bird Agreement (CAMBA)
- Japan-Australia Migratory Bird Agreement (JAMBA)
- Republic of Korea-Australia Migratory Bird Agreement (ROKAMBA)

Several species of migratory species were identified in the PMST, including the swift parrot, Eastern curlew and white-throated needletail. Refer to Section 1.3.2 for information pertaining to migratory birds.

Swift parrot breeding habitat will be reduced by the proposed development. The proposed development will not introduce any barriers to migration and is not expected to impact the remaining species.

⁶ An EPBC-listed migratory species list can be found at <http://www.environment.gov.au/cgi-bin/sprat/public/publicshowmigratory.pl>



4 HABITAT ASSESSMENT

1.3 HABITAT QUALITY ASSESSMENT

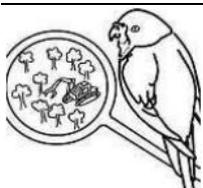
1.3.1 Methods

Prior to a field survey, vegetation type was identified using a desktop-based assessment with TASVEG 3.0. Forestry Watch ground truthed this habitat type during a site visit on 10/10/2020.

Habitat quality of the area was surveyed on 10/10/2020. To assess habitat quality, field teams recorded the number of trees, species, width, senescence and fallen logs more than 15cm in diameter along six 50 m transects (Figure 2). Transects were within the harvest area and were randomly selected. Habitat within 5 m of the transect line was recorded.

The amount of mapped swift parrot foraging habitat (Globmap) within 10km of the site was also calculated (Figure 3).

In wet forest, 150cm dbh is considered a proxy for hollow bearing trees. In dry forest, this is reduced to 100cm (fpa technical note). Medium quality habitat trees are 100-150cm dbh in wet forest and 70-100cm in dry forest. Trees displaying signs of hollows (such as senescence, see:) or above the proxy dbh are considered high quality habitat trees. Swift parrot foraging habitat was also assessed within the coupe by assessing the proportion of Eucalyptus trees over 40cm dbh that were *E. globulus*.



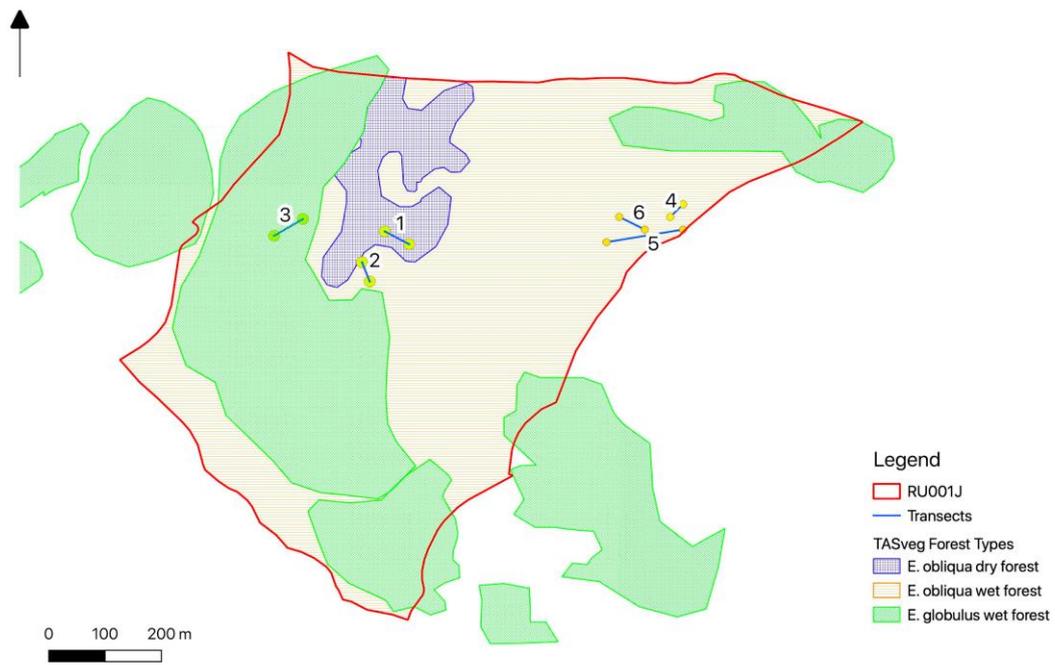
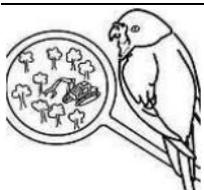


Figure 2 Habitat assessment transects and mapped vegetation types in STT coupe RU001J.



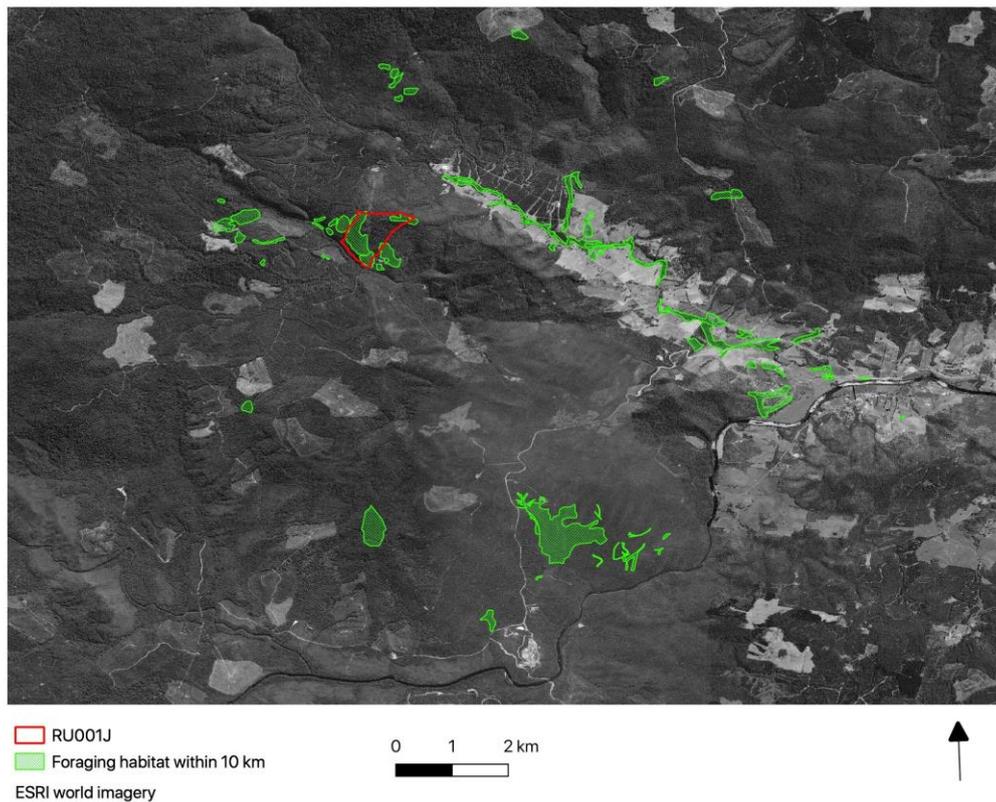


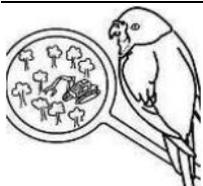
Figure 3 Coupe RU001J showing 424.3 ha of Swift Parrot foraging habitat within 10ks

1.3.2 Results

Coupe RU001J is listed as *E. Obliqua* dry forest, *E. obliqua* wet forest and *E. globulus* wet forest by TASVEG 3.0 (Figure 2). Upon a site inspection, presence of *E. obliqua* wet forest in the Eastern side of the coupe (transects 4-6) was confirmed. In the western side of the coupe (transects 1-3), a high density of *E. globulus* (49%) was found outside of the mapped *E. globulus* wet forest. This is classed as medium quality swift parrot habitat. However, given the high mean dbh of 120cm for recorded *E. globulus* trees, we suggest that this is high quality foraging habitat (technical note).

A density of 80 high quality habitat trees per hectare was found within the harvest area, signifying a high density of hollow bearing trees forming excellent habitat for swift parrots and masked owls (Table 1). This is classified as ‘High Mature Habitat Availability Class’ by the FPA⁷. Within 10ks of the

⁷ Forest Practices Authority, 2016, Fauna Technical Note 2; Assessing Mature Habitat Availability, https://www.fpa.tas.gov.au/__data/assets/pdf_file/0016/113560/Fauna_Tech_Note_03_Swift_parrot_breeding_habitat.pdf



coupe is 424.3 ha of foraging habitat for swift parrots, increasing the suitability as nesting habitat⁸. A density of 37 fallen logs per hectare was found, showing the structural diversity of the forest and the potential denning habitat for marsupials such as the spotted tailed quoll and Tasmanian devil⁹.

Table 1 Density of high-quality habitat trees

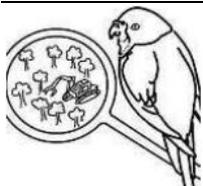
Density of High Quality Habitat Trees	Density of Medium Quality Habitat Trees	Density of fallen logs
80 per Ha	3 per Ha	37 per Ha

CONCLUSION

Excellent nesting and foraging habitat for the swift parrot was found in the logging coupe RU001J. Forestry watch’s citizen science team found a high density of hollow bearing trees and habitat structures important for many denning and hollow nesting species. The high density of mature Tasmanian blue gum is especially important for the critically endangered Swift Parrot.

⁸ Forest Practices Authority, 2014, Identifying Swift Parrot Breeding Habitat, https://www.fpa.tas.gov.au/__data/assets/pdf_file/0016/113560/Fauna_Tech_Note_03_Swift_parrot_breeding_habitat.pdf

⁹ see this report; 1.3.4, 1.3.5



REFERENCES

Commonwealth of Australia (2019) National Recovery Plan for the Swift Parrot (*Lathamus discolor*), accessed 28/08/2020 <<http://www.environment.gov.au/system/files/consultations/00802df7-5a57-4e78-a7e1-261d6d444ba2/files/draft-recovery-plan-swift-parrot.pdf>>

Department of Agriculture, Water and the Environment (2020) Listed migratory species, accessed 27/08/2020 <[https://www.environment.gov.au/epbc/what-is-protected/migratory-species#:~:text=Migratory%20species%20are%20those%20animals,\(e.g.%20whales\)%20or%20reptiles.](https://www.environment.gov.au/epbc/what-is-protected/migratory-species#:~:text=Migratory%20species%20are%20those%20animals,(e.g.%20whales)%20or%20reptiles.)

Department of the Energy and Environment (DoEE) (2020) EPBC Act Protected Matters Report for coordinates -42.95962 146.78026 Buffer 1.0 km. Report created 17/11/2020.

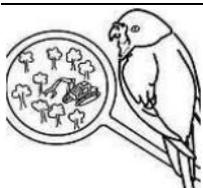
Department of Primary Industries, Parks, Water and Environment (DPIPWE) (2020) Natural Values Atlas Report: Authoritative, comprehensive information on Tasmania's natural values. RU001J Coupe Boundary. Buffer min: 500 m, max: 5000 m. Report created: 09/10/2020.

Department of Primary Industries, Parks, Water and Environment (DPIPWE) (2018) Giant tree and tall forest values in the Tasmanian Wilderness World Heritage Area. Nature Conservation Report 18/5, Natural and Cultural Heritage Division, DPIPWE, Hobart.

Natural and Cultural Heritage Division (2015) Guidelines for Natural Values Surveys – Terrestrial Development Proposals. Department of Primary Industries, Parks, Water and Environment

Threatened Species Advisory Committee (2015) *Dasyurus viverrinus* (eastern quoll) Conservation Advice

Threatened Species Section (2020). <https://www.threatenedspecieslink.tas.gov.au/> Department of Primary Industries, Parks, Water and Environment, Tasmania. Accessed on 17/11/2020.



APPENDICES

Appendix 1. GPS Positions of transects

Name	Datum	Easting	Northing
Transect 1 Start	GDA94 Zone 55G	481980	5243846
Transect 1 End	GDA94 Zone 55G	482023	5243815
Transect 2 Start	GDA94 Zone 55G	481940	5243770
Transect 2 End	GDA94 Zone 55G	481953	5243723
Transect 3 Start	GDA94 Zone 55G	481830	5243871
Transect 3 End	GDA94 Zone 55G	481784	5243834
Transect 4 Start	GDA94 Zone 55G	482514	5243920
Transect 4 End	GDA94 Zone 55G	482486	5243882
Transect 5 Start	GDA94 Zone 55G	482427	5243830
Transect 5 End	GDA94 Zone 55G	482373	5243820
Transect 6 Start	GDA94 Zone 55G	482433	5243857
Transect 6 End	GDA94 Zone 55G	482396	5243882

