

Threatened Species Detection *Petauroides volans* High Density Greater Glider Survey Report Mustards Track -Bendoc - *Errinundra Plateau* Vicforest Logging Coupe 890-508-0018

Abstract: Forest areas within VicForests scheduled logging coupe 890-508-0018 were investigated to assess habitat quality for arboreal mammals and presence and density of nocturnal fauna including Greater Glider (*Petauroides volans*) individuals. Quality habitat was marked and measured during assessment, Greater Glider (*Petauroides volans*) individuals were recorded from this location during nocturnal spotlighting surveys.

The Greater Glider (Petauroides volans) records obtained within this investigation were assessed using spatial analysis and were found to exist at densities requiring protection under the relevant mandatory biodiversity conservation measures set out in the regulatory framework governing logging operations in Victoria's State Forests.

Relevant Legislation:

- “Code of Practice for Timber Production 2014”, Department of Environment and Primary Industries, The State of Victoria, 2014.
- “Management Standards and Procedures for timber harvesting operations in Victoria’s State forests 2014”, Department of Environment and Primary Industries, The State of Victoria, 2014.
- “Planning Standards for timber harvesting operations in Victoria’s State forests 2014, Appendix 5 to the Management Standards and Procedures for timber harvesting operations in Victoria’s State forests 2014”, Department of Environment and Primary Industries, The State of Victoria 2014.
- Gippsland Forest Management Forest Management Plan or The East Gippsland Forest Management Area, Victoria Department of Conservation and Natural Resources, East Melbourne, December 1995.

Status of Site: Logging.

Coupe 890-508-0018 covers an area of approximately 45 hectares, and is currently **Approved** on Vicforests Timber Release Plans, logging operations are Not active.

Status of Site: Threatened Species, Modelling HCV/EVC, Reserves & Zoning

Listed Values	Within Proximity To Coupe < 500m	Within Local Area < 2km
Threatened Species Records (VBA25)	Null	Null
Threatened Species Records (VBA100)	Greater Glider, Yellow-bellied Glider, Sooty Owl	Greater Glider, Yellow-bellied Glider, Sooty Owl, Powerful Owl
Modelling: Old Growth (MOG03, POG09)	MOG09	MOG03 / POG09
Logging History:	Null	Null
Management Zones: GMZ, SMZ, SPZ	GMZ	SPZ-Owl Management Area (Sooty/Powerful), SPZ-Linear Reserve
Modelling: Ecological Vegetation Class	Montane Dry Woodland (EVC36), Sub-alpine Woodland (EVC43), Sub-alpine Treeless Vegetation (EVC44)	“+” Tableland Damp Forest (EVC35), Montane Riparian Woodland (EVC40)
State Forest, Parks, Reserves & Zoning	Errinundra National Park	Bidwell Education Area, Delegate River Streamside Reserve, Errinundra National Park

<u>Date of investigation:</u> 21-22/04/2016	<u>Surveyors:</u> G.E.C.O Survey Team April 2016 & Owen Hanson.	<u>Organisations Associated:</u> GECO-Goongerah Environment Centre Office. geco.media@gmail.com
<u>Date of report:</u> 27/05/2017	<u>Author:</u> Owen Hanson.	

Purpose:

The Purpose of this investigation was to conduct a search for the presence and habitat of rare and/or threatened species in particular *Petauroides volans* (Greater Glider) within Vicforests clearfell logging coupe 890-508-0018.

Field Assessment: Forest Values, Forest Type

Assessment conducted on the 21/04/2017 covered approximately 20ha of the 45ha coupe .

- Coupe 890-508-0018 was found to contain significant forest stands of a mature age class with large old trees, a high frequency of old hollow-bearing trees, a low frequency of young regrowth and low accumulative canopy of recruitment trees. Five plots of ~100m diameter were marked on the ground using GPS & were identified as being old-growth in nature, and consistent with “Management Standards and Procedures for timber harvesting operations in Victoria’s State forests 2014” descriptions & criteria of the term “**old-growth**”. Total area of old-growth within plots was ~3.8ha. *See Results 2 Map-1 (Old Growth Plots(100mD)).*
- Larger areas of forest surrounding the plots within coupe 890-508-0018 were assessed to be of old growth value, with an over-story dominated by large, old and hollow-bearing trees supporting an old growth under-story, with floristic indicators of forest age and time since last major disturbance such as few pioneer species, and a significant number of large/old long-lived shrubs throughout the area. A high density of hollows supporting arboreal fauna contributes to these high conservation values. This area assessed (~15.3ha) was consistent overall with the criteria described above. *(See Results 2 Map-1 Area Assessed (Old Growth Value)).*
- No signs of past logging or other forms of major disturbance was encountered within coupe area assessed.
- Evidence of other protected fauna found within and adjacent to coupe- two active Yellow-bellied Glider feed-trees were encountered during this investigation.
- Forest type in areas assessed were consistent with elements of Montane Dry Woodland (EVC36), Sub-alpine Woodland (EVC43), and Tableland Damp Forest (EVC35).

Fauna Survey: Arboreal Mammal Spotlight-Greater Glider

Survey transect conducted on the night of the 21/04/17 through to the morning of the 22/04/17 covered approximately 1km with only half of the survey conducted within logging coupe 890-508-0018. Conditions during survey was poor with rain reducing spotlight quality and camera ability.

This Survey was conducted to the standards required to demonstrate an abundance(“high density”) for species *Petauroides volans*. This species is the subject of forest prescriptions, in particular the East Gippsland Forest Management Plans and the “Planning Standards for timber harvesting operations in Victoria’s State forests 2014”.

Required Action: Detection based zoning

Establish a SPZ of approximately 100 ha of suitable habitat where verified records report more than 2 individuals per hectare, more than 10 individuals per km or more than 15 individuals per hour of spotlighting, or where substantial populations are located in isolated or unusual habitat.

Methods: - Nocturnal Fauna Survey 21-22/04/2017.

Equipment Used:

- Hand-held Spotlight
- Global Positioning System(GPS)
- Digital Camera
- Binoculars
- [Garmin GPSMAP 62s]
- Compass.

Method used:

1. On the 21-04-2017, at 20:53 surveyors commenced a spotlighting survey heading North along unnamed forest track adjacent to, then proceeded into forested area of VicForests logging coupes **890-508-0018**. Transect covered approximately 1km. Survey concluded at approximately 01:20 on 22/04/2017
2. The forest adjacent to (visible from) the transect was searched for the presence of nocturnal fauna principally by shining a hand-held spotlight to detect fauna movement or “eye shine”.
3. As fauna was observed their locations were marked with the GPS and time, species, bearing from and an estimate of the distance from observation location were noted. See “Results 1. Table 1; Nocturnal Fauna Survey Results Summary 21-22/04/2017” below for details of the fauna encountered.
4. Fauna record location data was analysed using Geographic Information Systems (GIS) mapping software to determine compliance requirements with the regulatory framework governing logging operations in Victoria’s State Forest with respect to fauna detection based biodiversity conservation measures.

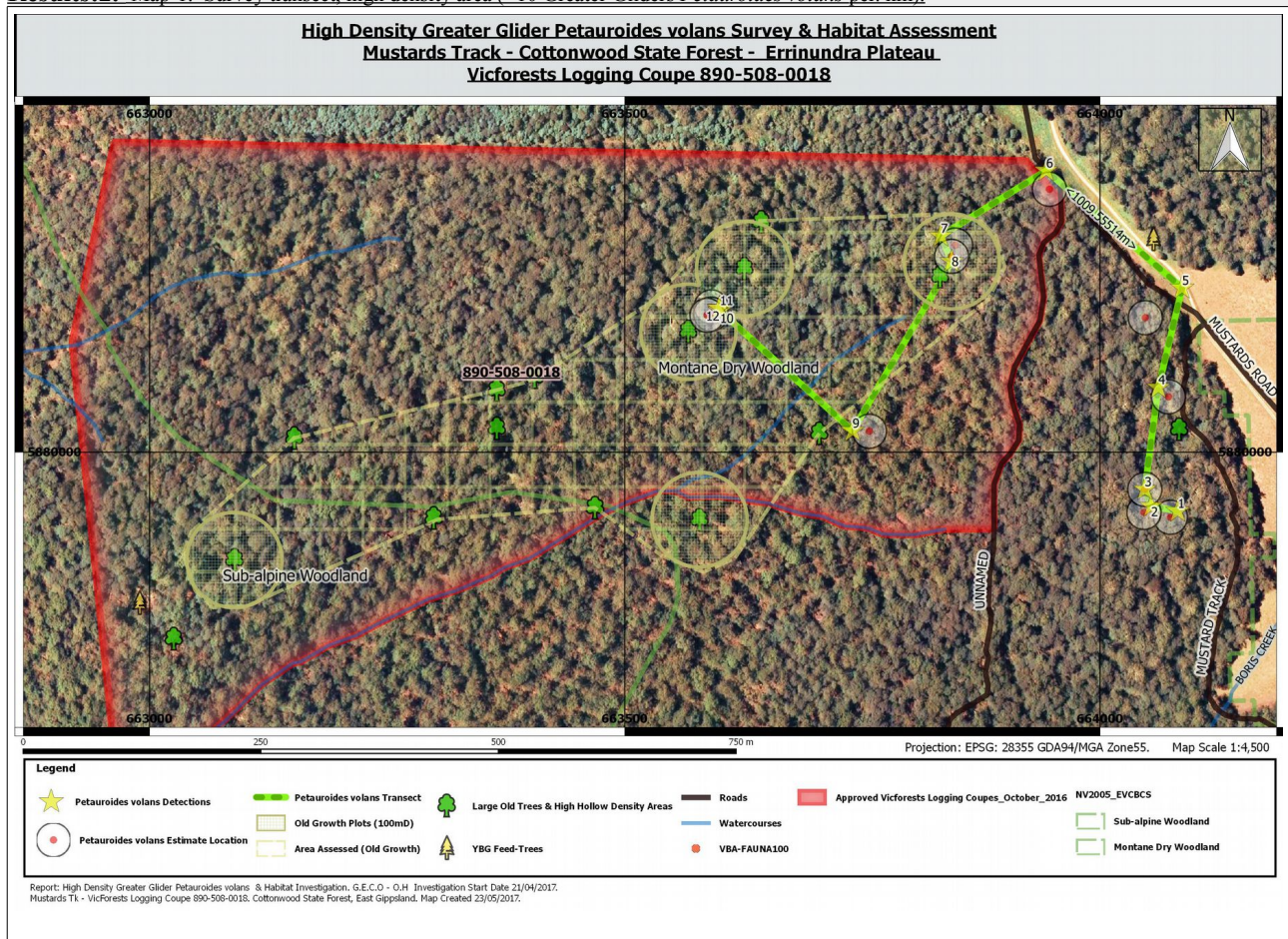
Results:

1. Detection Data-Sheet. *See Table 1 below.*
2. Accompanying map 1. Survey Transect/Density Analysis, Habitat Assessment. *See Map 1 below.*
3. Supporting photos. *See p-4.*
4. Accompanying map 2. Suitable Habitat for Protection Area. *See p-5.*

Results: 1. - Table 1. Nocturnal Arboreal Mammal Survey (Surveyed on 21-22/04/2017).

Date:	Surveyors:	Loc. Description:		Transect Description:	Transect Start / End Point:		Weather:	Temperature:
21-22/04/2017	GECO Spotlighting Team C April2017 Owen Hanson	Coupe 890-508-0018 Mustards Bendoc		Part track / Part bush	55h UTM/UPS 664082 5879938 663599 5880151		Cloud-cover: Heavy Rain: Consistent/Light Wind: Light	<10 degrees Celsius
Time/Date:	Species:	Species Count:	Location:	Bearing degrees:	Distance: (m)	UTM/UPS:	Photo: Y/N	
20:53:00–21/04/17	Petauroides volans	1	1	230	10m	55 H 664082 5879938	Y	
21:01:00–21/04/17	Petauroides volans	2	1	250	10m	55 H 664054 5879943	N	
21:10:00–21/04/17	Petauroides volans	3	1	1	1	55 H 664047 5879961	N	
21:35:00–21/04/17	Petauroides volans	4	2	130	15m	55 H 664062 5880068	N	
21:45:00–21/04/17	Petauroides volans	5	3	230	50m	55 H 664087 5880173	Y	
22:46:00–21/04/17	Petauroides volans	6	4	170	20m	55 H 663944 5880296	Y	
23:26:00–21/04/17	Petauroides volans	7	5	120	18m	55 H 663833 5880228	Y	
23:34:00–21/04/17	Petauroides volans	8	5	0	5m	55 H 663844 5880201	N	
00:45:00–22/04/17	Petauroides volans	9	6	90	18m	55 H 663740 5880023	Y	
01:10:00-22/04/17	Petauroides volans	10	7	290	10m	55 H 663600 5880149	Y	
01:12:00-22/04/17	Petauroides volans	11	7	240	10m	55 H 663600 5880152	N	
01:13:00-22/04/17	Petauroides volans	12	7	240	15m	55 H 663599 5880151	Y	

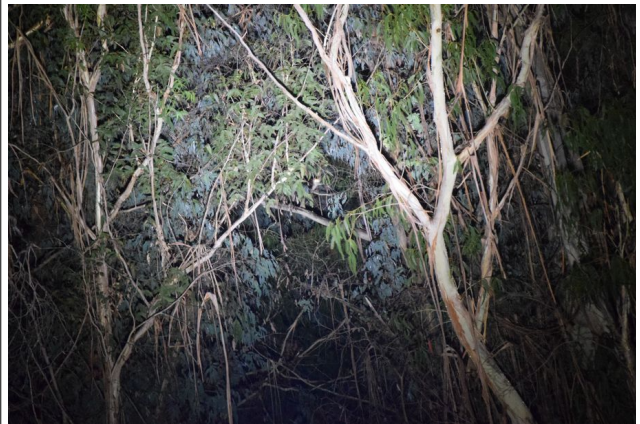
Results: 2. Map-1. Survey transect, high density area (>10 Greater Gliders *Petauroides volans* per. km).



Results: 2 - Photos of Greater Gliders *Petauroides volans* taken during survey on 21-22/04/2017.



Greater Glider *Petauroides volans* No.1 55 H 664082 5879938



Greater Glider *Petauroides volans* No.5 55 H 664087 5880173



Greater Glider *Petauroides volans* No.6 55 H 663944 5880296



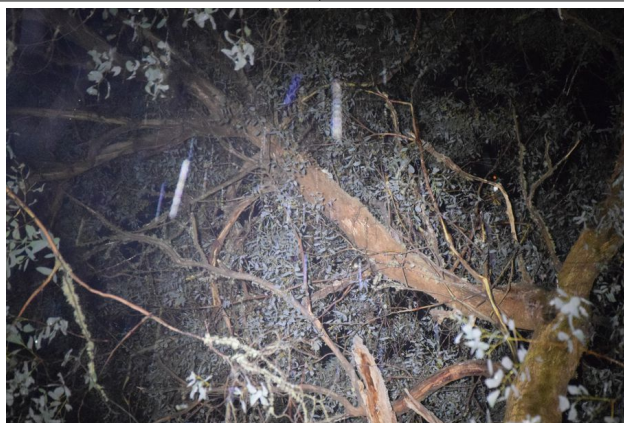
Greater Glider *Petauroides volans* No.7 55 H 663833 5880228



Greater Glider *Petauroides volans* No.9 55 H 663740 5880023



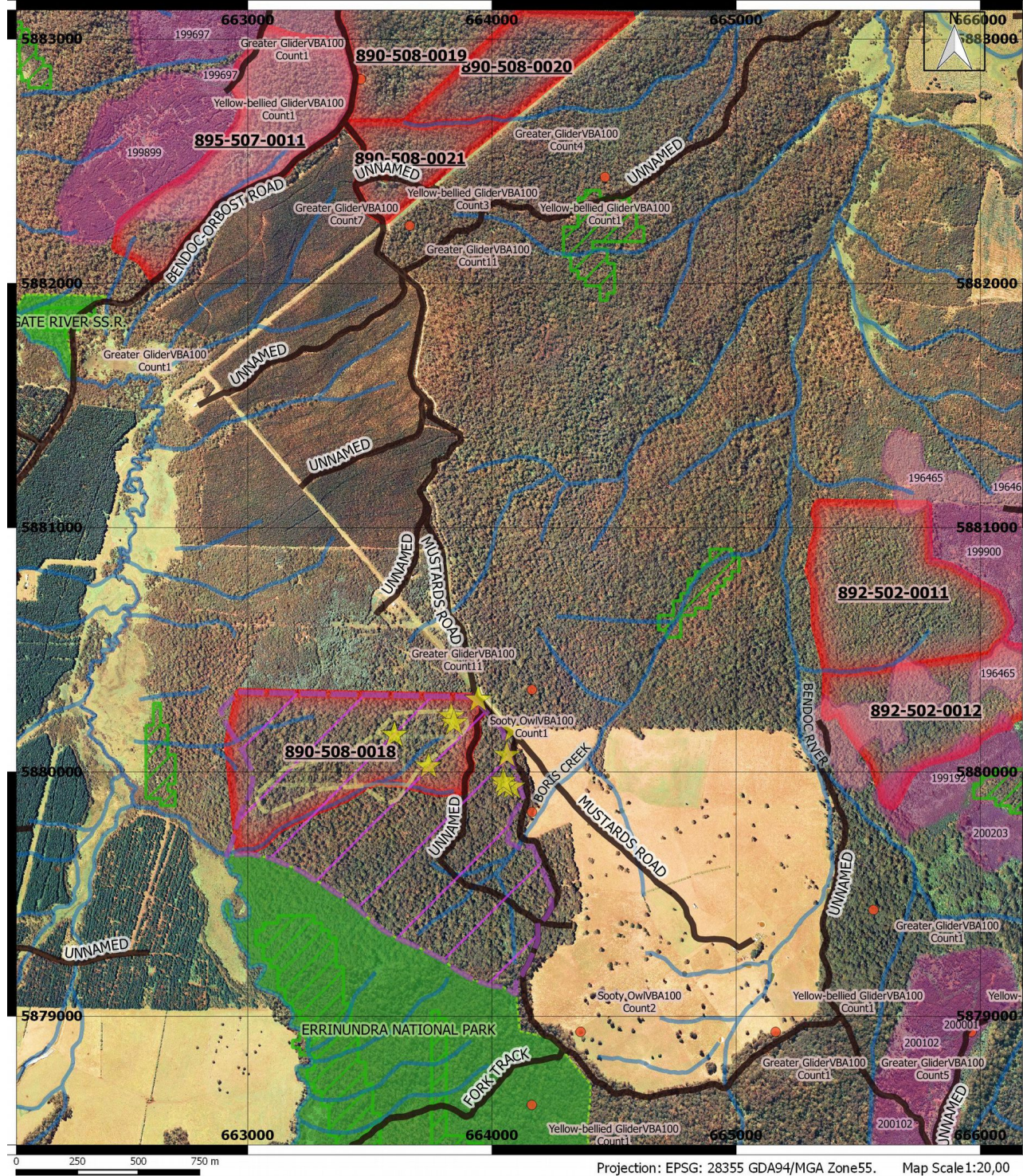
Greater Glider *Petauroides volans* No.10 55 H 663600 5880149



Greater Glider *Petauroides volans* No.12 55 H 663599 5880151

Results: 2. Map-2. 100 ha. Suitable Habitat Protection Area for Greater Glider *Petauroides volans*

High Density Greater Glider "Petauroides volans" Protection Area 100ha **Mustards Track - Cottonwood State Forest - Errinundra Plateau** **Vicforests Logging Coupe 890-508-0018**



Legend

- | | | | |
|-------------------------------|-------------------------------------|---|------------------------|
| Petauroides volans Detections | Petauroides volans Suitable Habitat | Approved Vicforests Logging Coupes_October_2016 | Logging History Decade |
| VBA-FAUNA100 | Potential Old Growth 2009 | NATIONAL PARKS AND CONSERVATION RESERVES | 1960-69 |
| Area Assessed (Old Growth) | Roads | | 1990-99 |
| | Watercourses | | 2000-09 |

Report: High Density Greater Glider Petauroides volans & Habitat Investigation. G.E.C.O - O.H. Investigation Start Date 21/04/2017.
 Mustards Tk - VicForests Logging Coupe 890-508-0018. Cottonwood State Forest, East Gippsland. Map Created 24/05/2017.

Summary/Conclusions/Discussion: High-density of Greater Gliders, Required Habitat Protection & Threatened Species Surveys

- Within VicForests logging coupe 890-508-0018, **12 Greater Gliders** (*Petauroides volans*) were observed and recorded within **1.01km equal to a density of 11.9 per km**, this occurred in a single nocturnal fauna spotlighting survey transect on the 21-22/04/2017. These recorded locations are displayed on Map-1 (marked as yellow stars).
 - Old-growth areas and areas of suitable habitat for Greater Gliders were observed on the ground within Vicforests logging coupe 890-508-0018 as shown in Map-2.
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- Management actions in both the *“Management Standards and Procedures for timber harvesting operations in Victoria’s State forests 2014”*, *Department of Environment and Primary Industries, The State of Victoria, 2014* through Appendix 5 *“Planning Standards for timber harvesting operations in Victoria’s State forests 2014”*, and the *“Forest Management Plan For The East Gippsland Forest Management Area, Victoria Department of Conservation and Natural Resources, East Melbourne, December 1995”*, require that a Special Protection Zone (SPZ) of approximately 100ha of suitable habitat be established for records of > 2 individual Greater Gliders per hectare of spotlighting, more than 10 individuals per km or more than 15 individuals per hour of spotlighting, or where substantial populations are located in isolated or unusual habitat. This is the responsibility of the department (DELWP).
 - Requirements to undertake further surveys for Greater Gliders to accurately ascertain the population extent throughout the range of the forested area, in order to protect species against impacts of logging operations within and adjacent to Vicforests logging coupe 890-508-0018. This is the responsibility of the department (DELWP) and Vicforests.
 - Requirements to undertake surveys for other protected values such as rare or threatened species (including Yellow-bellied Gliders) that require surveys, are to be conducted in manner, timing of season which suits the particulars of the species and to be conducted throughout the range of the forested area within and adjacent to planned logging coupes. This is the responsibility of Vicforests.
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- Protection area described in Map-2 shows the recommended area of approximately 100ha of suitable habitat to the high density of Greater Glider that can be transferred into SPZ, area identified within this report (the “Purple hatching” polygon).
This SPZ design takes into account the closest and most suitable habitat of older forest and forest types required for the species habitat requirements and the investigation locations' topographic configurations. As well as consisting of a configuration to best represent “core area”, an area of long term protection relevant to actual species location.
 - Values that would trigger requirements to conduct pre-harvest threatened species surveys must be assessed on the ground (not only desk-top analysis) by independent & qualified personnel (not forester during coupe inspection). Assessment of these values include search for hollow-bearing trees, old-growth assessment, likely or preferred habitat for protected species and potential range & distribution of species.
Species of focus include: protected rare or threatened flora & fauna species, endangered species and data deficient species.
 - In the case of logging coupe 890-508-0018, the area within & around coupe is largely deficient in modelling of old-growth data set (Potential Old Growth09 & MOG03), and distribution of recent threatened/protected species records data-set (VBA25), although these values are highly evident on the ground. Records from data set (VBA100) show threatened/protected species in the area.

In order to meet the requirements of the High Density of Greater Glider prescriptions contained within the regulatory framework governing logging operations in Victoria's State Forests, this SPZ must be fully implemented prior to any logging operations within this area.

To fulfil obligations to undertake thorough & extensive surveys for values protected by prescription within and adjacent to this logging coupe in order to protect against effects of logging operations, these surveys must be conducted prior to any logging operations within this area.