



**High Densities of Greater Gliders in coupes 894-509-0009 & 894-507-0002**

**Coast Range Rd, North, East Gippsland**

**A report by Goongerah Environment Centre & Fauna and Flora Research Collective**

**25<sup>th</sup> January, 2016**

**Surveyors: Owen Hanson, Ed Hill, Andrew Lincoln**

**Abstract:** Forest areas within and/or adjacent to VicForests scheduled logging coupes 894-509-0009 & 894-507-0002 were investigated to assess the presence and density of Greater Glider (*Petauroides volans*) individuals and other nocturnal fauna. 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.

Recommendations are made to the Department of Environment, Land, Water and Planning (DELWP) and to VicForests to ensure that the area of high Greater Glider (*Petauroides volans*) density is protected from logging through its inclusion in the "Special Protection Zone" of the "Forest Management Zone Scheme".

The methodology, results, discussion and recommendations arising from this investigation are further detailed within this report.

**As logging machinery is present within coupe 894-509-0009, this matter requires urgent regulatory action.**

### **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
- Forest Management Plan For The East Gippsland Forest Management Area, Victoria Department of Conservation and Natural Resources, East Melbourne, December 1995

### **Relevant Organisations**

VicForests, Department of Environment Land Water and Planning.

### **Status of Site**

Coupe 894-509-0009 & 894-507-0002 cover an area of approximately 48 hectares. These coupes contain significant stands of hollow bearing tress of a mature age class. Logging machinery is present in coupe 894-509-0009 and logging operations are expected to commence on the day this report has been compiled.

### **Date of Investigation**

25/01/2016

### **Date of report**

25/01/2016

### **Surveyors**

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Ed Hill

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### **Location details**

Within VicForests scheduled logging coupes 894-509-0009 and 894-507-0002 along Coast Range Road, East Gippsland.

## **Methods:**

### Nocturnal Fauna Survey [30/12/2015]

#### *Equipment Used*

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

#### *Method used*

1. On the 25th January 2016, at 12:00am surveyors commenced a spotlighting survey heading north along a snig track within VicForests logging coupes 894-509-0009 & 894-507-0002 off Coast Range Road in East Gippsland. The snig track was used as a transect for approximately 500m until the end was reached. At the end of the snig track the surveyors entered the forest and continued the transect heading in a westerly direction.
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 were 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 Spotlighting Survey Results Summary; 25/1/2016” below for details of the fauna encountered.
4. Fauna record location data were 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.
5. Further presentation of these results, as well as conclusions and discussion arising from these investigations results are provided in their respective sections below.

## Method 2 (analysis/recommendations/legislation considered [as at August 2015])

From: "Management Standards and Procedures for timber harvesting operations in Victoria's State forests 2014", Department of Environment and Primary Industries, The State of Victoria, 2014.1

### "2. Planning and Record Keeping

#### 2.1 FMZ and planning information

Where evidence of a value that requires protection via the establishment or amendment of an SPZ or SMZ is found in the field application must be made to the Secretary or delegate prior to commencement of the timber harvesting operation to create or amend an SPZ or SMZ in accordance with Appendix 5 the Planning Standards. SMZ applications must be accompanied by an SMZ plan and must be complied with during timber harvesting operations.

### 4. Biodiversity

#### 4.2 Fauna

4.2.1.1 Apply management actions for rare and threatened fauna identified within areas affected by timber harvesting operations as outlined in Appendix 3 Table 13 (Rare or threatened fauna prescriptions).

**Table 13 Rare or threatened fauna and invertebrate prescriptions.**

FMA	Common name	Scientific name	Management action
East Gippsland	Greater Glider	<i>Petauroides volans</i>	Where evidence of this value is found in the field follow clause 2.1.1.3 of this document using table 4 in Appendix 5 the Planning Standards for information.

From: "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"2

### "4. Biodiversity

#### 4.2 Fauna – fixed zoning

##### 4.2.1 Statewide

4.2.1.1 Plan management actions for rare and endangered fauna in accordance with Table 3 (Fixed FMZ rules for fauna) below.

4.2.1.2 Maintain FMZ schemes for rare and endangered fauna in accordance with Table 3 (Fixed FMZ rules for fauna) below.

### 4.3 Fauna - detection based zoning

#### 4.3.1 Statewide

4.3.1.1 Apply the management actions outlined in Table 4 (Detection based FMZ rules for fauna) below for zoned rare or threatened fauna.

4.3.1.2 Implement FMZ amendments and reviews in accordance with Table 4 (Detection based FMZ rules for fauna) below for new verified rare or threatened fauna records and FMZ amendment requirements outlined in section 2.

**Table 4 Detection based FMZ rules for fauna.**

<b>FMA</b>	<b>Common name</b>	<b>Scientific name</b>	<b>Zoning management actions</b>	<b>Management actions</b>	<b>Review</b>
East Gippsland	Greater Glider	<i>Petauroides volans</i>	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.		

From: "Forest Management Plan For The East Gippsland Forest Management Area, Victoria Department of Conservation and Natural Resources, East Melbourne, December 1995".

### "Chapter 3 BIODIVERSITY CONSERVATION

#### 3.4 - NATIVE FAUNA

#### CONSERVATION GUIDELINE Mammals

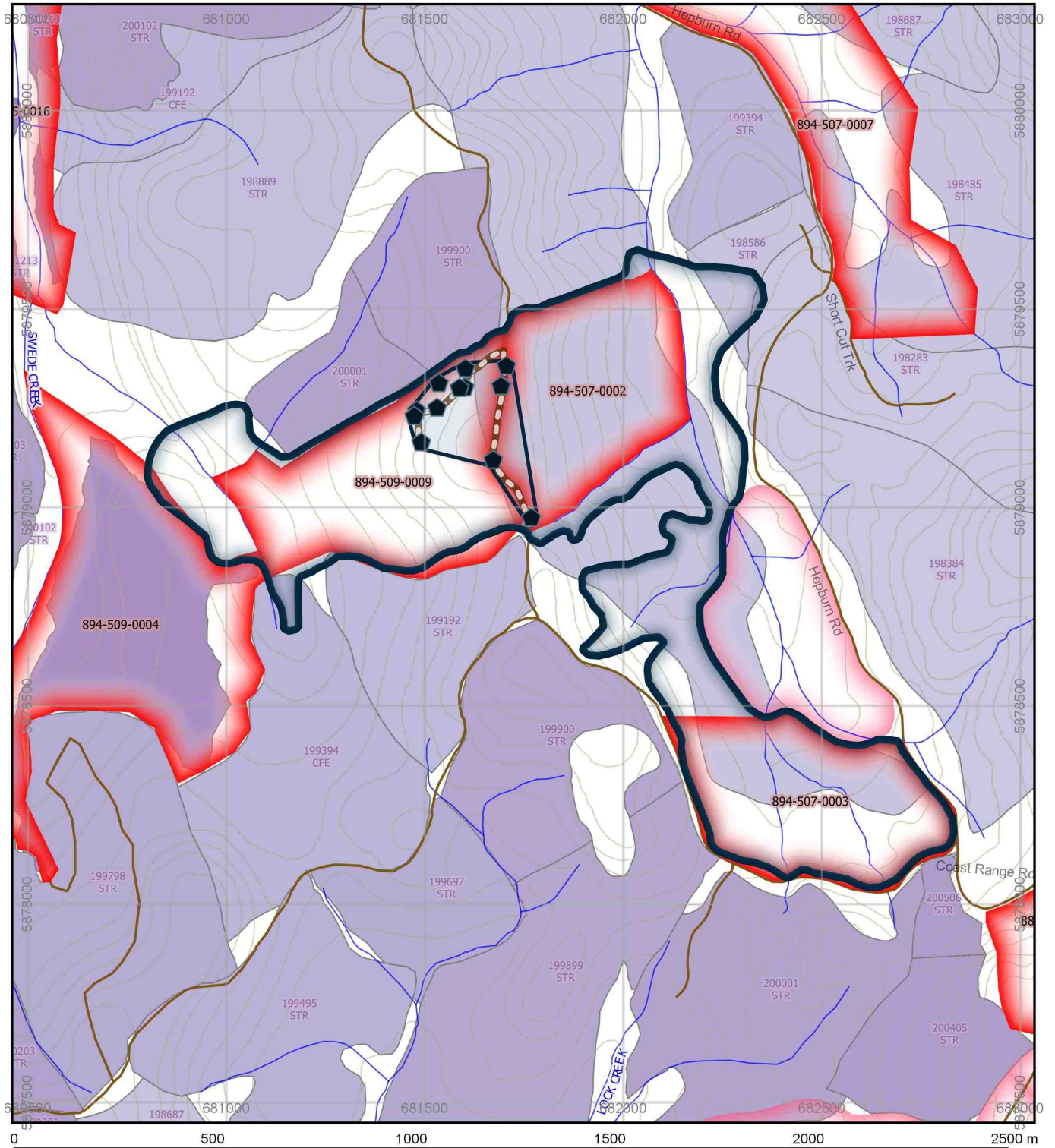
1. Arboreal mammals. For each of the following occurrences, approximately 100 ha of suitable habitat will be included in the SPZ:
2. resident Koala populations.
3. Greater Glider and Common Brushtail Possum - >2 individuals per ha, >10 per km, or >15 per hour of spotlighting.
4. Yellow-bellied Glider - >0.2 per ha, >5 per km, or >7 per hour of spotlighting.
5. Eastern Pygmy Possum - >5 per standard pitfall line over 5 days.
6. substantial populations of the above species that are isolated or in unusual habitat.

**Results 1. Table 1. Nocturnal Fauna Spotlighting Survey Results Summary; 25/1/2016**

NB: Where "Bearing" equals N/A and "Distance (est.)" equals N/A, fauna detection location was recorded under/at the location where the animal was present.

TIME	Common Name	Specific Name	Type of Record	Location (GDA94 UTM)	Bearing		Distance (est.)
00:00	START						
00:00	Greater Glider	<i>Petauroides volans</i>	Visual	55 H 681768 5878972	N/A	1	N/A
00:00	Greater Glider	<i>Petauroides volans</i>	Visual	55 H 681768 5878972	N/A	2	N/A
00:14	Sooty Owl	<i>Tyto tenebricosa</i>	Aural	55 H 681705 5879065	190°		200m
00:30	Greater Glider	<i>Petauroides volans</i>	Visual	55 H 681694 5879305	90°	3	25m
00:38	Greater Glider	<i>Petauroides volans</i>	Visual	55 H 681705 5879355	45°	4	15m
00:44	Greater Glider	<i>Petauroides volans</i>	Visual	55 H 681692 5879304	320°	5	40m
00:51	Greater Glider	<i>Petauroides volans</i>	Visual	55 H 681672 5879118	190°	6	30m
01:10	Greater Glider	<i>Petauroides volans</i>	Visual	55 H 681602 5879349	N/A	7	N/A
01:17	Greater Glider	<i>Petauroides volans</i>	Visual	55 H 681600 5879301	N/A	8	N/A
01:26	Greater Glider	<i>Petauroides volans</i>	Visual	55 H 681587 5879300	N/A	9	N/A
01:40	Greater Glider	<i>Petauroides volans</i>	Visual	55 H 681535 5879312	N/A	10	N/A
01:43	Greater Glider	<i>Petauroides volans</i>	Visual	55 H 681531 5879250	N/A	11	N/A
02:02	Greater Glider	<i>Petauroides volans</i>	Visual	55 H 681479 5879242	N/A	12	N/A
02:04	Greater Glider	<i>Petauroides volans</i>	Visual	55 H 681473 5879229	N/A	13	N/A
02:04	Greater Glider	<i>Petauroides volans</i>	Visual	55 H 681473 5879229	N/A	14	N/A
02:15	Greater Glider	<i>Petauroides volans</i>	Visual	55 H 681491 5879162	N/A	15	N/A
02:04	END						

Results 2. Figure 1. Greater Glider detection records; High Density Greater Glider area; 100ha Special Protection Zoning, Survey Transect; Forest Management Zones [FMZ100; DEPI; June 2014]; Prior Logging History [LASTLOG25]



**Legend**

- |   |   |              |
|---|---|--------------|
| Greater Glider Detection records (x 15)                           | Survey transect (826m)  | Roads        |
| High Density Greater Glider Area (15 GG in 6.96ha @ 2.16 GG p/ha) | Scheduled Logging Coupes (VicForests, TRP) [Approved_TRP_August_2015] | Watercourses |
| 100ha Special Protection Zone                                     | Forest Management Zones [existing] [FMZ100; DEPI; June 2014]          | Contours     |
|   | Special Protection Zone   |              |

**Prior Logging History [LASTLOG25]**

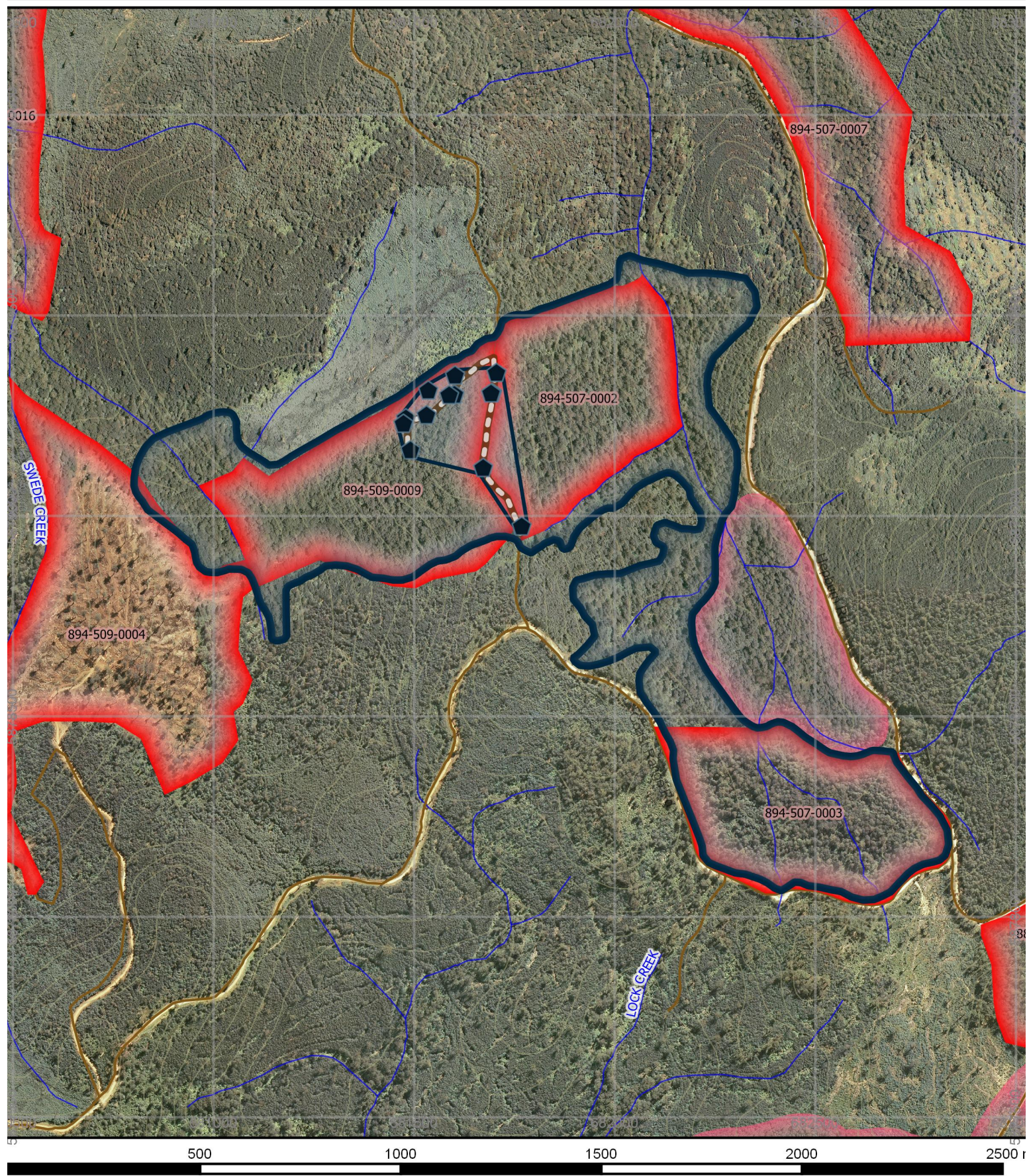
- 196970
- 197980
- 198990
- 199900
- 200910
- 201011
- 201213
- 201314

Projection: EPSG: 28355  
GDA94/MGA Zone 55

Map Scale:  
1:12,500



Results 2. Figure 2. Greater Glider detection records; High Density Greater Glider area; 100ha Special Protection Zoning, Survey Transect; Forest Management Zones [FMZ100; DEPI; June 2014]; Aerial Imagery



**Legend**

Greater Glider Detection records (x 15)	Survey transect (826m)	Roads
High Density Greater Glider Area (15 GG in 6.96ha @ 2.16 GG p/ha)	Scheduled Logging Coupes (VicForests, TRP) [Approved_TRP_August_2015]	Watercourses
100ha Special Protection Zone	Forest Management Zones [existing] [FMZ100; DEPI; June 2014]	Contours
	Special Protection Zone	

Projection: EPSG: 28355  
GDA94/MGA Zone 55

Map Scale:  
1:12,500



**Results 3 – Greater Glider (*Petauroides volans*); Figures 2(a-m).**

Figure 2(a). Greater Glider (*Petauroides volans*) [Greater Glider photographed within investigation location/survey] Location: 55 H 681768 5878972



Figure 2(b). Greater Glider (*Petauroides volans*) [Greater Glider photographed within investigation. Location: 55 H 681768 5878972

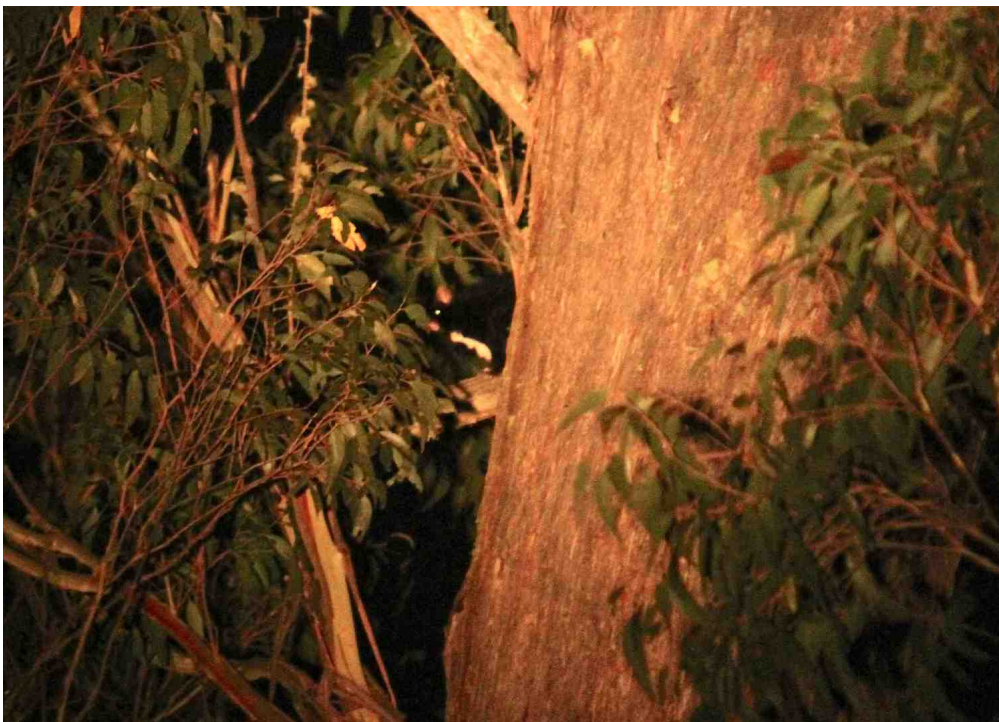


Figure 2(c). Greater Glider (*Petauroides volans*) [Greater Glider photographed within investigation location/survey] Location: 55 H 681694 5879305



Figure 2(d). Greater Glider (*Petauroides volans*) [Greater Glider photograph taken within investigation location/survey] Location: 55 H 681705 5879355



Figure 2(e). Greater Glider (*Petauroides volans*) [Greater Glider photograph taken within investigation location/survey] Location: 55 H 681692 5879304



Figure 2(f). Greater Glider (*Petauroides volans*) [Greater Glider photograph taken within investigation location/survey] Location: 55 H 681692 5879304

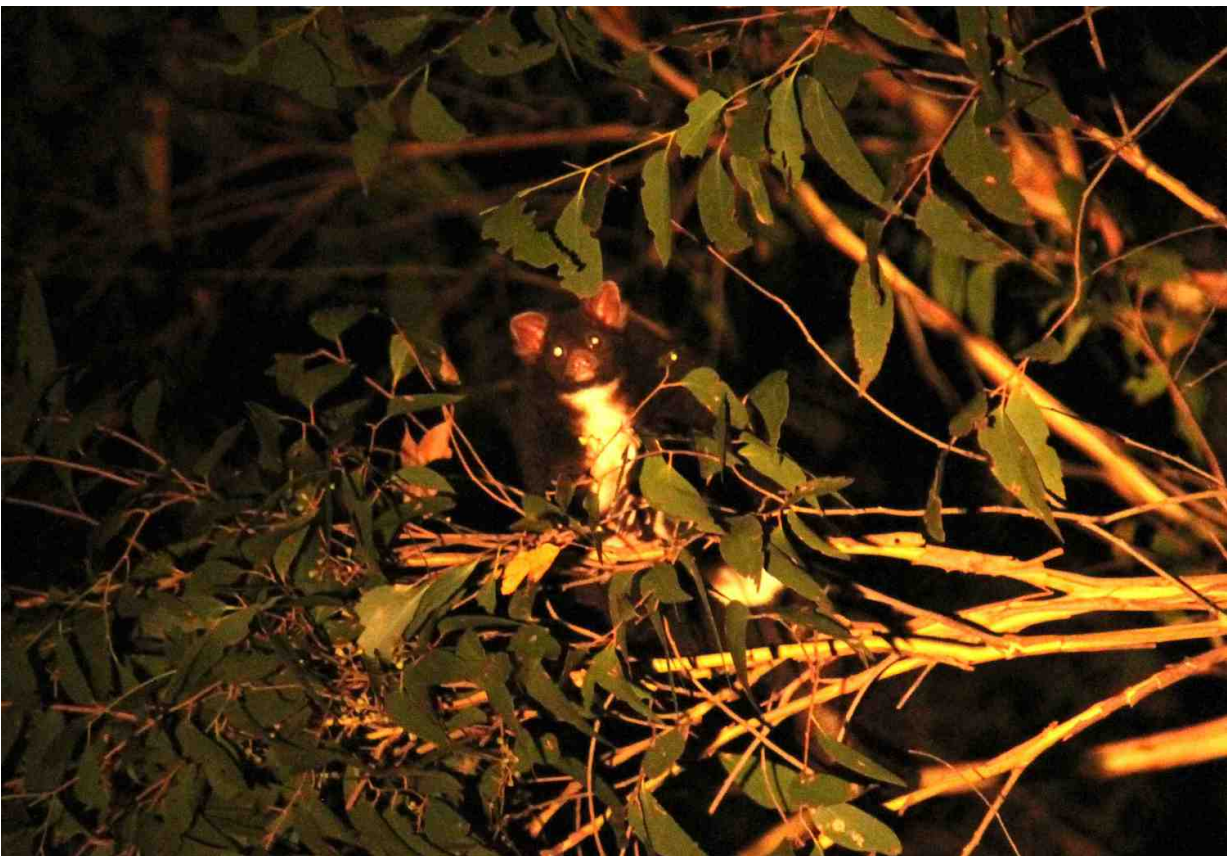


Figure 2(g). Greater Glider (*Petauroides volans*) [Greater Glider photograph taken within investigation location/survey] Location: 55 H 681602 5879349



Figure 2(h). Greater Glider (*Petauroides volans*) [Greater Glider photograph taken within investigation location/survey] Location: 55 H 681600 5879301

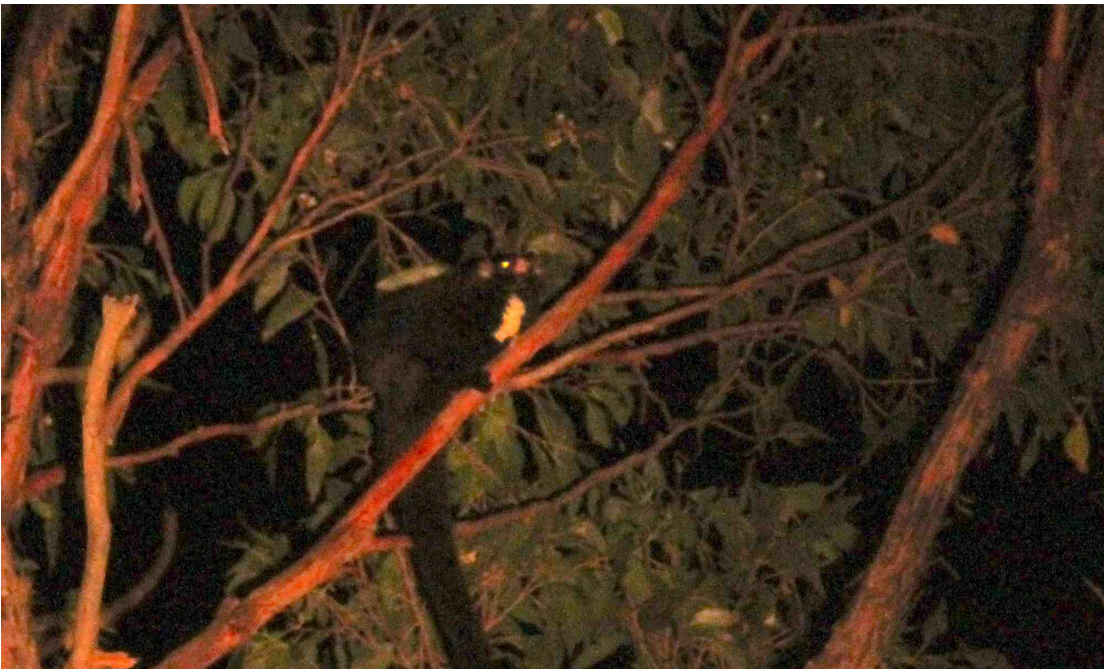


Figure 2(i). Greater Glider (*Petauroides volans*) [Greater Glider photograph taken within investigation location/survey] Location: 55 H 681535 5879312

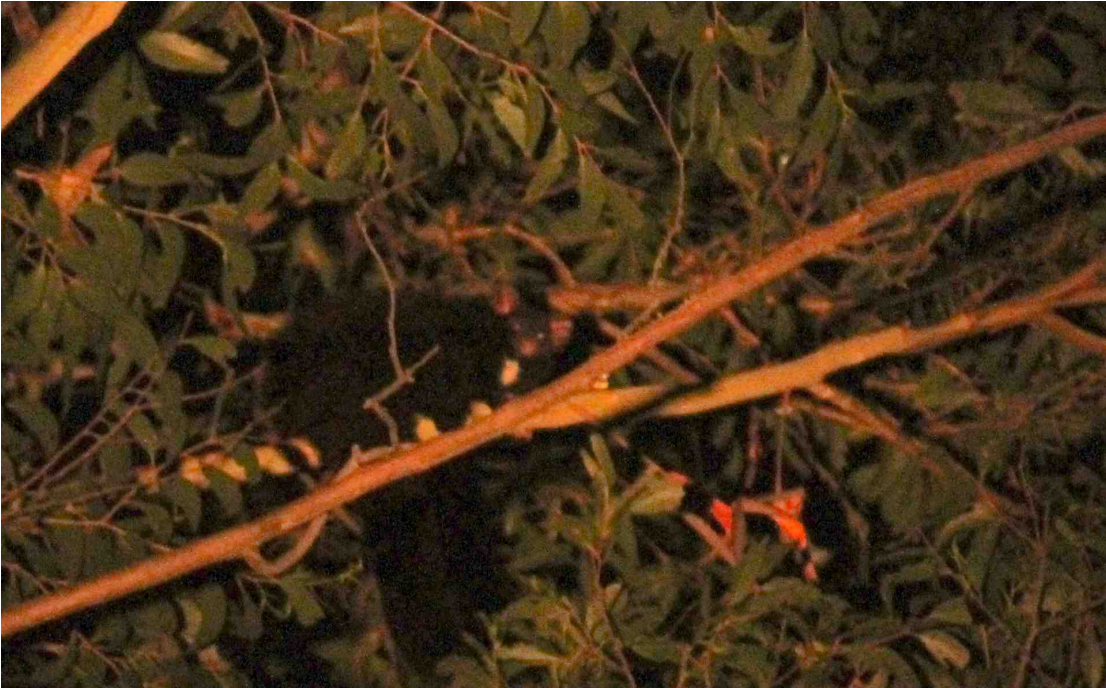


Figure 2(j). Greater Glider (*Petauroides volans*) [Greater Glider photograph taken within investigation location/survey] Location: 55 H 681531 5879250

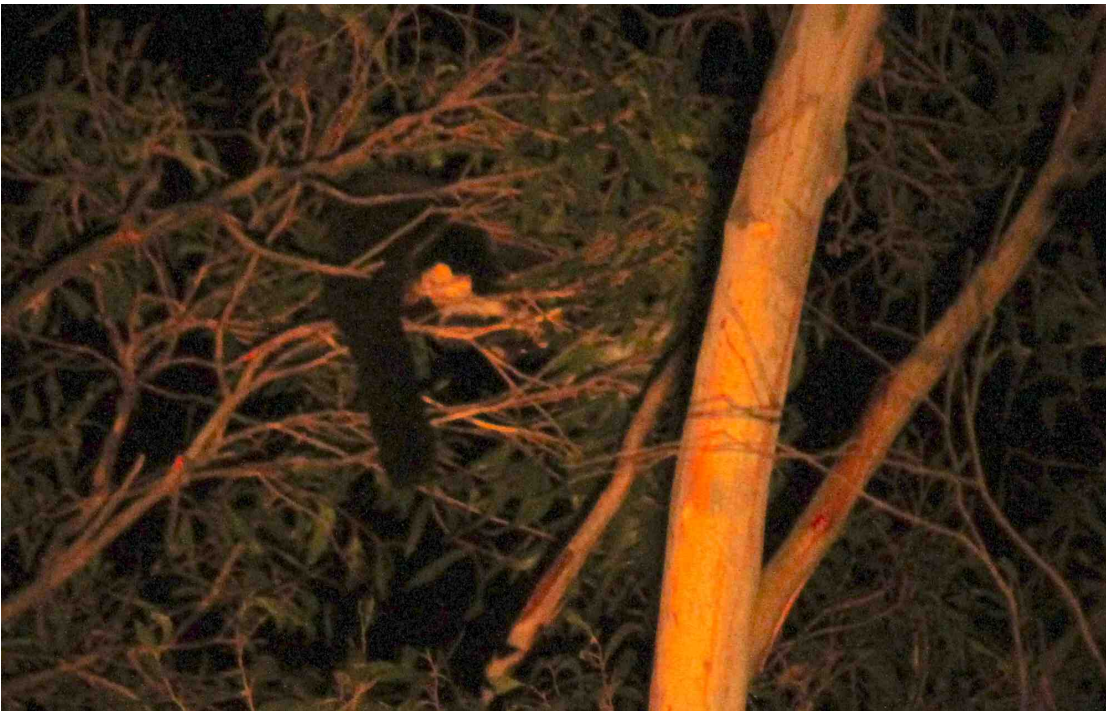


Figure 2(k). Greater Glider (*Petauroides volans*) [Greater Glider photograph taken within investigation location/survey] Location: 55 H 681531 5879250



Figure 2(l). Greater Gliders (*Petauroides volans*) [Greater Gliders photographed within investigation location/survey] Location: 55 H 681473 5879229



Figure 2(m). Greater Gliders (*Petauroides volans*) [Greater Gliders photographed within investigation location/survey] Location: 55 H 681491 5879162



## Summary/Conclusions/Discussion

### High-density of Greater Gliders (*Petauroides volans*)

Within VicForests scheduled logging coupes 894-509-0009 & **894-507-0002** fifteen Greater Gliders (*Petauroides volans*) were observed and recorded in a single nocturnal fauna spotlighting survey transect on the 25/01/2016. These recorded locations are displayed in Results 3. Figure 2. as the “dark blue pentagon” points.

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 its “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” 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 an SPZ (Special Protection Zone) 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 where substantial populations are located in isolated or unusual habitat.

Fifteen Greater Gliders were found within the study location. These fifteen individuals were found in densities of at least 2.15 per hectare, which triggers the requirement for a 100 hectare SPZ.

Fifteen Greater Gliders were found within a distance of 826m, this is greater than 10 individuals per kilometre and therefore triggers the requirement for a 100 hectare SPZ.

The study location within VicForests coupes 894-509-0009 & 894-507-0002 is an isolated stand of good quality habitat within a heavily logged landscape. The fifteen Greater Gliders recorded within the study location represent a substantial population within isolated habitat and therefore triggers the requirement for a 100 hectare SPZ.

Results 3. Figure 2. shows the recommended Special Protection Zone (SPZ) of approximately 100ha of suitable habitat that can be transferred into SPZ in closest proximity to the high density of Greater Glider area identified within this report (the “dark blue solid outlined” polygon). This SPZ design takes into account the closest and most suitable forest types required for the species habitat requirements, the distribution of prior logging operations in the nearby area and the investigation locations topographic configurations and infrastructural features.

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 Special Protection Zone must be fully implemented prior to any further logging, planning or operations within this area.

**VicForests must refrain from and The Department of Environment, Land, Water and Planning must restrain VicForests from any further logging within the 100ha SPZ displayed in Results 3. Figure 2. and ensure that this area is protected from the effects of logging including “regeneration” burns.**