



## **SURVEY REPORT HIGH DENSITY RECORDING OF YELLOW-BELLIED GLIDERS (*Petaurus australis*)**

### **Burkley Square Road – Colquhoun State Forest – East Gippsland VicForests logging coupe 801-511-0005 ‘Lior’**

#### **Abstract**

Forest areas within VicForests active logging coupe 801-511-0005 ‘Lior’ were surveyed to assess the presence and density of Yellow-bellied Glider (*Petaurus australis*) individuals and other nocturnal fauna.

Spatial analysis of the Yellow-bellied Glider records obtained during this survey were assessed using Geographic Information System software and were found to exist at "high densities" requiring protection under the relevant mandatory biodiversity conservation measures set out in the regulatory framework governing logging operations in Victoria's State Forests.

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



*Active VicForests logging coupe 801-511-0005*

**Date of survey**  
12 December 2020

**Date of report**  
13 December 2020

**Surveyors**  
Lisa Roberts  
Louise Crisp  
Chris Schuringa

**Author**  
Chris Schuringa  
Goongerah Environment Centre (GECO)  
geco@geco.org.au

## **Method: Nocturnal Fauna Spotlighting Survey conducted 12/12/2020**

### *Equipment Used*

- Hand-held Spotlight
- Global Positioning System (GPS) [Garmin GPSMAP 64s]
- Compass
- Hand-held megaphone
- Mobile phone

### *Method used*

1. On 12 December 2020 at around 09:00pm surveyors commenced a spotlighting and call-play-back survey.
2. The survey involved intermittent broadcasts of pre-recorded Yellow-bellied Glider and Large Forest Owl vocalisation using a hand-held megaphone connected to a mobile phone, followed by listening for nocturnal fauna aural response as well as spotlighting into the adjacent forest.
3. Surveyors continued with the above method walking through the surrounding forest area.
4. As fauna were observed recording locations were marked with the GPS and time, species, bearing from and an estimate of the distance from observation location were noted.
5. The results of this survey, including details of the survey undertaken and the species encountered, are presented in “Table 1: Nocturnal Fauna Spotlighting Survey Results” below (to be read in conjunction with Figure 1 map).
6. 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.



*Yellow-bellied Glider feed-trees observed in active VicForests logging coupe 801-511-0005, Colquhoun State Forest*

## 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

## Excerpts from relevant legislation

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.<sup>1</sup>

### “2. Planning and Record Keeping

#### 2.1 FMZ and planning information

2.1.1.3 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	Yellow-bellied Glider	<i>Petaurus australis</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”<sup>2</sup>

### “4. Biodiversity

#### 4.2 Fauna – fixed zoning

<sup>1</sup> “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, p. 23, 32, 36, 76, 79

<sup>2</sup> “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, pp. 16, 17, 20, 47



#### 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.**

FMA	Common name	Scientific name	Zoning management actions	Management actions	Review
East Gippsland	Yellow-bellied Glider	<i>Petaurus australis</i>	Establish a SPZ of approximately 100 ha of suitable habitat where verified records report more than 0.2 individuals per hectare, more than 5 individuals per km or more than 7 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".<sup>3</sup>

## "Chapter 3

### BIODIVERSITY CONSERVATION

#### 3.4 - NATIVE FAUNA

##### CONSERVATION GUIDELINE Mammals

Arboreal mammals. For each of the following occurrences, approximately 100 ha of suitable habitat will be included in the SPZ:

- resident Koala populations.
- Greater Glider and Common Brushtail Possum - >2 individuals per ha, >10 per km, or >15 per hour of spotlighting.
- Yellow-bellied Glider - >0.2 per ha, >5 per km, or >7 per hour of spotlighting.
- Eastern Pygmy Possum - >5 per standard pitfall line over 5 days.
- substantial populations of the above species that are isolated or in unusual habitat. "

<sup>3</sup>Forest Management Plan For The East Gippsland Forest Management Area, Victoria Department of Conservation and Natural Resources, East Melbourne, December 1995, p. 12, 27, 29, 30

**Table 1: Nocturnal Fauna Spotlight Survey Results**

Time	Record ID	Species	Type	Unique YBG ID	Easting Observer	Northing Observer	Bearing	Distance	Easting Observation	Northing Observation
21:38	BSR01	Yellow-bellied Glider	Aural	1	586744	5816853	40	60	586783	5816899
21:40	BSR02	Yellow-bellied Glider	Aural	2	586752	5816852	20	60	586773	5816908
21:42	BSR03	Yellow-bellied Glider	Aural	2	586749	5816854	15	60	586765	5816912
22:20	BSR04	Yellow-bellied Glider	Aural	3	586575	5816544	315	80	586518	5816601
22:34	BSR05	Yellow-bellied Glider	Aural	4	586555	5816514	300	70	586494	5816549
22:36	BSR06	Yellow-bellied Glider	Aural	3	586550	5816525	320	80	586499	5816586
22:48	BSR07	Yellow-bellied Glider	Aural	5	586582	5816452	255	110	586476	5816424
22:59	BSR08	Yellow-bellied Glider	Aural	5	586589	5816377	280	100	586491	5816394
23:03	BSR09	Yellow-bellied Glider	Aural	6	586584	5816376	260	90	586495	5816360
23:16	BSR10	Yellow-bellied Glider	Aural	7	586674	5816334	150	110	586729	5816239
23:25	BSR11	Yellow-bellied Glider	Aural	7	586715	5816341	160	80	586742	5816266
23:30	BSR12	Yellow-bellied Glider	Aural	8	586758	5816393	320	100	586694	5816470

The table above lists all records of Yellow-bellied Gliders heard during the nocturnal survey on the night of the 12 December 2020. This includes multiple recordings of the same Yellow-bellied Glider individuals. However, the seven records in the table above highlighted in orange are unique individuals, identified as ‘Minimum unique individuals’ in the Figure 1 ‘Map of Yellow-bellied Glider detections in coupe 801-511-0005 12/12/2020’ below.

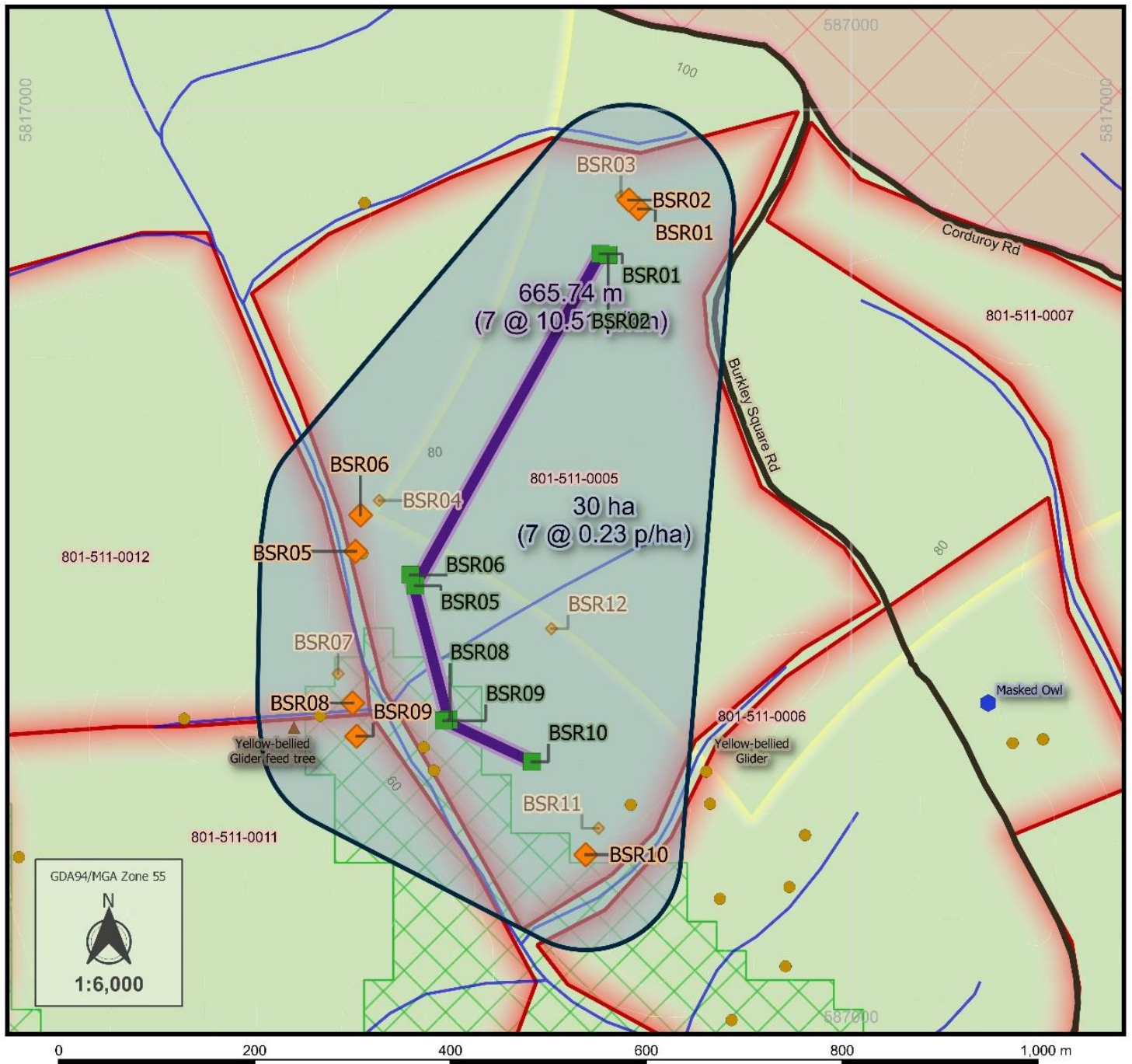
At least seven unique Yellow-bellied Gliders were identified from a combination of (a): differentiation of individuals encountered during the survey; as well as (b): through post-survey differentiation using GPS waypoint data recorded on site in conjunction with the estimated projected location of each individual animal based on estimates of each glider's distance and bearing from the surveyors as well as time of observation considerations. This information is detailed in Table 1 above in conjunction with Figure 1 below.



Large Red-box (*Eucalyptus polyanthemos*) habitat tree found logged in coupe 801-511-0005



**Figure 1: Map of Yellow-bellied Glider detections in coupe 801-511-0005 12/12/2020**



**Current Investigation**

- ◆ Yellow-bellied Glider (Minimum unique individual)
- Yellow-bellied Glider recording location (Minimum unique individual)
- ◇ Yellow-bellied Glider (Other record)

  Yellow-bellied Glider survey (> 0.2 YBG's per ha)

  Yellow-bellied Glider survey (> 5 YBG's per km)

**DELWP "Forest Protection Survey Program" records (only selected values shown)**

- Yellow-bellied Glider
- ▲ Yellow-bellied Glider feed tree
- ◆ Masked Owl

**Logging and disturbance**

  Scheduled Logging Coupes (VicForests, July 2020)

**Forest Management Zones**

- Special Protection Zone
- Special Management Zone
- Old Growth Forest [MOG]
- Other forest areas

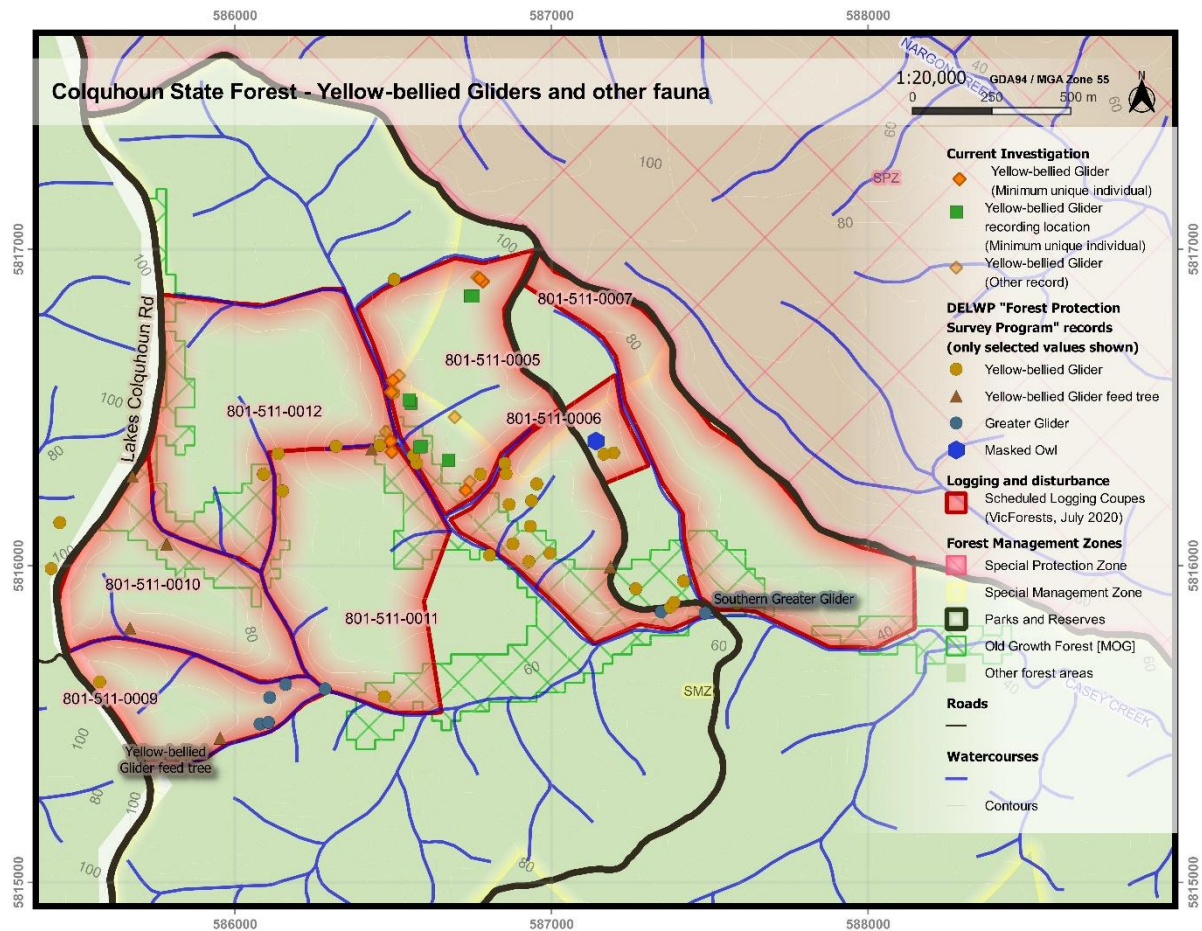
**Roads**

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**Watercourses**

— Contours

**Figure 2: Map of Colquhoun State Forest – Yellow-bellied Gliders and other fauna**



## Summary/Conclusions

### High-density of Yellow-bellied Gliders (*Petaurus australis*)

1. Within and adjacent to VicForests active logging coupe 801-511-0005 Yellow-bellied Glider (*Petaurus australis*) observations were made during the nocturnal fauna survey described above. The recording locations of the seven minimum unique Yellow-bellied Gliders, detailed at Table 1 above are shown as green squares in Figure 1. Locations of each of the Yellow-bellied Gliders recorded are shown as orange diamonds in Figure 1. At least 7 Yellow-bellied Gliders were found during the survey on the night of 12 December 2020.
2. 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 > 0.2 individual [Yellow-bellied Gliders] per hectare, > 5 individuals per km or > 7 per hour of spotlighting.**

3. The minimum seven individual Yellow-bellied Glider records detailed above were recorded within the 30ha area shown in Figure 1 as the “blue shaded/grey solid outlined” polygon at a density of 0.23 Yellow-bellied Gliders p/ha.
4. The minimum seven Yellow-bellied Glider individual records detailed above were recorded along the 665.74 m line, shown in Figure 1 as the purple line, at a rate of 10.51 Yellow-bellied Gliders per kilometre.
5. To meet the requirements of the High Density of Yellow-bellied Glider prescriptions contained within the regulatory framework governing logging operations in Victoria's State Forests a Special Protection Zone must be established and fully implemented.
- 6. The Department of Environment, Land, Water and Planning must issue a Section 70 to VicForests to cease logging immediately in coupe 801-511-0005 and establish a 100ha Special Protection Zone. A significant area of the coupe has already been logged, and urgent action is required to prevent further logging.**
- 7. Three Yellow-bellied Gliders were incidentally detected in coupe 801-511-0005 by the Department of Environment, Land, Water and Planning’s Forest Protection Survey Program during a frog survey prior to commencement of logging (shown in Figure 2). VicForests failed to conduct surveys for Yellow-bellied Gliders in coupe 801-511-0005 which would have triggered a 100ha Special Protection Zone in the area before logging commenced.**

On 27 May 2020, in the final judgement for the Friends of Leadbeater’s Possum Inc v VicForests Federal Court case, Justice Mortimer ruled that:

*The Court has found VicForests has not considered developing its own comprehensive in-forest survey system prior to logging, preferring to rely on other agencies like DELWP, even though DELWP has insisted the responsibility for such matters lies with VicForests, as the Court has found it does under the Code.*<sup>4</sup> (p.4 of the judgement summary)

*In summary, VicForests’ own policy document suggests a commitment to adherence to the precautionary principle, and a clear recognition of the need for conservation and protection of biodiversity values within native forests open to forestry operations, especially the need for conservation and protection of threatened species which occupy and use that forest.*<sup>5</sup> (p. 109 of the full judgement)

**VicForests were aware of the presence of Yellow-bellied Gliders but failed to conduct surveys to detect and protect Yellow-bellied Gliders prior to logging. Pre-logging surveys would have resulted in the establishment of a Special Protection Zone. The Department of Environment, Land, Water and Planning must now investigate and prosecute VicForests for illegally logging within coupe 801-511-0005.**

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<sup>4</sup> Federal Court of Australia, Friends of Leadbeater’s Possum Inc v VicForests (No 4) [2020] FCA 704 Judgment May 2020

<sup>5</sup> Federal Court of Australia, Friends of Leadbeater’s Possum Inc v VicForests (No 4) [2020] FCA 704 Judgment May 2020