

INVESTIGATION REPORT

GREATER GLIDERS

(Petauroides volans)

YELLOW-BELLIED GLIDERS

(Petaurus australis)

SOOTY OWL

(Tyto tenebricosa tenebricosa)

ACHERON WAY – CENTRAL HIGHLANDS

(White Hill Track)

VicForests' Logging Coupes:

309-507-0001, 309-507-0003, 309-507-0004 and 309-507-0007

Abstract

Forest areas within and/or adjacent to VicForests scheduled logging coupes 309-507-0001, 309-507-0003, 309-507-0004 and 309-507-0007 were investigated to assess the presence of rare or threatened species and other nocturnal fauna.

This report records the presence of Greater Gliders (*Petauroides volans*), Yellow-bellied Gliders (*Petaurus australis*) and the Sooty Owl (*Tyto tenebricosa tenebricosa*) across the investigation location within a nocturnal active-search survey.

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

Status of Site

- Logging has commenced in coupe 309-507-0001
- Logging has commenced in coupe 309-507-0003
- Logging has completed in coupe 309-507-0004
- Logging has commenced in coupe 309-507-0007

Surveyors

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Date of Investigation

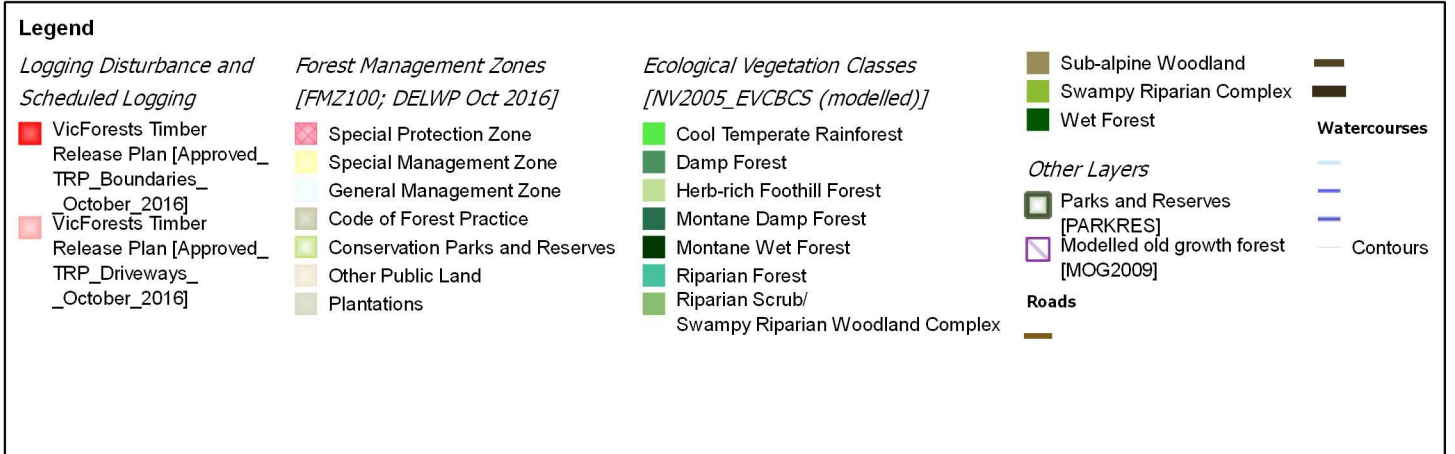
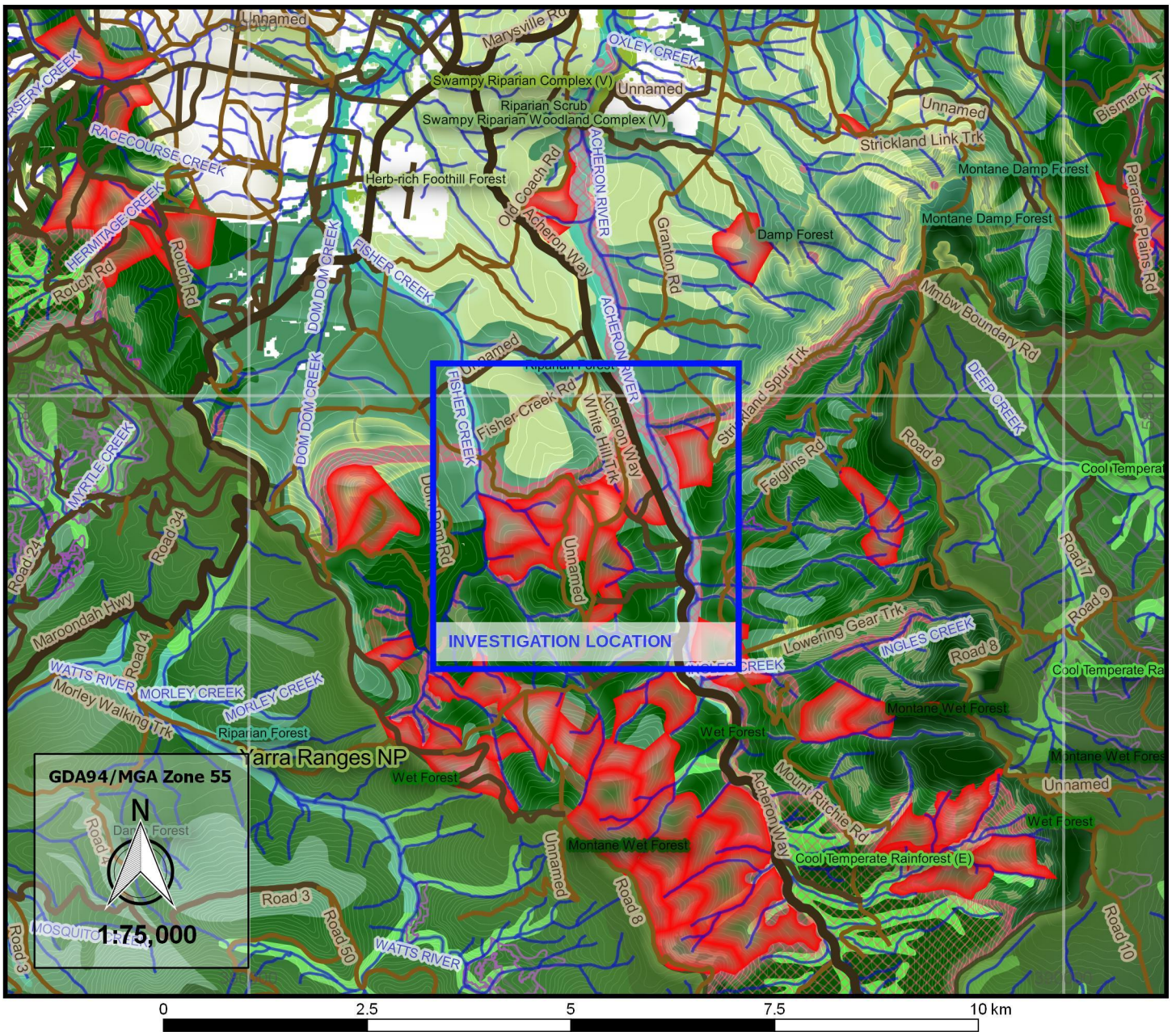
04-05/06/2017

Date of report

08/06/2017

Investigation Location Overview

Figure A. Investigation location: VicForests logging coupes 309-507-0001, 309-507-0003, 309-507-0004 and 309-507-0007 off the Acheron Way between Narbethong and Warburton in the Central Highlands.



Method Used and Results 1 (Summary)

Nocturnal Fauna Survey [04-05/06/2017]

Equipment Used

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

Methods and Results Summary

1. On the evening of 04-05/06/2017 spotlighting was undertaken within or adjacent to VicForests logging coupes 309-507-0001, 309-507-0003, 309-507-0004 and 309-507-0007.
2. Parts of the forest within and adjacent to these coupes were searched for the presence of nocturnal fauna including by shining a hand-held spotlight to detect fauna movement or “eye shine”.
3. As fauna were observed their locations were marked with a GPS and time, species, bearing from recording location, an estimate of the distance from observation location were noted and where possible video footage and/or photographs were taken.

(NB: where distance is recorded as "N/A" or 0, location coordinates of fauna species were recorded at or beneath the fauna location.)

4. The table on the following page summarises the Greater Glider, Yellow-bellied Glider and Sooty Owl records obtained as a result of the survey described above.
5. Photographs of some of the fauna listed in Table 1. are displayed below (Figure 1. a-j) as well as a map (Figure 2) showing the location of these records which are labeled according to the “Waypoint ID” of Table 1. and the map legend. Additional photos and videos of the fauna detected within this survey (not shown in Figure 1. a-j) can be provided on request.
6. Further presentation of this information, as well as conclusions and discussion arising from this investigations’ results are provided below.



Results 2 (Tables)

Table 1. 04-05/06/2017_Nocturnal Fauna Records Summary

Time	Waypoint ID	Recording Location	Species	Common Name	Type	Bearing	Distance	Projected Animal Location
21:13	WH201	55H 384596 5838869	<i>Petauroides volans</i>	Greater Glider	Visual	0°	0	55H 384596 5838869
21:19	WH202	55H 384596 5838869	<i>Petauroides volans</i>	Greater Glider	Visual	0°	0	55H 384596 5838869
21:54	WH203	55H 384585 5838561	<i>Petauroides volans</i>	Greater Glider	Visual	0°	0	55H 384585 5838561
22:12	WH204	55H 384424 5838645	<i>Petauroides volans</i>	Greater Glider	Visual	0°	0	55H 384424 5838645
22:20	WH205	55H 384459 5838584	<i>Petauroides volans</i>	Greater Glider	Visual	0°	0	55H 384459 5838584
22:30	WH206	55H 384444 5838453	<i>Petauroides volans</i>	Greater Glider	Visual	0°	0	55H 384444 5838453
22:54	WH207	55H 384469 5838446	<i>Petauroides volans</i>	Greater Glider	Visual	0°	0	55H 384469 5838446
23:05	WH208	55H 384368 5838530	<i>Petauroides volans</i>	Greater Glider	Visual	0°	0	55H 384368 5838530
23:15	WH209	55H 384232 5838578	<i>Petauroides volans</i>	Greater Glider	Visual	0°	0	55H 384232 5838578
23:40	WH210	55H 384259 5838828	<i>Petauroides volans</i>	Greater Glider	Visual	0°	0	55H 384259 5838828
23:41	WH211	55H 384253 5838800	<i>Petauroides volans</i>	Greater Glider	Visual	0°	0	55H 384253 5838800
23:50	WH212	55H 384206 5838809	<i>Petauroides volans</i>	Greater Glider	Visual	0°	0	55H 384206 5838809
00:07	WH213	55H 384208 5838761	<i>Petauroides volans</i>	Greater Glider	Visual	0°	0	55H 384208 5838761
00:08	WH214	55H 384208 5838761	<i>Petauroides volans</i>	Greater Glider	Visual	0°	0	55H 384208 5838761
00:23	WH215	55H 383973 5838793	<i>Petauroides volans</i>	Greater Glider	Visual	0°	0	55H 383973 5838793
00:25	WH216	55H 383971 5838791	<i>Petaurus australis</i>	Yellow-bellied Glider	Aural	270°	30	55H 383941 5838791
00:27	WH217	55H 383973 5838791	<i>Petaurus australis</i>	Yellow-bellied Glider	Aural	350°	150	55H 383947 5838939
00:28	WH218	55H 383972 5838792	<i>Petaurus australis</i>	Yellow-bellied Glider	Aural	190°	75	55H 383959 5838719
00:29	WH219	55H 383970 5838790	<i>Tyto tenebriosa tenebriosa</i>	Sooty Owl	Aural	240°	200	55H 383796 5838690
02:02	WH220	55H 383986 5838933	<i>Petauroides volans</i>	Greater Glider	Visual	0°	0	55H 383986 5838933
02:05	WH221	55H 384004 5838952	<i>Petauroides volans</i>	Greater Glider	Visual	0°	0	55H 384004 5838952
02:30	WH222	55H 383981 5838905	<i>Tyto tenebriosa tenebriosa</i>	Sooty Owl	Visual	140°	20	55H 383994 5838890
02:37	WH223	55H 384026 5838876	<i>Petauroides volans</i>	Greater Glider	Visual	0°	0	55H 384026 5838876
03:12	WH224*	55H 384497 5839497	<i>Tyto tenebriosa tenebriosa</i>	Sooty Owl	Aural	20°	100	55H 384531 5839591
03:36	WH225	55H 384503 5839489	<i>Petauroides volans</i>	Greater Glider	Visual	260°	45	55H 384459 5839481

^ Green = Greater Glider

^ Yellow = Yellow-bellied Glider

* Note: Sooty Owl also seen and filmed from recording location "WH224" shortly after aural detection



Results 3 (Photos)

Figure 1(a). Greater Glider - 04/06/2017, "WH203", 55H 384585 5838561

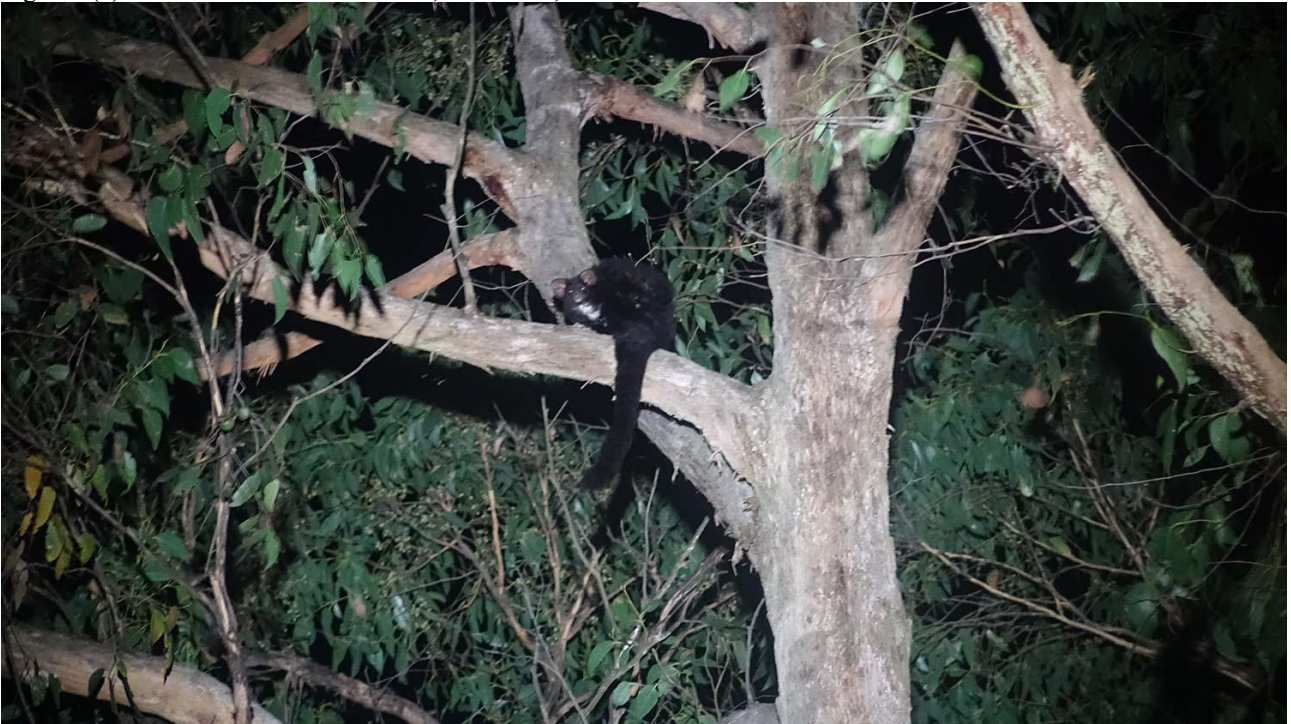


Figure 1(b). Greater Glider - 04/06/2017, "WH205", 55H 384459 5838584



Figure 1(c). Greater Glider - 04/06/2017, "WH206", 55H 384444 5838453



Figure 1(d). Greater Glider - 04/06/2017, "WH207", 55H 384469 5838446



Figure 1(e). Greater Glider – 04/06/2017, “WH208”, 55H 384368 5838530



Figure 1(f). Greater Glider – 04/06/2017, “WH09”, 55H 384232 5838578



Figure 1(g). Greater Glider – 05/06/2017, “WH213”, 55H 384208 5838761



Figure 1(h). Greater Glider - 05-06/2017, “WH214”, 55H 384208 5838761



Figure 1(i). Sooty Owl – 05/06/2017, “WH224”, 55H 384497 5839497

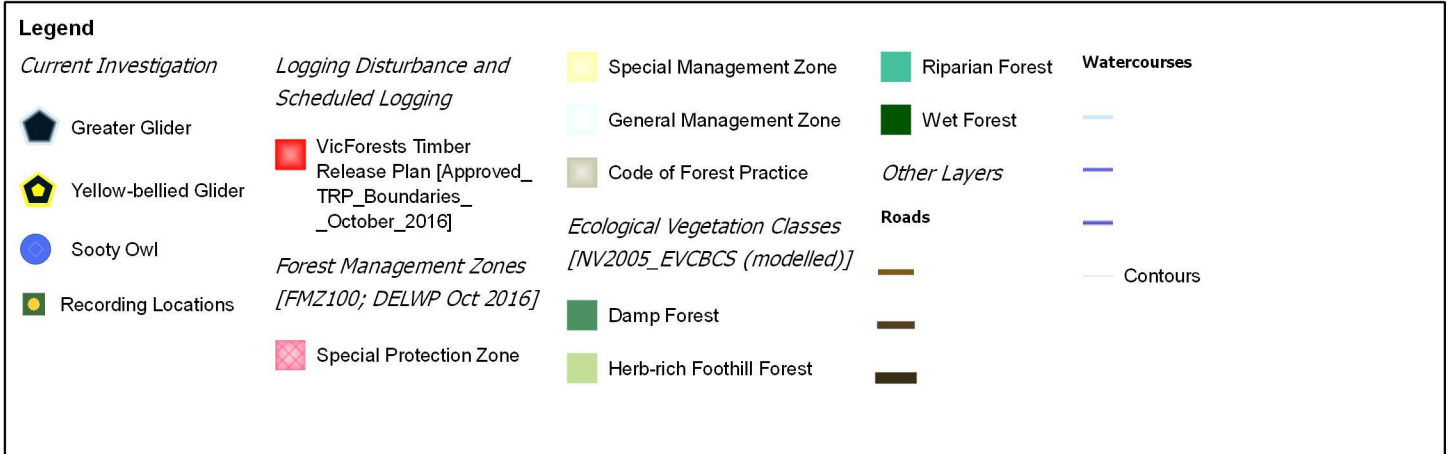
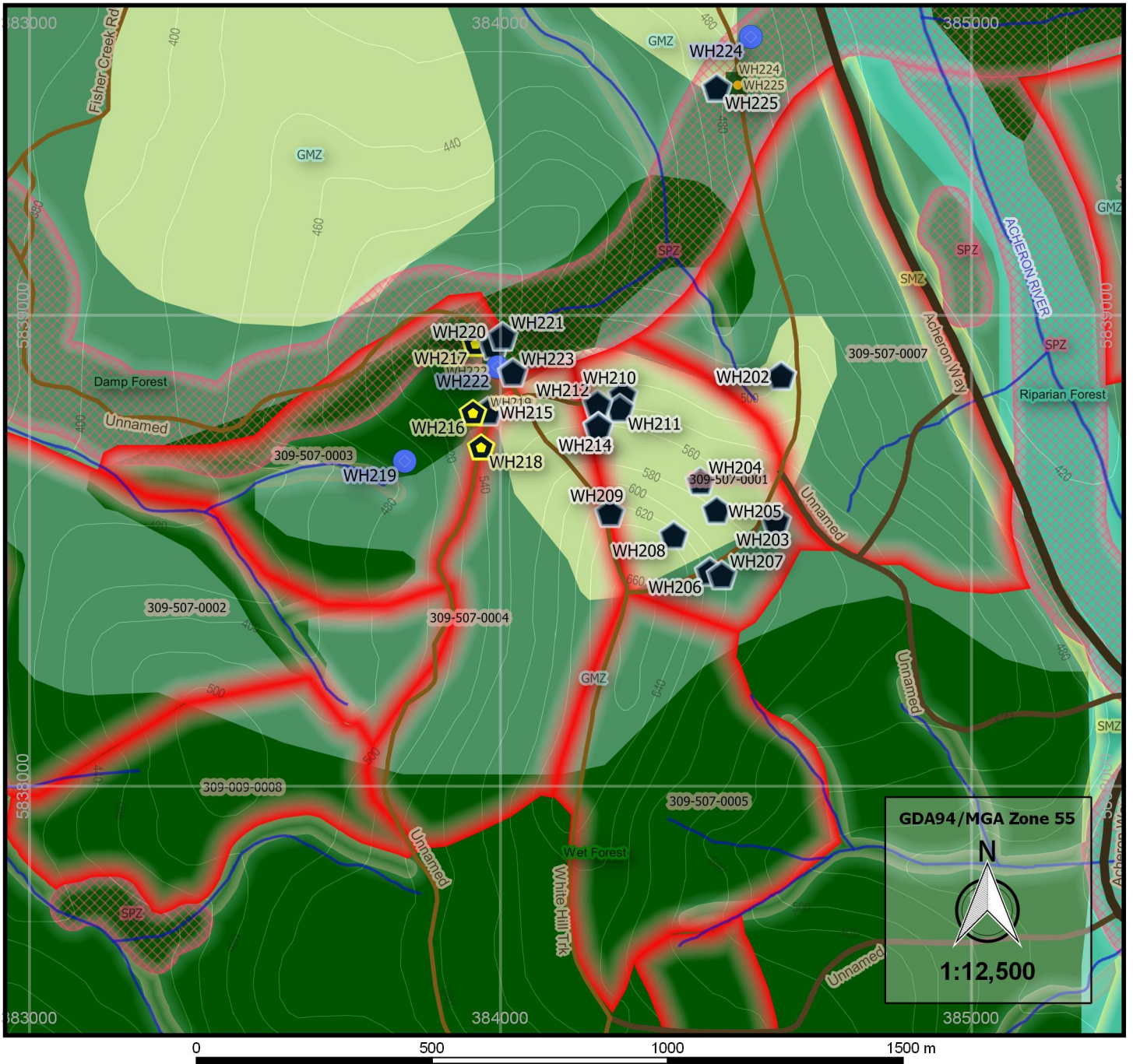


Figure 1(j). Yellow-bellied Glider – 05/06/2017, Near to “WH218” animal location, 55H 383959 5838719



Results 4 (Maps)

Figure 2. Nocturnal Fauna records at coupes 309-507-0001, 309-507-0003, 309-507-0004 and 309-507-0007



Summary/Conclusions/Discussion

Detection of Greater Gliders (*Petauroides volans*)

1. Within and adjacent to VicForests scheduled logging coupes 309-507-0001, 309-507-0003, 309-507-0004 and 309-507-0007 Greater Glider (*Petauroides volans*), Yellow-bellied Glider (*Petaurus australis*) and Sooty Owl (*Tyto tenebricosa tenebricosa*) individuals were observed and recorded within nocturnal fauna surveys on the evening of 04-05/06/2017. These record locations are displayed in the Tables and Maps of the Results sections of this report detailed above.
2. On 10 November 2016 the Victorian Flora and Fauna Guarantee Scientific Advisory Committee (SAC) received a nomination for listing as a threatened species for the Greater Glider (*Petauroides volans subsp. volans* Kerr 1792). A preliminary nomination supporting the listing of the Greater Glider was made on 21 November 2016 and on 16 March 2017 the SAC made its final nomination recommending the Greater Glider be listed as threatened.¹
3. In the SAC's final nomination they noted that "Wood production practices are known to substantially deplete Greater Glider populations and gliders usually die if all or most of their home range is intensively logged or cleared (Menkhorst op. Cit.)".²
4. The SAC found that the Greater Glider satisfied their criteria for listing on the basis that:
 - a) The Greater Glider is "in a demonstrable state of decline which is likely to result in extinction";
 - b) The Greater Glider is "significantly prone to future threats which are likely to result in extinction", and;
 - c) The threat to the Greater Glider is "currently operating and is expected to operate at a level in the future which is likely to result in the extinction of the [greater glider]"³
5. The SAC note that:

"Timber harvesting in greater glider habitat has been proven to cause declines and/or local extinctions of greater glider populations (Lindenmayer et al. 2011, Kavanagh and Webb 1998, Lunney 1987, Dunning and Smith 1986, Tyndale-Biscoe and Smith 1969). Timber harvesting practices reduces the number of hollow bearing trees available for denning by tree removal or as a result of regeneration burns after the logging (Lindenmayer et al. 2011, 2002; Lunney 1987). In addition, the species does not cope well with habitat change (Kavanagh and Wheeler 2004, Tyndale-Biscoe and Smith 1969). Although all animals may not die from the initial impact they will die shortly afterwards. This is due to life history traits: affinity with home range, small home ranges, attachment to hollow bearing trees they use for denning and their specialist diet (Tyndale-Biscoe 2005).

In Victoria timber harvesting is widespread in the eastern and central parts of state. This is also the main distribution and habitat of the greater glider. Considering the known impacts of timber harvesting on gliders (Kavanagh and Webb 1998, Lunney 1987, Tyndale-Biscoe and Smith 1969, Dunning and Smith 1986), it is likely that other local extinctions of this species have already occurred and will continue to occur in the future." ...

"Local extinctions from fire, timber harvesting, drought or predation across the range of the greater glider will lead to a loss of habitat connectivity. McCarthy and Lindenmayer (1999)

1 Final Recommendation on a nomination for listing, *Petauroides volans subsp. volans* Kerr 1792 - Greater Glider (Nomination no. 879, Item no.: 11133), Flora and Fauna Guarantee Scientific Advisory Committee (SAC), March 2017, p. 1

2 *ibid.*, p. 3

3 *ibid.*, p. 1-2

and Possingham et al (1994) found small patch sizes (McCarthy and Lindenmayer: less than 500 ha; Possingham et al. less than 1000 ha) of habitat are unviable for the greater gliders long-term viability. Lindenmayer and Taylor (2003) found evidence of genetic erosion in the species after 5-6 generations in small forest patches (approximately 20ha) near Tumut in southern New South Wales.”⁴

6. The SAC also highlight that “Greater Gliders have recently been classified as ‘Vulnerable’ under the Environment Protection and Biodiversity Conservation Act 1999 (Department of Environment and Energy 2016)”.⁵
7. On 08 June 2017 in General Government Gazette “GG2017G023” Lily D’Ambrosio, Minister for Energy, Environment and Climate Change, and Jaala Pulford, Minister for Agriculture “*decided to recommend to the Governor in Council that the [Greater Glider] be added to the Threatened List for the reasons that [the Greater Glider] ... is in a demonstrable state of decline which is likely to result in extinction[, the Greater Glider] is significantly prone to future threats which are likely to result in extinction [and] the threat is currently operating and is expected to operate at a level in the future which is likely to result in the extinction of the taxon.*”⁶
8. The Sooty Owl (*Tyto tenebricosa tenebricosa*) is also listed as “Threatened” on the Fauna and Flora Guarantee Act’s “threatened list” and is listed as “Vulnerable” under the Department of Environment, Land, Water and Planning’s “Advisory List of Threatened Vertebrate Fauna in Victoria 2013”.⁷
9. **Given the presence of Greater Gliders (as well as the Yellow-bellied Gliders and Sooty Owl) within and/or adjacent to coupes 309-507-0001, 309-507-0003, 309-507-0004 and 309-507-0007 as detailed in this report, VicForests should refrain from logging each of these coupes.**



4 *ibid.*, p. 3

5 *ibid.*, p. 3

6 Victoria Government Gazette, By Authority of Victorian Government Printer, GENERAL No. G 23 Thursday 8 June 2017, <http://www.gazette.vic.gov.au/gazette/Gazettes2017/GG2017G023.pdf> (accessed 08/06/2017)

7 See: https://www.environment.vic.gov.au/_data/assets/pdf_file/0019/50239/201703-FFG-Threatened-List.pdf and https://www.environment.vic.gov.au/_data/assets/pdf_file/0014/50450/Advisory-List-of-Threatened-Vertebrate-Fauna_FINAL-2013.pdf (accessed 08/06/2017)