

Federal Road, Yarra State Forest

348-506-0003 "Blue Vein"

LEADBEATER'S POSSUM DETECTION REPORT

Report on Leadbeater's Possum (*Gymnobelideus leadbeateri*) detection inside VicForests scheduled logging coupe 348-506-0003 "Blue Vein"

Abstract

VicForests' scheduled logging coupe 348-506-0003 was investigated to assess the presence/absence of Critically Endangered Leadbeater's Possum individuals within or adjacent to State Forest scheduled for logging in accordance with "Prescription 2 – Protection of recorded locations" as defined in "New Restoration Forest Management Prescriptions to Conserve Leadbeater's Possum and Rebuild the Cover of Ecologically Mature Forest in the Central Highlands of Victoria"¹ and "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.

This investigation's recommendations relies on the prescriptions developed as a result of the work of:

"Researchers at The Australian National University [who] have worked in the montane ash forests of the Central Highlands of Victoria for 30 years. [Their] work has spanned studies of the habitat requirements and population viability of arboreal marsupials (including Leadbeater's Possum), populations of large old trees, forest dynamics, fire dynamics, logging impacts and numerous other investigations documented in more than 165 peer-reviewed scientific articles and seven books (reviewed in Lindenmayer 2009). The prescriptions in this report are based on that body of research, together with new data from on-going research on the impacts of the 2009 fires on Leadbeater's Possum and its habitat in montane ash forests."

Leadbeater's Possum was identified during this investigation. This investigation concludes that VicForests, within coupe 348-506-0003 has scheduled and conducted logging in an area of forest currently inhabited by the critically endangered Leadbeater's Possum. The methodology employed and the results of the investigation and the reports conclusions are detailed below.

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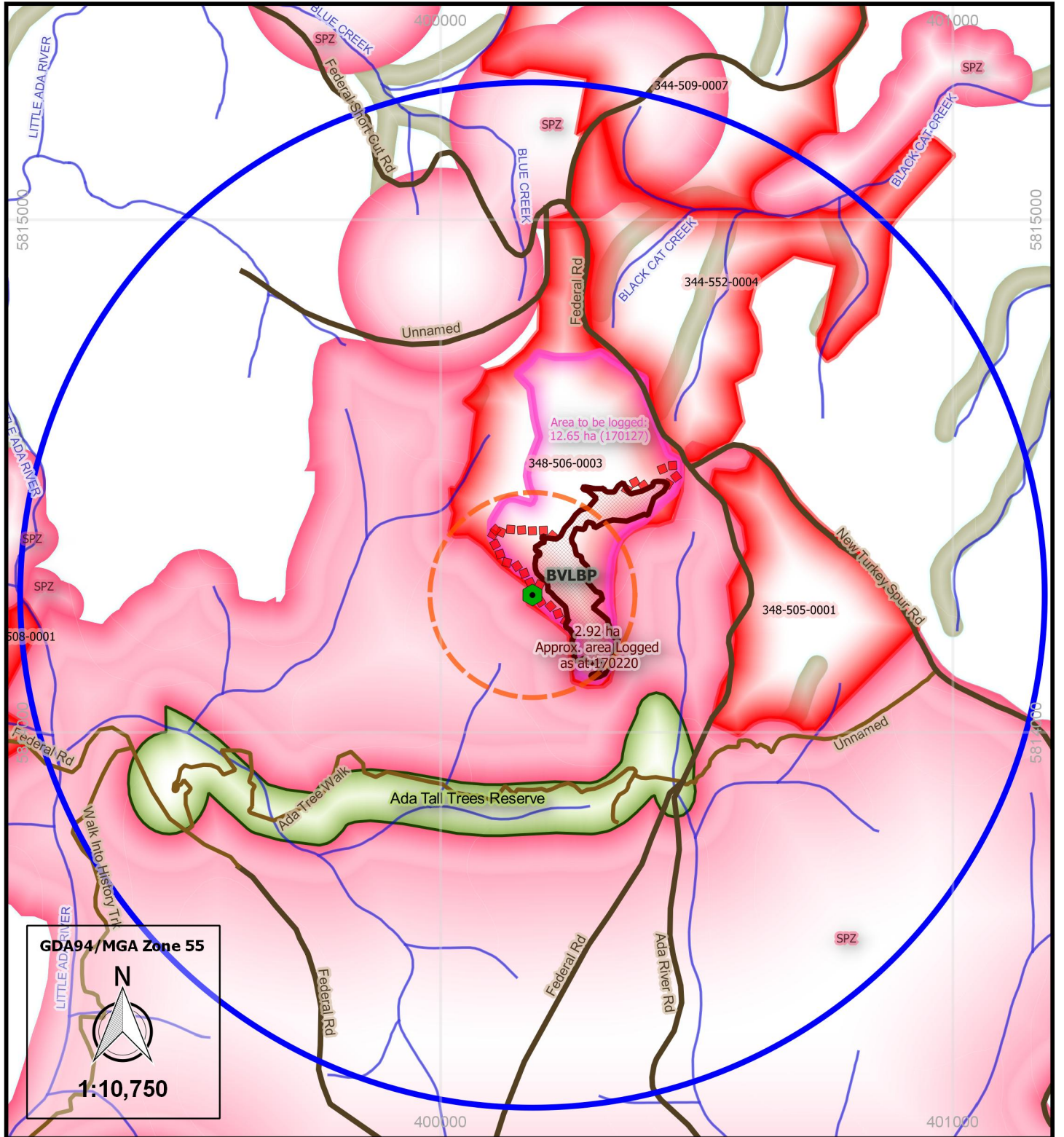
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Date of investigation: 20/02/2017

Date of report: 21/02/2017

- 1 Lindenmayer, D.B., Blair, D., McBurney, L. and Banks, S., *New Restoration Forest Management Prescriptions to Conserve Leadbeater's Possum and Rebuild the Cover of Ecologically Mature Forest in the Central Highlands of Victoria (Version 2)*, Australian National University, Canberra, ACT, Australia, July 2013, p. 15
- 2 The State of Victoria Department of Environment and Primary Industries (now Department of Environment, Land, Water and Planning) "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", 2014

Study Location Overview



0 1000 2000 m

Legend	
Fauna/Flora Records	TRP/Logging Disturbance
Leadbeater's Possum detection location	Approx. Area Logged (as at 170220)
200m Buffer on Leadbeater's Possum detection location	Approx. Snig Tracks (as at 170220)
1000m Buffer on Leadbeater's Possum detection location	Area to be Logged (Approx. as at 170127)
	Scheduled Logging Coupes [VicForests; Approved_TRP_Boundaries__October_2016]
	FMZ
	Forest Management Zones [FMZ100; DELWP, Oct 16]
	Special Protection Zone
	General Management Zone
	Code of Forest Practice
	Conservation Parks and Reserves
	Parks and Reserves [PARKRES]
	Roads/Watercourses/Contours
	Roads
	Roads
	Watercourses
	Watercourses
	Contours

Method 1 (Method used: Active search)

LBP Survey (active search) [20/02/2017]

Survey technique:

- Active search using Thermal Imaging Camera.
- Spotlighting (hand-held) and binoculars for species identification.
- Digital camera photographs/video footage for recording species observed/identified.
- Global Positioning System (GPS) for recording location of species detection records.

Location:

- Off Federal Rd (location Leadbeater's Possum last seen):
S 37° 48.812'
E 145° 51.957' (GDA/LAT/LONG);
55 H 400179 5814268 (GDA94/MGA Zone 55H)
- See “Results 3, Figure 3. “Leadbeater's Possum detection location” for further details.

Method used:

1. A small arboreal mammal was detected using the Thermal Imaging Camera on an Acacia tree adjacent to Blue Vein coupe (348-506-0003) at “BVLBP” (Figure 3).
2. A hand-held spot light was used to illuminate the arboreal mammal for visual identification.
3. Using digital cameras video footage of the Leadbeater's Possum was recorded.
4. Shortly after the Leadbeater's Possum individual left the area
5. The active search survey was concluded shortly after

The results of this survey, including location details and photographic evidence are provided below in this report's “Results” section.

Method 2 (analysis/recommendations)

From: “*New Restoration Forest Management Prescriptions to Conserve Leadbeater’s Possum and Rebuild the Cover of Ecologically Mature Forest in the Central Highlands of Victoria*”³

“2. Strengthened protection of locations known to support Leadbeater's Possum

Background scientific information:

A key part of the conservation of any organism is to protect individuals where they are known to occur. Recent (currently unpublished) analyses of time series data on arboreal marsupials gathered from 1997 to 2012 indicates that the probability of occurrence of Leadbeater's Possum on a site is significantly influenced by their prior occurrence of the species at a site. This indicates that animals have a long-term site affinity – a result consistent with earlier work on the long-term occupancy of hollow-bearing trees by the species (Lindenmayer 1991).

Recommended Management Action:

Long-term site affinity by Leadbeater's Possum suggests that it is important to protect sites where the species has been recorded in the past 15 years. The protection of these known locations is particularly important given the crucial role of animals from these remaining populations in assisting the recolonisation of previously burned areas. Given the estimated home range of Leadbeater's Possum, coupled with colonial social organisation of the species (Smith 1984), we suggest that a logging exclusion area (i.e. an area excluding both clearfelling and thinning) be established around the known locations of the species. A 1 km buffer is proposed, based on sensitivity of the species to landscape-level disturbance (Lindenmayer et al. 1993A, 2013a).

All distribution records of Leadbeater's Possum and associated buffers must be mapped and the subsequent spatial data lodged on the Government Geographic Information System to ensure they are clearly identified and delineated as areas from which logging is excluded.

If Leadbeater's Possum has not been detected at a location within the previous 15 years, then that location would revert to Zone 1 habitat for subsequent protection, provided that meets the requirements of Prescription 1.

Prescription 2:

- 2.1 All locations where Leadbeater's Possum has been recorded present in the past 15 years will be protected by a 1 km buffer from which logging (both clearfell and thinnings) is excluded.**
- 2.2 All distribution records of Leadbeater's Possum and associated buffers must be mapped and lodged on the Government Geographic Information System. No logging should proceed in a given forest block until the collation of all location records of Leadbeater's Possum has been completed. The Government of Victoria should seek records from all reputable sources such as Field Naturalist Groups, universities and other organisations responsible for gathering high-quality field surveys in montane ash forests.**⁴

Method 3 (analysis/recommendations)

³ David B. Lindenmayer, David Blair, Lachlan McBurney and Sam Banks, *New Restoration Forest Management Prescriptions to Conserve Leadbeater’s Possum and Rebuild the Cover of Ecologically Mature Forest in the Central Highlands of Victoria*, Version 2: July 2013, Fenner School of Environment and Society, Australian National University, Canberra, ACT, Australia, Version 2, July 2013

⁴ *ibid*, p. 4-5

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*”⁵

“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

Table 3: Fixed FMZ rules for fauna.⁶

FMA	Common name	Scientific name	Zoning management actions	Management actions	Review
Central Highland FMAs	Leadbeater's Possum	<i>Gymnobelideus leadbeateri</i>	Protect 30 % of Ash forest from timber harvesting operations in each LMU considering the following factors for selection of retained patches: - the aim to retain patches least likely to burn during bushfires;- the aim to retain patches of the oldest age class that will develop into old growth the quickest; and - the aim to retain patches that will consolidate other patches that may develop into old growth. Note preference should be given to meeting the 30 % target from conservation reserves or SPZs followed by areas informally reserved via timber harvesting exclusion areas in the Code.		
			Establish and maintain SPZs of 200 m radius centred on each verified Leadbeater’s Possum colony found since 1998 that is not located within forest areas severely impacted by the 2009 wildfire (Exclude colonies within Fire Severity classes 1 and 2)		

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.⁷

FMA	Common name	Scientific name	Zoning management actions	Management actions	Review
Central Highland FMAs	Leadbeater's Possum	<i>Gymnobelideus leadbeateri</i>	Establish a SPZ of 200 m radius centred on each verified Leadbeater’s Possum colony.		The effectiveness of this action in supporting the recovery of the Leadbeater's Possum will be reviewed after two years of surveying (commencing July 2014) or once 200 new colonies are located whose exclusion zones impact the GMZ or SMZ, whichever comes first.

5 *Planning Standards*, pp. 16, 17, 21, 22, 36, 39

6 *Planning Standards*, “Table 3 Fixed FMZ rules for fauna”, p. 21-22

7 *Planning Standards*, “Table 4 Detection based FMZ rules for fauna”, p. 39

Results (1-3) – Figures 1., Figure 2(a-c)., Figure 3.

Summary

1. This investigation detected the Leadbeater's Possum inside of VicForests scheduled logging coupe 348-506-0003.
2. Video footage was captured of the Leadbeater's Possum within coupe 348-506-0003 at “BVLBP” (Figure 3); S 37° 48.784' E 145° 51.957' (GDA/LAT/LONG); 55 H 400179 5814268 (GDA94/MGA Zone 55H)

Results 1.

“Figure 1.” (to be attached with report) is a video file excerpt of the Leadbeater's Possum video.

Results 2.

Figures 2(a-c). are still images captured from Figure 1 (attached video) of the Leadbeater's Possum (b-c) as well as the detection location (a).

Results 3.

Figure 3. displays the detection location of the Leadbeater's Possum as well as the relevant VicForests scheduled logging coupe extents, nearby Forest Management Zoning, and other basic features. The detection location of the Leadbeater's Possum is labeled “BVLBP”.

Results 2 – Figures 2(a-c).



Figure 2(a). Still image of the Leadbeater's Possum detection location (GDA/LAT/LONG), captured from Figure 1 (attached video) at approximately “S 37° 48.812 E 145° 51.957' (GDA/LAT/LONG)”;

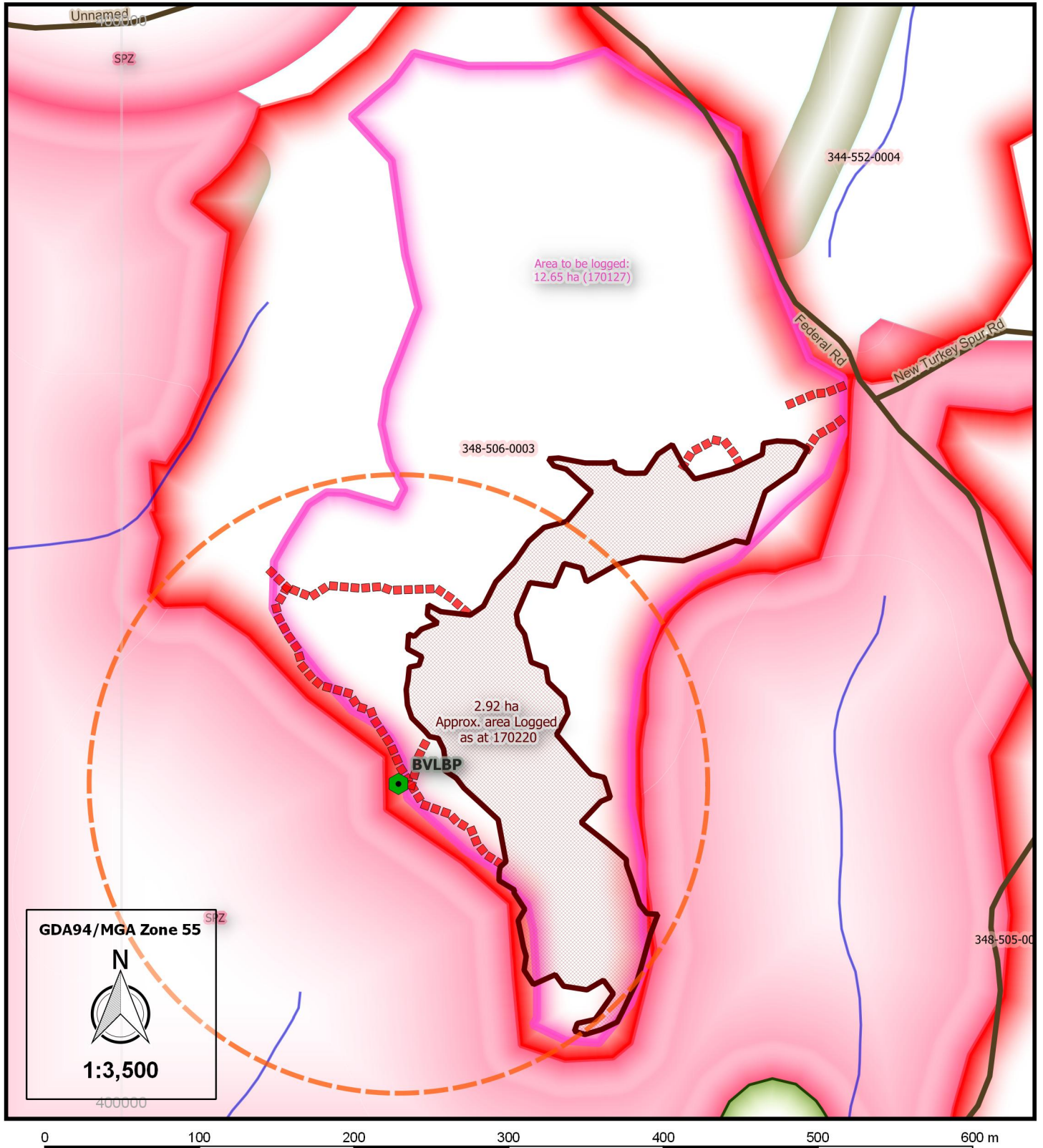


Figure 2(b). Still image of the Leadbeater's Possum captured from Figure 1 (attached video) at approximately "S 37° 48.812 E145° 51.957' (GDA/LAT/LONG)";



Figure 2(c). Still image of the Leadbeater's Possum captured from Figure 1 (attached video) at approximately "S 37° 48.812 E145° 51.957' (GDA/LAT/LONG)";

Results 3 – Figure 3.



Legend		Roads/Watercourses/Contours	
Fauna/Flora Records	TRP/Logging Disturbance	FMZ	Roads
Leadbeater's Possum detection location	Approx. Area Logged (as at 170220)	Forest Management Zones [FMZ100; DELWP, Oct 16]	Roads
200m Buffer on Leadbeater's Possum detection location	Approx. Snig Tracks (as at 170220)	Special Protection Zone	Watercourses
1000m Buffer on Leadbeater's Possum detection location	Area to be Logged (Approx. as at 170127)	General Management Zone	Contours
	Scheduled Logging Coupes [VicForests; Approved_TRP_Boundaries__October_2016]	Code of Forest Practice	
		Conservation Parks and Reserves	
		Parks and Reserves [PARKRES]	

Discussion/Conclusion/Recommendations

“New Restoration Forest Management Prescriptions to Conserve Leadbeater’s Possum and Rebuild the Cover of Ecologically Mature Forest in the Central Highlands of Victoria”⁸

Prescription 2:

- 2.1 *All locations where Leadbeater's Possum has been recorded present in the past 15 years will be protected by a 1 km buffer from which logging (both clearfell and thinnings) is excluded.*
- 2.2 *All distribution records of Leadbeater's Possum and associated buffers must be mapped and lodged on the Government Geographic Information System. No logging should proceed in a given forest block until the collation of all location records of Leadbeater's Possum has been completed. The Government of Victoria should seek records from all reputable sources such as Field Naturalist Groups, universities and other responsible organisations responsible for gathering high-quality field surveys in montane ash forests.*⁹

and: “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”¹⁰

4.2 Fauna – fixed zoning:

Table 3. Establish and maintain SPZs of 200 m radius centred on each verified Leadbeater’s Possum colony found since 1998 that is not located within forest areas severely impacted by the 2009 wildfire (Exclude colonies within Fire Severity classes 1 and 2)¹¹

4.3 Fauna – detection based zoning

Table 4. Establish a SPZ of 200 m radius centred on each verified Leadbeater’s Possum colony.¹²

Leadbeater's Possum detection record

1. Leadbeater’s Possum was recorded on the 20/02/2017 at “BVLBP” at the following location: ‘S 37° 48.812 E145° 51.957’ (GDA/LAT/LONG) as described in the preceding “Method Used” section and displayed in the preceding “Results 3 Figure 3.” sections.
2. Figure 3. shows the location of “BVLBP” as well as this location “buffered” with a 200m radius polygon (the dashed orange circular polygon) and 1km buffer (the solid blue circular polygon).
3. Figure 3. shows “BVLBP” (and thus the Leadbeater's Possum detection location) falling inside of VicForests scheduled logging coupe 348-506-0003.

“Planning Standards” – Fauna – fixed zoning 4.2 and Fauna – detection based zoning 4.3

4. All logging operations must be excluded from the area of forest within coupes **348-506-0003** that fall within 200m “dashed orange circular polygon” **buffer around the Leadbeater's Possum record obtained at “BVLBP”**.

⁸ David B. Lindenmayer, David Blair, Lachlan McBurney and Sam Banks, *New Restoration Forest Management Prescriptions to Conserve Leadbeater’s Possum and Rebuild the Cover of Ecologically Mature Forest in the Central Highlands of Victoria*, Version 2: July 2013, Fenner School of Environment and Society, Australian National University, Canberra, ACT, Australia, Version 2, July 2013, p. 2-4

⁹ *ibid*, p. 4-5

¹⁰ *Planning Standards*, pp. 16, 17, 21, 22, 39

¹¹ *Planning Standards*, “Table 3 Fixed FMZ rules for fauna”, p. 21-22

¹² *Planning Standards*, “Table 4 Detection based FMZ rules for fauna”, p. 39

“New Restoration Forest Management Prescriptions” – Prescription 2; 2.1 and 2.2

5. Figure 3. shows that the 1km buffer surrounding "BVLBP" (and the Leadbeater's Possum record) covers the entirety of VicForests scheduled logging coupes 348-506-0003, 348-505-0001, the majority of coupes 344-552-0004, 348-506-0004 and parts of coupes 348-508-0001, 344-509-0007.
6. **Logging (both clearfell and thinnings) should be excluded from the entirety of VicForests scheduled logging coupes 348-506-0003, 348-505-0001, the majority of coupes 344-552-0004, 348-506-0004 and parts of coupes 348-508-0001, 344-509-0007 that falls within the 1km buffer around the Leadbeater's Possum record obtained at “BVLBP”.**
7. To ensure that Leadbeater's Possum colony's, their nest trees and their foraging habitat is not destroyed in the context of logging operations, VicForests must ensure (and the Department of Environment, Land, Water and Planning must require) that appropriate presence/absence surveys for the species are conducted prior to the commencement of logging, and that all sites where Leadbeater's Possum are detected are protected by a 1km buffer from which logging (both clearfell and thinnings) is excluded.