

INVESTIGATION REPORT

DETECTION OF ORBOST SPINY CRAYFISH (*Euastacus diversus*)

YALMY ROAD – STONY CREEK

VicForests' Logging Coupes:
891-513-0009 and 891-513-0010

Abstract

This investigation report details the detection of the endangered Orbost Spiny Crayfish (*Euastacus diversus*) encountered within an investigation of threatened species values within VicForests scheduled logging coupes 891-513-0009 and 891-513-0010.

The regulatory framework governing logging operations in Victoria, through the Code of Practice for Timber Production 2014 and its incorporated documents require that for records of *Euastacus diversus* (Orbost Spiny Crayfish), a SPZ extending 100 m from each bank for 1 km upstream and 1 km downstream" must be established within which all logging must be excluded.

Logging activities in coupe 891-513-0010 have already occurred and are continuing within this 100m buffer and the Department of Environment, Land, Water and Planning (DELWP) must immediately restrain VicForests from further logging within this area and fully investigate and prosecute VicForests and the logging contractors operating in coupe 891-513-0010 for this logging.

Relevant Legislation

- Code of Practice for Timber Production 2014, Department of Environment and Primary Industries, The State of Victoria, 2014

Incorporated documents:

- "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

Relevant Organisations

- Logging contractors (Brunt) operating in coupe 891-513-0010; VicForests

Status of Site

Coupe 891-513-0010 is currently active and 891-513-0009 is scheduled for logging.

Date of Investigation

12-13/11/2016

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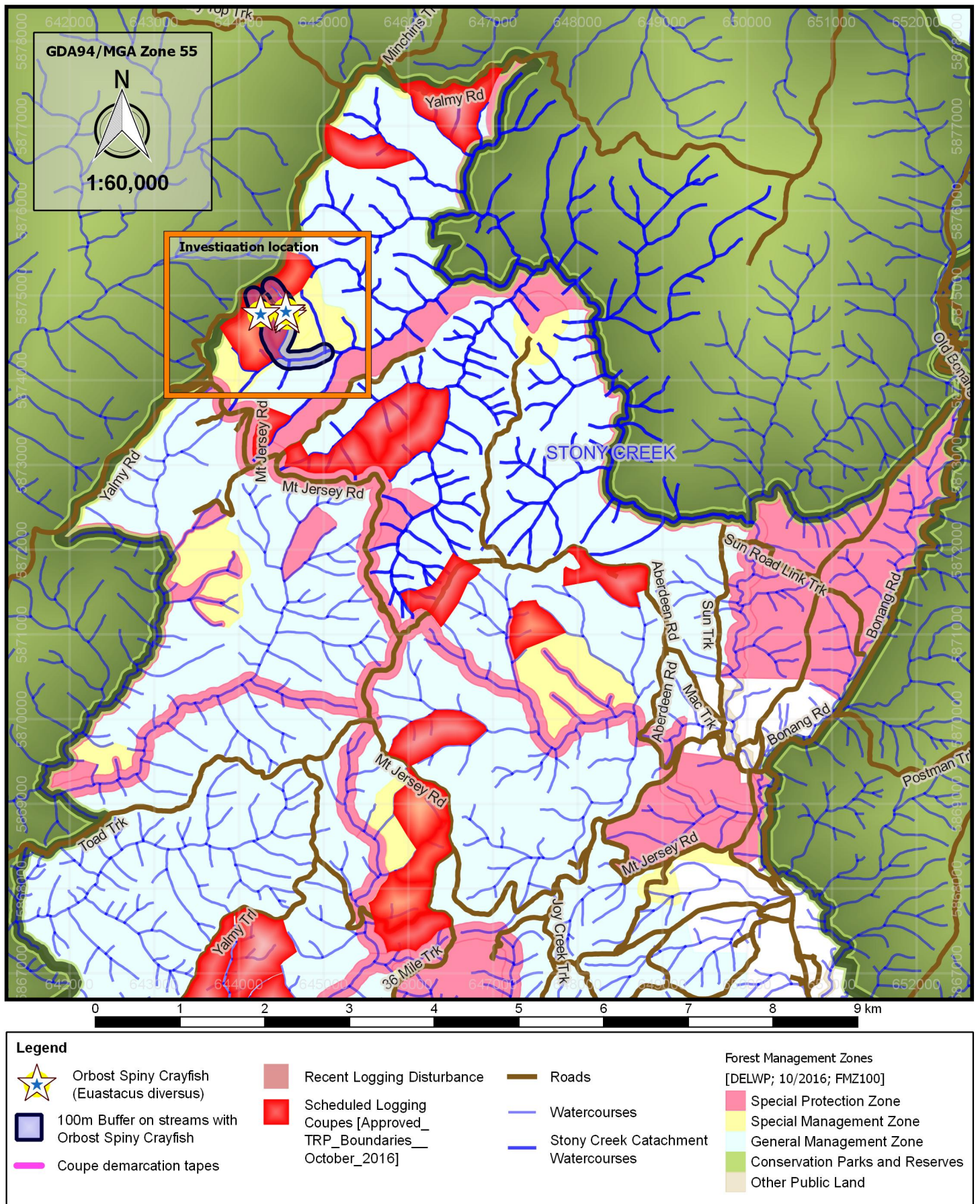
Date of report

14/11/2016

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Study Location Overview

Figure A. Within VicForests scheduled logging coupes 891-513-0009 and 891-513-0010 off Yalmy Road in the “Goongerah Forest Block” of East Gippsland.



Method Used and Results Summary

Equipment Used

- Digital Camera
- Head torch
- Global Positioning System (GPS)
[Garmin GPSMAP 62s]

Method used/Results Summary – Walking search/inspection of creeks for *Euastacus diversus* [12-13/11/2016]

1. On 12-13 November 2016 surveyors conducted a nocturnal active riparian search covering a section of the watercourses within and adjacent to VicForests active and scheduled logging coupes 891-513-0009 and 891-513-0010.
2. At approximately 55 H 644557 5874781 (location 01), 55 H 644569 5874752 (location 02), 55 H 644554 5874816 (location 03), 55 H 644552 5874811 (location 04) and 55 H 644255 5874781 (location 05) a *Euastacus diversus* individual was observed in small pools within the Stony Creek (Brodribb River) system.
3. Photographs were taken of each *Euastacus diversus* individual at locations 01 to 05 and were identified to the “East Gippsland Spiny Cray Group (EGSCGroup)” as per the Victorian Government Department of Environment, Land, Water and Planning's “survey standard” “10-Spiny-Cray-Euastacus-spp-Survey-Standards-FINALv1.0_2MAY11” as published on their website.¹ Identification to species is derived from *Euastacus* spp. distributions spatially delineated within the "Victorian Biodiversity Atlas" spatial dataset and with reference to "A Guide to Australia's Spiny Freshwater Crayfish" (McCormack, R. B., 2012).²
4. Photographs of Orbost Spiny Crayfish (*Euastacus diversus*) encountered are provided in the Results 1. section as Figure 1. and further location details are provided in the maps of Results 2. below.



1 "Survey Standard: Spiny Crayfish, *Euastacus* spp. (including the Orbost Spiny Crayfish)" The Department of Sustainability and Environment Approved Survey Standards: Spiny Crayfish *Euastacus diversus*, v.1.0, 2 May 2011
2 McCormack, R. B., A Guide to Australia's Spiny Freshwater Crayfish, CSIRO Publishing, Melbourne, 2012

Method 2 (analysis/recommendations)

Excerpts from: “Code of Practice for Timber Production 2014, Department of Environment and Primary Industries, The State of Victoria, 2014”³

1 General

1.2 The Code of Practice for Timber Production

1.2.6 Compliance on State forest

Under the *Sustainable Forests (Timber) Act 2004*, compliance with this Code is mandatory for any person planning for or conducting a timber harvesting operation on **State forest**. Penalties for noncompliance may apply if timber harvesting operations on State forest are not in accordance with the Code.

Timber harvesting operations on public land other than State forest are governed by lease and licence conditions which may specify a requirement to comply with this Code.

The Code is a prescribed legislative instrument made and enforced under relevant law listed in the *Conservation, Forests and Lands Act 1987*. For the purposes of each relevant law the **Secretary** is an **authorised officer** and is therefore responsible for ensuring compliance with the Code on State forest. Compliance is also monitored by other authorised officers appointed by the Secretary pursuant to the *Conservation, Forests and Lands Act 1987*.

2 Code Application – State Forests

This Chapter applies to the planning, harvesting, roading, **tending** and **regeneration** of **State forests** where **timber harvesting operations** are conducted, including both **native forests** and **plantation forests** that are owned and managed by the State.

2.2 Environmental Values in State forests

Timber harvesting operations in native forests may have local impacts on environmental values such as water quality and **biodiversity**. Appropriate planning and management through the lifecycle of the timber harvesting operation can minimise these impacts. This section includes requirements that must be observed during planning, roading, harvesting, tending and regeneration of native forests.

2.2.2 Conservation of Biodiversity

Operational Goal

Timber harvesting operations in **State forests** specifically address **biodiversity** conservation risks and consider relevant scientific knowledge at all stages of planning and management.

Harvested State forest is managed to ensure that the **forest** is regenerated and the biodiversity of the **native forest** is perpetuated.

The natural floristic composition and representative gene **pools** are maintained when regenerating native forests by protecting long-lived **understorey** species and using appropriate seed sources and mixes of dominant species.

Forest health is monitored and maintained by employing appropriate preventative, protective and remedial measures.

Chemicals are only used where appropriate to the site conditions and are conducted with due care for the maintenance of forest health, water quality, biodiversity and soil values.

Mandatory Actions

Addressing biodiversity conservation risks considering scientific knowledge

2.2.2.1 Planning and management of timber harvesting operations must comply with relevant biodiversity conservation measures specified within the **Management Standards and Procedures**.

2.2.2.2 The **precautionary principle** must be applied to the conservation of biodiversity values. The application of the precautionary principle will be consistent with relevant monitoring and research that has improved the understanding of the effects of forest management on forest ecology and conservation values.

3 *Code of Practice for Timber Production 2014*, pp. 11, 21, 23, 31-32, 34-35

- 2.2.2.3 The advice of relevant experts and relevant research in conservation biology and flora and fauna management must be considered when planning and conducting timber harvesting operations.
- 2.2.2.4 During planning identify biodiversity values listed in the Management Standards and Procedures prior to roading, harvesting, **tending** and **regeneration**. Address risks to these values through management actions consistent with the Management Standards and Procedures such as appropriate location of **coupe infrastructure, buffers, exclusion areas**, modified harvest timing, modified silvicultural techniques or retention of specific structural attributes.
- 2.2.2.5 Protect areas excluded from harvesting from the impacts of timber harvesting operations.
- 2.2.2.6 Ensure chemical use is appropriate to the circumstances and provides for the maintenance of biodiversity.
- 2.2.2.7 **Rainforest** communities must not be harvested.

Perpetuating the biodiversity of harvested native forests

- 2.2.2.8 Long-term (strategic) **forest** management planning must incorporate **wildlife corridors**, comprising appropriate widths of retained forest, to facilitate animal movement between patches of forest of varying ages and stages of development, and contribute to a linked system of reserves.
- 2.2.2.9 Modify **coupe** size and **rotation** periods to maintain a diversity of forest structures throughout the landscape.
- 2.2.2.10 Retain and protect **habitat trees** or habitat patches and long-lived **understorey** species to provide for the continuity and replacement of old hollow-bearing trees and existing vegetation types within each coupe.
- 2.2.2.11 Use silvicultural systems that suit the ecological requirements of the **forest type**.
- 2.2.2.12 Regenerate harvested areas using seed from **overstorey** species with **provenances** native to the area.

Glossary

‘**precautionary principle**’ means when contemplating decisions that will affect the environment, careful evaluation of management options be undertaken to wherever practical avoid serious or irreversible damage to the environment; and to properly assess the risk-weighted consequences of various options. When dealing with threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

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*”⁴

“4. Biodiversity

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 5 Detection based FMZ rules for fauna.⁵

FMA	Common name	Scientific name	Zoning management actions	Management actions	Review
East Gippsland	Orbost Spiny Crayfish	Euastacus diversus	Establish a SPZ extending 100 m from each bank for 1 km upstream and 1 km downstream of verified detection sites.	Avoid constructing new roads and stream crossings within the SPZ. Manage nearby regeneration burns to ensure the SPZ is not burnt.	Review this strategy when 20 sites are established.

4 *Planning Standards*, p. 36

5 *Planning Standards*, “Table 4 Detection based FMZ rules for fauna”, p. 45

Results 1 (Photos and location details)

Figure 1(a). *Euastacus diversus* (location 01)
at 55 H 644557 5874781 (GDA94 UTM)



Figure 1(b). *Euastacus diversus* (location 01)
at 55 H 644557 5874781 (GDA94 UTM)



Figure 1(c). *Euastacus diversus* (location 01)
at 55 H 644557 5874781 (GDA94 UTM)



Figure 1(d). *Euastacus diversus* (location 01)
at 55 H 644557 5874781 (GDA94 UTM)



Figure 1(e). *Euastacus diversus* (location 01)
at 55 H 644557 5874781 (GDA94 UTM)



Figure 1(f). *Euastacus diversus* (location 01)
at 55 H 644557 5874781 (GDA94 UTM)



Figure 1(g). *Euastacus diversus* (location 01)
at 55 H 644557 5874781 (GDA94 UTM)

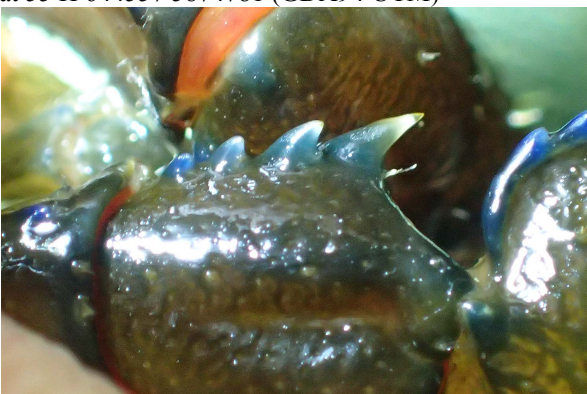


Figure 1(h). *Euastacus diversus* (location 01)
at 55 H 644557 5874781 (GDA94 UTM)



Results 1 continued (Photos and location details)

Figure 2(a). *Euastacus diversus* (location 02)
at 55 H 644569 5874752 (GDA94 UTM)



Figure 2(b). *Euastacus diversus* (location 02)
at 55 H 644569 5874752 (GDA94 UTM)



Figure 2(c). *Euastacus diversus* (location 02)
at 55 H 644569 5874752 (GDA94 UTM)



Figure 2(d). *Euastacus diversus* (location 02)
at 55 H 644569 5874752 (GDA94 UTM)



Figure 2(e). *Euastacus diversus* (location 02)
at 55 H 644569 5874752 (GDA94 UTM)



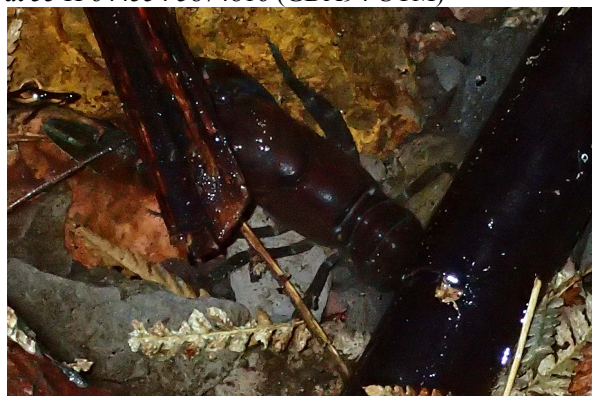
Figure 2(f). *Euastacus diversus* (location 02)
at 55 H 644569 5874752 (GDA94 UTM)



Figure 3(a). *Euastacus diversus* (location 03)
at 55 H 644554 5874816 (GDA94 UTM)



Figure 3(b). *Euastacus diversus* (location 03)
at 55 H 644554 5874816 (GDA94 UTM)



Results 1 continued (Photos and location details)

Figure 4(a). *Euastacus diversus* (location 04)
at 55 H 644552 5874811 (GDA94 UTM)



Figure 4(b). *Euastacus diversus* (location 04)
at 55 H 644552 5874811 (GDA94 UTM)



Figure 4(c). *Euastacus diversus* (location 04)
at 55 H 644552 5874811 (GDA94 UTM)



Figure 4(d). *Euastacus diversus* (location 04)
at 55 H 644552 5874811 (GDA94 UTM)



Figure 4(e). *Euastacus diversus* (location 04)
at 55 H 644552 5874811 (GDA94 UTM)



Figure 4(f). *Euastacus diversus* (location 04)
at 55 H 644552 5874811 (GDA94 UTM)



Figure 4(g). *Euastacus diversus* (location 04)
at 55 H 644552 5874811 (GDA94 UTM)



Figure 4(h). *Euastacus diversus* (location 04)
at 55 H 644552 5874811 (GDA94 UTM)



Results 1 continued (Photos and location details)

Figure 5(a). *Euastacus diversus* (location 05)
at 55 H 644255 5874781 (GDA94 UTM)



Figure 5(b). *Euastacus diversus* (location 05)
at 55 H 644255 5874781 (GDA94 UTM)



Figure 5(c). *Euastacus diversus* (location 05)
at 55 H 644255 5874781 (GDA94 UTM)



Figure 5(d). *Euastacus diversus* (location 05)
at 55 H 644255 5874781 (GDA94 UTM)



Figure 5(e). *Euastacus diversus* (location 05)
at 55 H 644255 5874781 (GDA94 UTM)



Figure 5(f). *Euastacus diversus* (location 05)
at 55 H 644255 5874781 (GDA94 UTM)



Figure 5(g). *Euastacus diversus* (location 05)
at 55 H 644255 5874781 (GDA94 UTM)

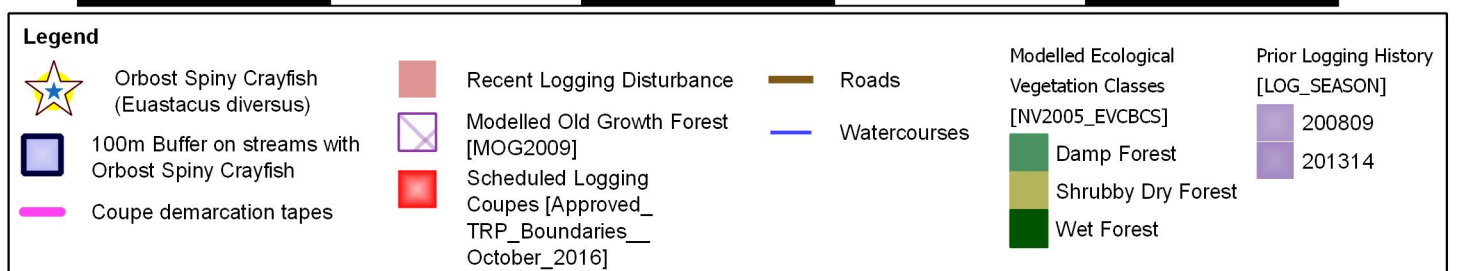
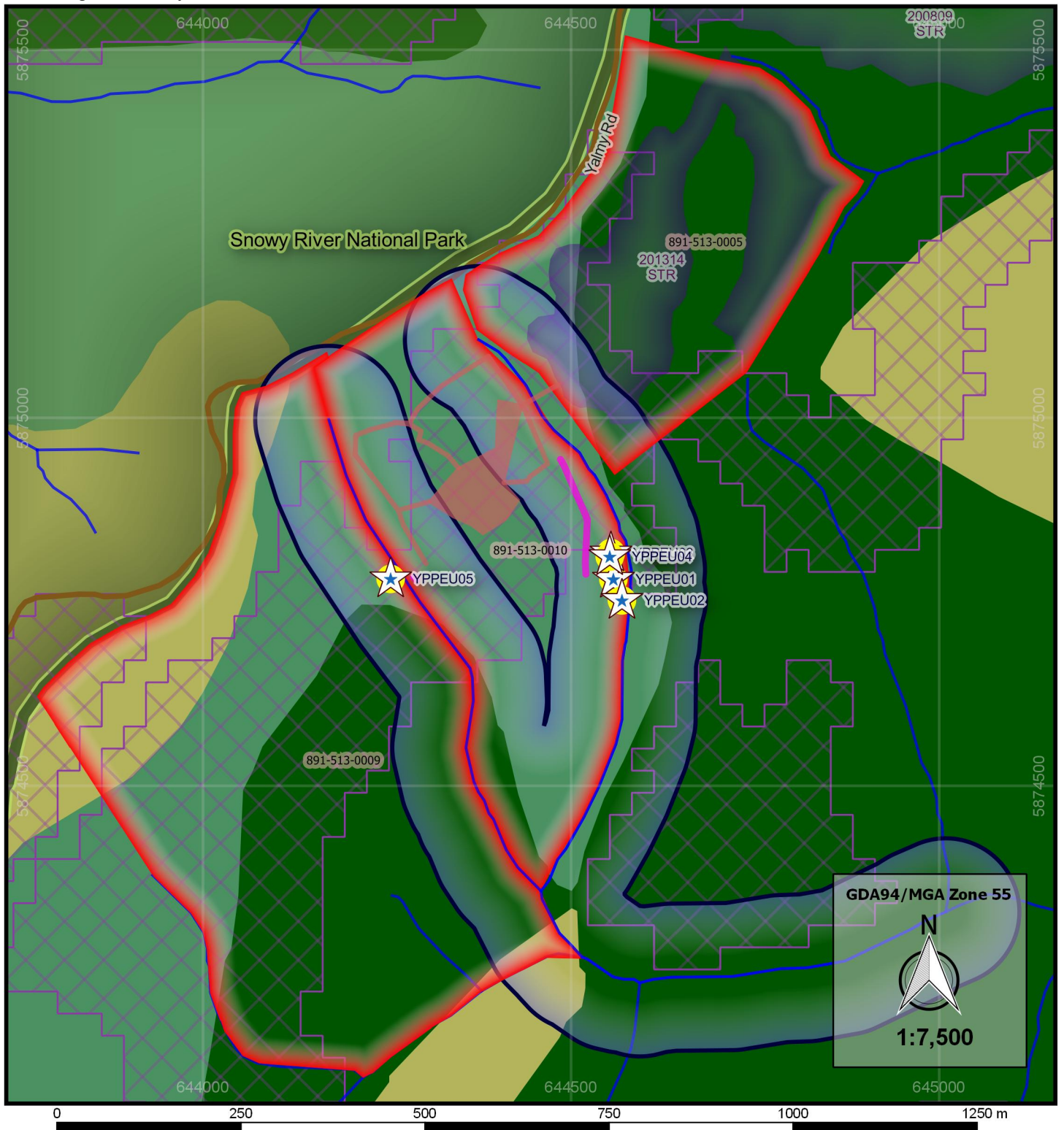


Figure 5(h). *Euastacus diversus* (location 05)
at 55 H 644255 5874781 (GDA94 UTM)



Results 2 (Maps)

Figure 6. Yalmy Road - *Euastacus diversus* records and 100m Buffer



Discussion/Conclusions/Recommendations

Euastacus diversus (Orbost Spiny Crayfish)

1. Multiple *Euastacus diversus* (Orbost Spiny Crayfish) were identified and recorded from within VicForests scheduled logging coupes 891-513-0009 and 891-513-0010 at the locations displayed as the “white and blue and yellow outlined star” symbols in Figure 6. of Results 2 above.
2. The management prescriptions relevant to the Orbost Spiny Crayfish in the “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”, section 4.3.1.1-2, requires that for all verified records of *Euastacus diversus* (Orbost Spiny Crayfish) the “FMZ amendments and reviews in accordance with Table 4” must be applied. Table 4. requires that for records of *Euastacus diversus* (Orbost Spiny Crayfish), a SPZ extending 100 m from each bank for 1 km upstream and 1 km downstream" must be established.
3. As a regulator of operations within Victoria's State Forests DELWP must ensure VicForests and their logging contractors abide by these prescriptions including by applying the minimum 100m Special Protection Zone displayed in Results 2. Figure 6. for the *Euastacus diversus* (Orbost Spiny Crayfish) locations displayed and any others found within 1000m of VicForests' scheduled logging coupes.
4. DELWP must immediately restrain VicForests and the logging contractors operating in the listed coupes from further logging in the areas of these *Euastacus diversus* (Orbost Spiny Crayfish) records including within coupes 891-513-0009 and 891-513-0010 as well as any additional surrounding areas where the species is present.
5. A thorough search for the presence of and evaluation of the extent and population health of *Euastacus diversus* (Orbost Spiny Crayfish) must be undertaken within any further areas where VicForests intends to log and the species presence is possible.
6. The following additional coupes listed below are also located within the Stony Creek system and contain unprotected watercourses likely to be habitat for *Euastacus diversus* (Orbost Spiny Crayfish). All watercourses within and adjacent to these coupes should be protected by a minimum 100m buffer and thorough searches for the species' presence should be undertaken before any disturbance from logging operations is commenced: 891-507-0005, 891-509-0003, 891-513-0005, 891-513-0008, 891-513-0015, 891-513-0016, 891-513-0018, 891-514-0009, 891-514-0011.
7. The map of Results 2. Figure 6. shows that logging has already occurred within the 100m buffer of both sections of the Stony Creek watercourse within which *Euastacus diversus* (Orbost Spiny Crayfish) was recorded on the south-west and north-east boundaries of coupe 891-513-0010. The watercourse on the north-eastern boundary of the coupe has been bulldozed through for coupe access from adjacent coupe 891-513-0005. The stream bed downstream from this location appeared to have a highly erodable composition susceptible to disturbance. In addition, bulldozing of a snig track in the upper reaches of the watercourse on the south-western border has already occurred to where water was observed pooling and flowing between the tracks created by logging machinery. DELWP must fully investigate and prosecute VicForests and the logging contractors operating in coupe 891-513-0010 for this logging and the logging that occurred in 2013-14 in adjacent coupe 891-513-0005.