# NATURAL VALUES ASSESSMENT OF 281 SNUG TIERS ROAD, SNUG, TASMANIA


## Environmental Consulting Options Tasmania (ECO*tas*) for Matthew Thompson

## 28 March 2025

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**AUTHORSHIP**

Field assessment: Mark Wapstra & James Wapstra

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Base data for mapping: LISTmap

Digital and aerial photography: Mark Wapstra, GoogleEarth, LISTmap

**ACKNOWLEDGEMENTS**

Matthew Thompson provided background information on the proposed land use within the subject title and on-site guidance as to the specific location of project elements.

**DISCLAIMER**

Except where otherwise stated, the opinions and interpretations of legislation and policy expressed in this report are made by the author(s) and do not necessarily reflect those of the relevant agency. The client should confirm management prescriptions with the relevant agency before acting on the content of this report. This report and associated documents do not constitute legal advice.

Note that any reference to the Department of Primary Industries, Parks, Water & Environment (DPIPWE) now refers to the Department of Natural Resources and Environment Tasmania.

**COVER ILLUSTRATION**

Looking west across existing cleared area.

Please note: the blank pages in this document are deliberate to facilitate double-sided printing.

**CONTENTS**

## SUMMARY


### *General*

Matthew Thompson (owner) engaged Environmental Consulting Options Tasmania (ECO*tas*) to undertake a natural values assessment of 281 Snug Tiers Road (PID 7663958; C.T. 29344/4; LPI GTT58), Snug, Tasmania, primarily to ensure that the requirements of the identified ecological values are appropriately considered during any further project planning under local, State and Commonwealth government approval protocols.

### *Site assessment*

A natural values assessment of the study area was undertaken by Mark Wapstra (ECO*tas*) on 21 Mar 2025.

### *Summary of key findings*

Threatened flora

- No plant species listed as threatened on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) and/or the Tasmanian *Threatened Species Protection Act 1995* (TSPA) were detected, or are known from database information, from the study area.
- The absence of threatened flora means that no part of the title can be classified as any priority biodiversity value under Table E10.1 of the Biodiversity Code of the *Kingborough Interim Planning Scheme 2015*.

Threatened fauna

- No fauna species listed as threatened on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) and/or the Tasmanian *Threatened Species Protection Act 1995* (TSPA) were detected, or are known from database information, from the study area.
- The study area supports potential habitat (to varying degrees) of several species, as follows:
  - Tasmanian devil (*Sarcophilus harrisii*);
  - spotted-tailed quoll (*Dasyurus maculatus* subsp. *maculatus*);
  - eastern quoll (*Dasyurus viverrinus*);
  - eastern barred bandicoot (*Perameles gunnii* subsp. *gunnii*);
  - masked owl (*Tyto novaehollandiae*);
  - grey goshawk (*Accipiter novaehollandiae*);
  - Mount Mangana stag beetle (*Lissotes menalcas*); and
  - swift parrot (*Lathamus discolor*).
- The presence of potential habitat for some threatened fauna means that parts of the title could be classified, in relation to threatened fauna, as moderate priority biodiversity value

under Table E10.1 of the Biodiversity Code of the *Kingborough Interim Planning Scheme 2015*, although in this case it is suggested that a non-priority status is more appropriate due to the marginality of potential habitat within the proposed development site.

Vegetation types

- The study area supports the following TASVEG mapping units:
  - *Eucalyptus obliqua* forest with broad-leaf shrubs (TASVEG code: WOB);
  - *Eucalyptus globulus* wet forest (TASVEG code: WGL); and
  - extra-urban miscellaneous (TASVEG code: FUM).
- Occurrences of WOB & WGL do not equate to native vegetation communities listed as threatened on Schedule 3A of the Tasmanian *Nature Conservation Act 2002*.
- Occurrences of WOB & WGL do not equate to threatened ecological communities listed under the Commonwealth *Environment Protection and Biodiversity Protection Act 1999*.
- As vegetation types, WOB & WGL are classified as low priority biodiversity value under Table E10.1 of the Biodiversity Code of the *Kingborough Interim Planning Scheme 2015.*

Weeds

- No plant species classified as declared weeds within the meaning of the Tasmanian *Biosecurity Act 2019* (*Biosecurity Regulations 2022*) were detected from the study area.

Plant disease

- No evidence of *Phytophthora cinnamomi* (PC, rootrot) was recorded within the study area.
- No evidence of myrtle wilt was recorded from within the study area.
- No evidence of myrtle rust was recorded from within the study area.

Animal disease (chytrid)

- The part of the study area proposed for development does not support habitats conducive to frog chytrid disease.

Individual trees

- The study area supports some individual trees that currently meet the criteria for very high conservation value within the intent of Table E10.1 of the Biodiversity Code of the *Kingborough Interim Planning Scheme 2015*, such that these could qualify as moderate priority biodiversity value.

### *Recommendations*

The recommendations provided below are a summary of those provided in relation to each of the nature values described in the main report. The main text of the report provides the relevant context for the recommendations.

Vegetation types

There should be no specific management requirements in relation to the native vegetation types identified from the proposed development area. In general terms, minimising the extent of "clearance and conversion" and/or "disturbance" to native vegetation is recommended but it is noted that the higher priority vegetation types (i.e. WGL – mainly as potential swift parrot habitat) is well outside the development footprint.

Threatened flora

None identified – no special management required.

Threatened fauna

Apart from the generic recommendation to minimise the extent of "clearance and conversion" and/or "disturbance" to native vegetation, it is further recommended that as far as practical, larger trees should be retained, recognising the context of personal safety and bushfire hazard management requirements.

Weed and disease management

None identified – no special management required beyond owner-occupation vigilance and control.

Legislative and policy implications

There are no formal requirements for a permit under Section 51 of the Tasmanian *Threatened Species Protection Act 1995* (TSPA).

A formal referral to the Commonwealth Department of the Environment & Energy under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) is not considered required.

Review of the relevant provisions of the Biodiversity Code of the *Kingborough Interim Planning Scheme 2015* indicates satisfaction of E10.7.1 P1, with possible application of the *Kingborough Biodiversity Offset Policy 6.10, November 2023* in relation to the management of individual trees that qualify as very high conservation value. As part of a development application, an "environmental management plan" is required under 14.4.5 of the Environmental Living zone. This plan should include reference to any trees of very high conservation value and how these will be managed, including reference to the tree root protection zone.

# INTRODUCTION

## *Purpose*

Matthew Thompson (owner) engaged Environmental Consulting Options Tasmania (ECO*tas*) to undertake a natural values assessment of 281 Snug Tiers Road (PID 7663958; C.T. 29344/4; LPI GTT58), Snug, Tasmania, primarily to ensure that the requirements of the identified natural values are appropriately considered during any further project planning under local, State and Commonwealth government approval protocols.

## *Scope*

This report relates to:

- flora and fauna species of conservation significance, including a discussion of listed threatened species (under the Tasmanian *Threatened Species Protection Act 1995* and/or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*) potentially present, and other species of conservation significance/interest;
- vegetation types (forest and non-forest, native and exotic) present, including a discussion of the distribution, condition, extent, composition and conservation significance of each community;
- plant and animal disease management issues;
- weed management issues; and
- a discussion of some of the policy and legislative implications of the identified natural values.

This report follows the government-produced *Guidelines for Natural Values Surveys – Terrestrial Development Proposals* (DPIPWE 2015) in anticipation that the report (or extracts of it) may be required as part of various approval processes.

The report format should also be applicable to other assessment protocols as required by the relevant Commonwealth agency (for any referral/approval that may be required under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*), which is unlikely to be required in this case.

More specifically, this assessment and report have been to address specific provisions of the *Kingborough Interim Planning Scheme 2015*, with particular reference to the natural values/biodiversity provisions of the Environmental Living zone and Biodiversity Code.

## *Limitations*

The natural values assessment was undertaken on 21 Mar. 2025 (noting a previous assessment on 21 May 2020). Many plant species have ephemeral or seasonal growth or flowering habits, or patchy distributions (at varying scales), and it is possible that some species were not recorded for this reason. However, every effort was made to sample the range of habitats present in the survey area to maximise the opportunity of recording most species present (particularly those of conservation significance). Late spring and into summer are usually regarded as the most suitable period to undertake most botanical assessments. While some species have more restricted flowering periods, a discussion of the potential for the site to support these is presented. In this

case, I believe that the survey was appropriately timed to detect the species with a highest priority for conservation management in this part of the State.

The survey was also limited to vascular species: species of mosses, lichens and liverworts were not recorded. However, a consideration is made of threatened species (vascular and non-vascular) likely to be present (based on habitat information and database records) and reasons presented for their apparent absence.

Surveys for threatened fauna were largely limited to an examination of "potential habitat" (i.e. comparison of on-site habitat features to habitat descriptions for threatened fauna), and detection of tracks, scats and other signs.

The survey was not limited by access due to the relatively small title, with access provided by Snug Tiers Road, Snug Rivulet and old internal tracks.

### *Permit*

Any plant material was collected under DNRET permit TFL 24238 (in the name of Mark Wapstra). Relevant data will be entered into DNRET's *Natural Values Atlas* database by ECO*tas*. Some plant material may be lodged at the Tasmanian Herbarium by ECO*tas*.

No vertebrate or invertebrate material was collected. A permit is not required for the type of habitat-level assessments undertaken for fauna.

## STUDY AREA & LAND USE PROPOSAL

The study area (Figures 1-3) comprises the subject title of 281 Snug Tiers Road (PID 7663958; C.T. 29344/4; LPI GTT58), Snug, Tasmania.

Within the study area, the proposal is to construct a single residential dwelling and associated residential elements within the existing cleared area in the far northwest corner of the title. Access to the dwelling will be direct from Snug Tiers Road. A bushfire hazard management zone will be established around the dwelling, which may require limited additional modification of native vegetation on the fringes of the existing cleared area.

A specific proposal was provided, however, the whole title was assessed such that any minor changes to design and location will not warrant a separate natural values report provided that the recommendations with respect to estimating the extent of clearance and conversion and/or disturbance to native vegetation and individual trees are taken into account as part of development application planning.

Land tenure and other categorisations of the study area are as follows:

- Kingborough municipality, with the subject title zoned as Environmental Living under the *Kingborough Interim Planning Scheme 2015* (Figure 4) and wholly subject to the Biodiversity Protection Area overlay (Figure 5) and partially subject to the Waterway and Coastal Protection Area overlay (but this does not extend to the existing cleared area – other overlays are also applicable but not considered in the scope of the present report);
- South East Bioregion, according to the IBRA 7 bioregions used by most government agencies); and
- NRM South Natural Resource Management (NRM) region.

The title is bounded to the north by Snug Tiers Road, to the west and east by private titles and to the south by Snug River. The Snug Tiers Nature Recreation Area forms most of the boundary along Snug Rivulet (Figure 6).

The subject title comprises ca. 2.029 ha of native vegetation, mainly supporting wet sclerophyll forest on sheltered generally south-facing slopes above Snug River. The slopes are generally quite steep, ranging from ca. 80 m a.s.l. (along Snug Rivulet) to ca. 135 m a.s.l. (northwest corner of title on Snug Tiers Road).

The geology of the title is mapped (Figure 7) as Jurassic-age "dolerite (tholeiitic) with locally developed granophyre" (geocode: Jd), which was confirmed by site assessment. The geology is mentioned because it can have a strong influence on the classification of vegetation and the potential occurrence of threatened flora (and to a lesser extent, threatened fauna).

Topographic maps indicate that Snug Rivulet forms the southern boundary of the title, with the mapped "blue line" wavering in and out of the title. A tributary of the rivulet enters the main channel at the far east of the title. No other drainage features are present.

LISTmap's Fire History layer indicates that the February 1967 bushfire event affected the whole title, and that the eastern end of the title was subject to the "Margate" (Incident Number 1701) on 12 Dec. 1994. Site assessment revealed strong evidence for both these fire events with a sparse over-topping canopy of mature trees with massive fire scars (Plates 1 & 2), which I refer to as "fire survivors" of the 1967 fire event, over a much denser and relatively even-aged natural regrowth layer (Plate 3) that has arisen after the 1967 fire event. The 1994 event is evidenced by more recent scorching on trunks (Plate 4).

The title has also been subject to minor selective harvesting (Plate 5) and there are old "snig tracks" that cut across the contours (Plate 6, Figure 10).


**Plates 1 & 2.** "Fire survivor" (*Eucalyptus obliqua*) with massive basal fire scar


**Plate 3.** (LHS) Typical even-aged maturing regrowth canopy of wet sclerophyll forest

**Plate 4.** (RHS) More recent fire scorch marks on bark of *Eucalyptus obliqua*


**Plate 5.** (LHS) Cut stump indicative of selective tree removal

**Plate 6.** (RHS) Old "snig track" within title

The far northwest corner of the title has been long-cleared, apparently managed once as a strawberry field (M. Thompson pers. comm.) but was open marsupial-mown "lawn" when purchased ca. 9 years ago (Plates 7 & 8). This area was still cleared land when assessed in May 2020 (Plates 9 & 10). This part of the title is now occupied pending development of the new residential dwelling (refer Plates 11-12).

**Plate 7.** Distorted 180° view from approximate top peg in northwest corner i.e. looking approximately northeast across open "mown" lawn [courtesy: M. Thompson – ca. Oct. 2012]

**Plate 8.** View downslope across "mown" lawn [courtesy: M. Thompson – ca. Oct. 2012]



**Plates 9 & 10.** Status of existing cleared area on 21 May 2020 – LHS = eastern boundary looking from downslope up towards Snug Tiers Road; RHS = looking across slope towards the west along the bottom edge of the clearing

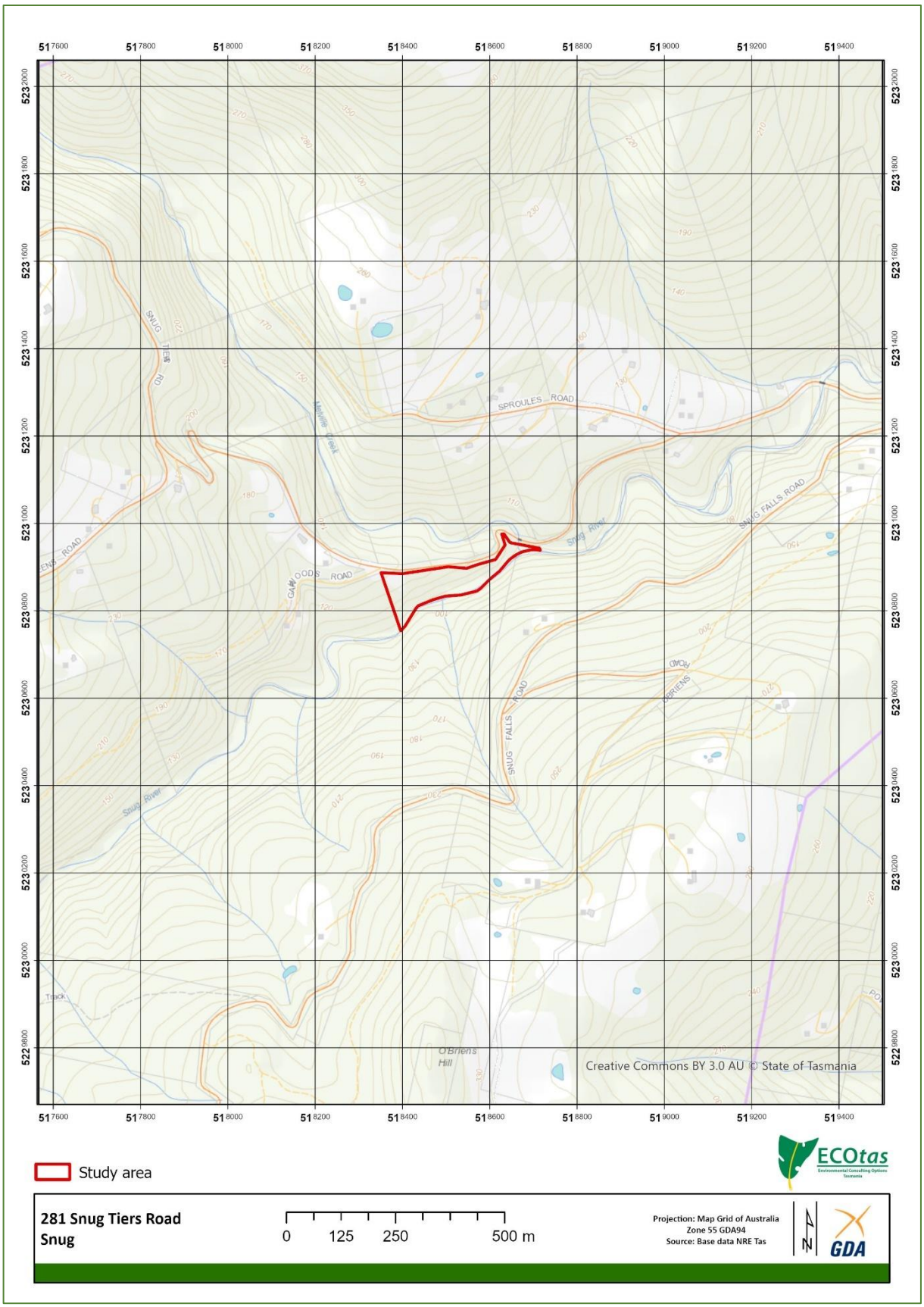


**Figure 1.** General location of study area

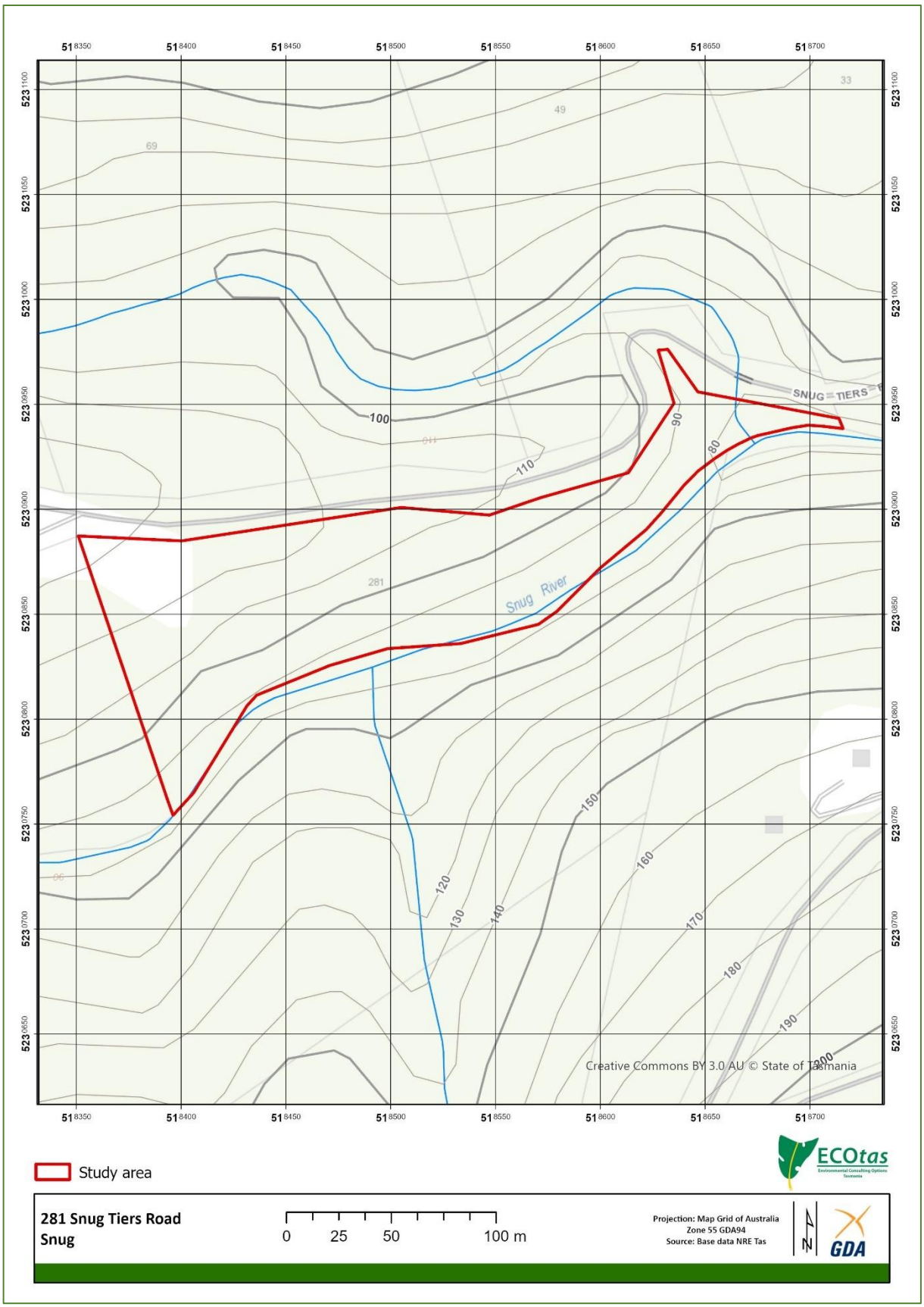


**Figure 2.** Detailed location of study area showing general topographic and cadastral features

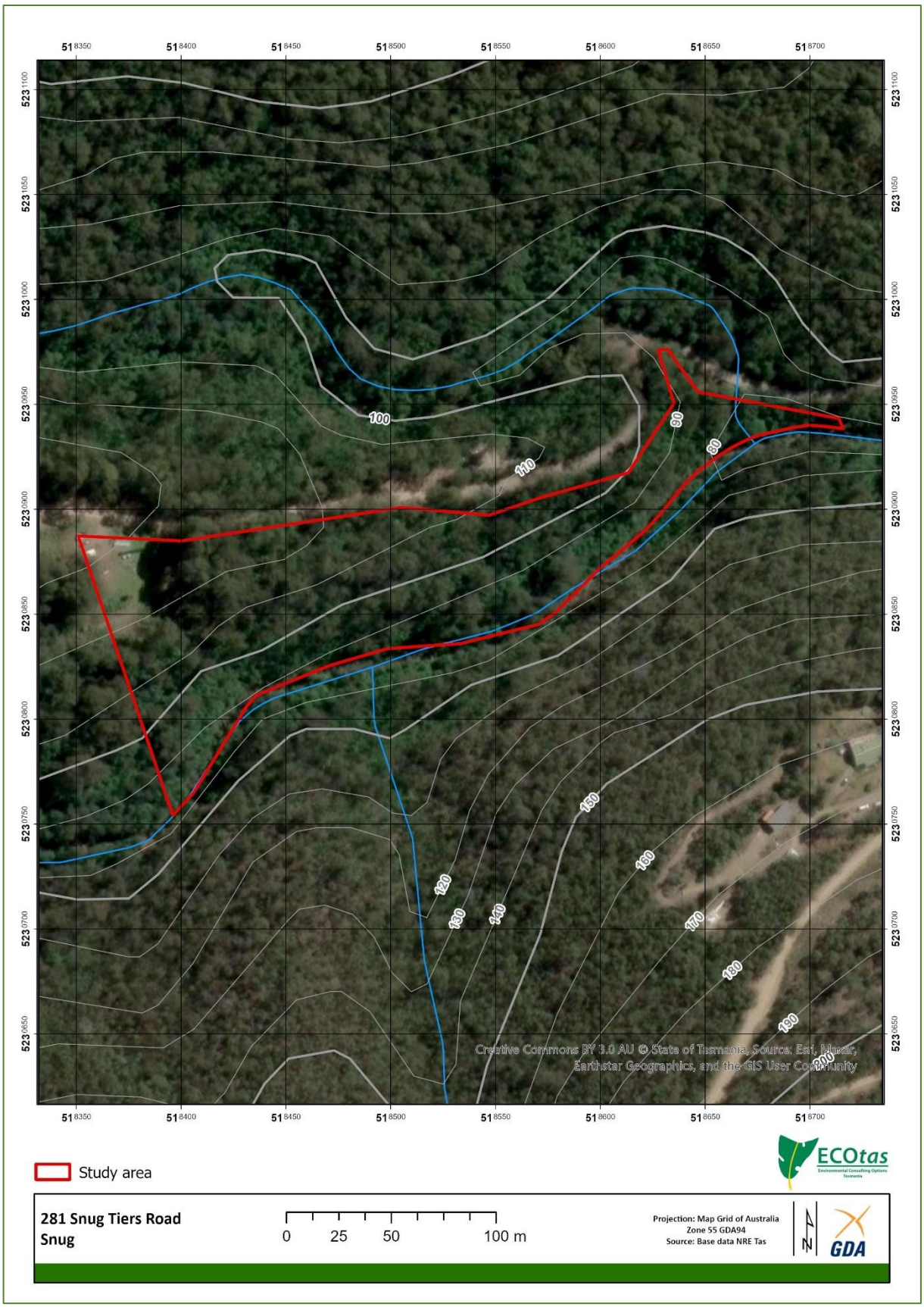


**Figure 3.** Detailed location of study area showing recent aerial imagery and cadastral boundaries

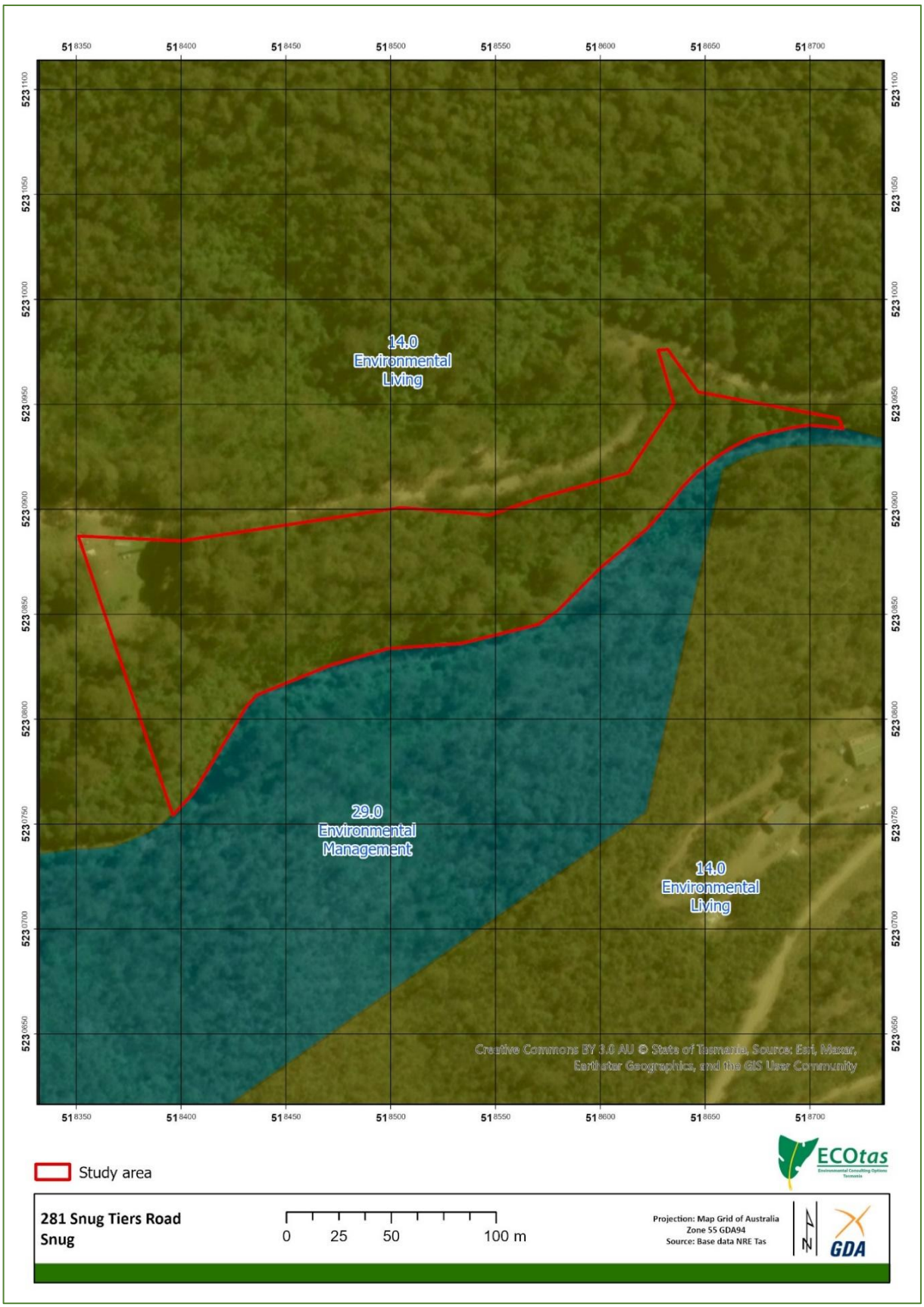


**Figure 4.** Zoning of subject title and surrounds pursuant to *Kingborough Interim Planning Scheme 2015*


**Figure 5a.** Extent of Biodiversity Protection Area overlay within subject title and surrounds pursuant to *Kingborough Interim Planning Scheme 2015*

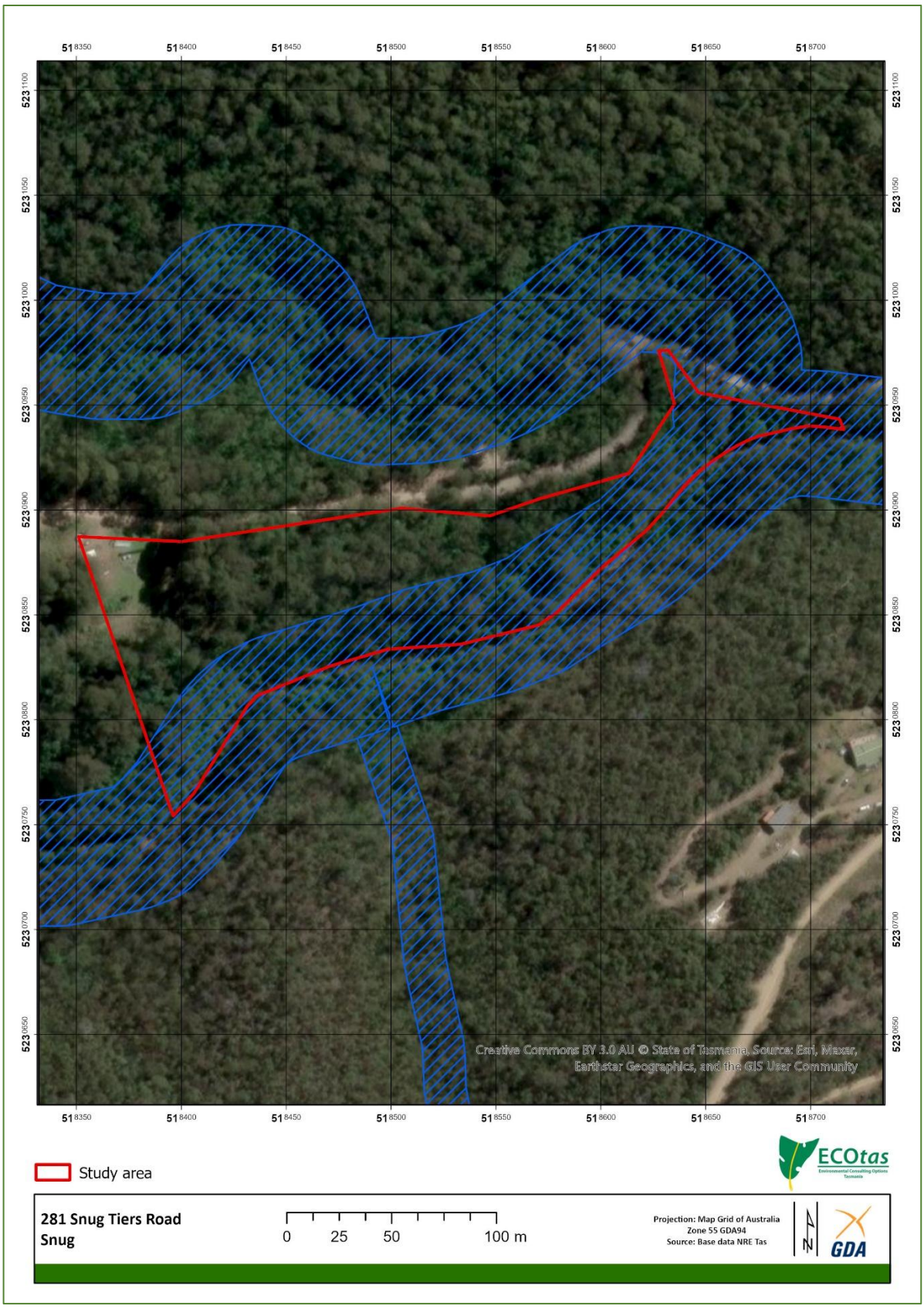


**Figure 5b.** Extent of Waterway and Coastal Protection overlay within subject title and surrounds pursuant to *Kingborough Interim Planning Scheme 2015*

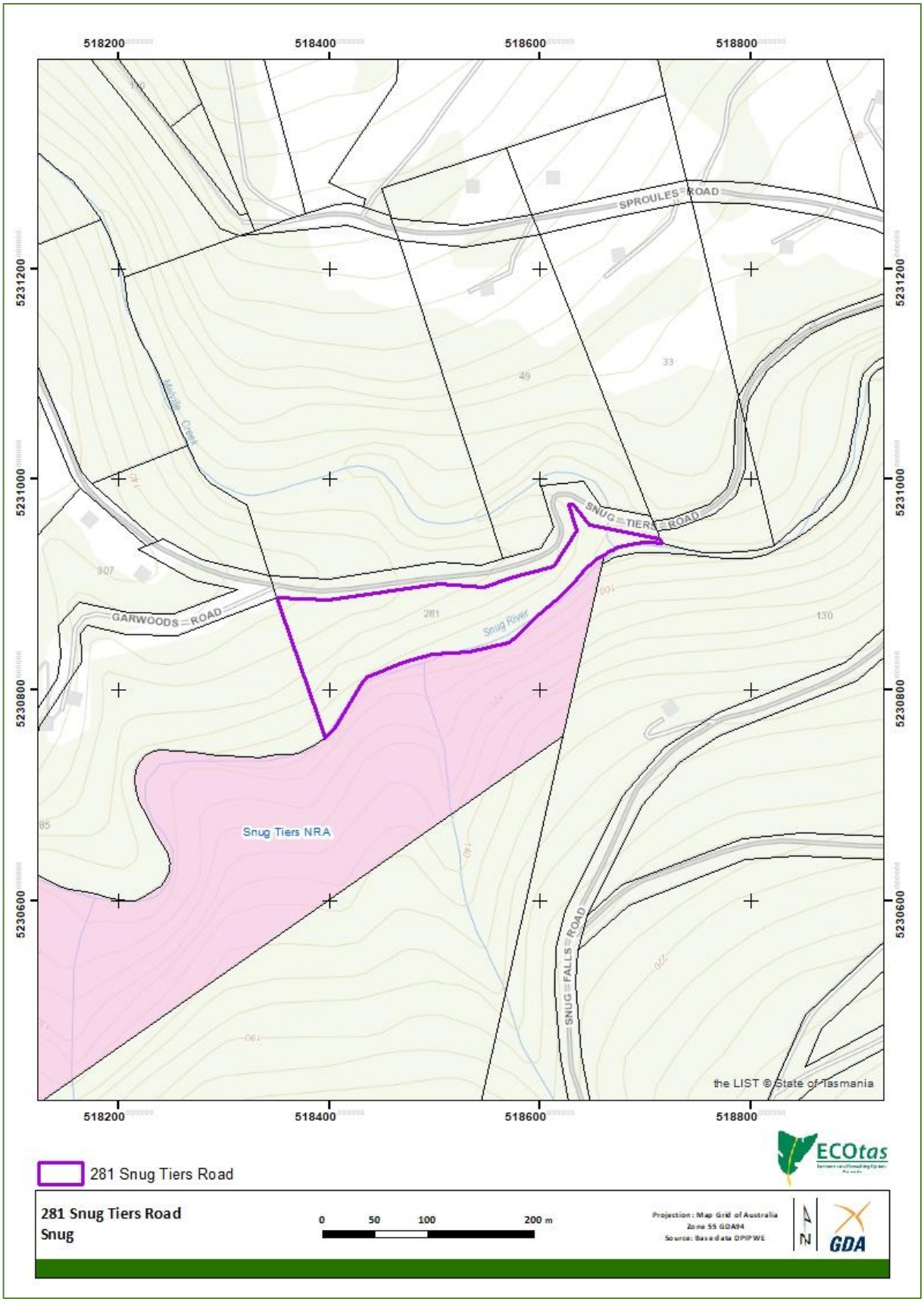


**Figure 6.** Adjacent formal reserve

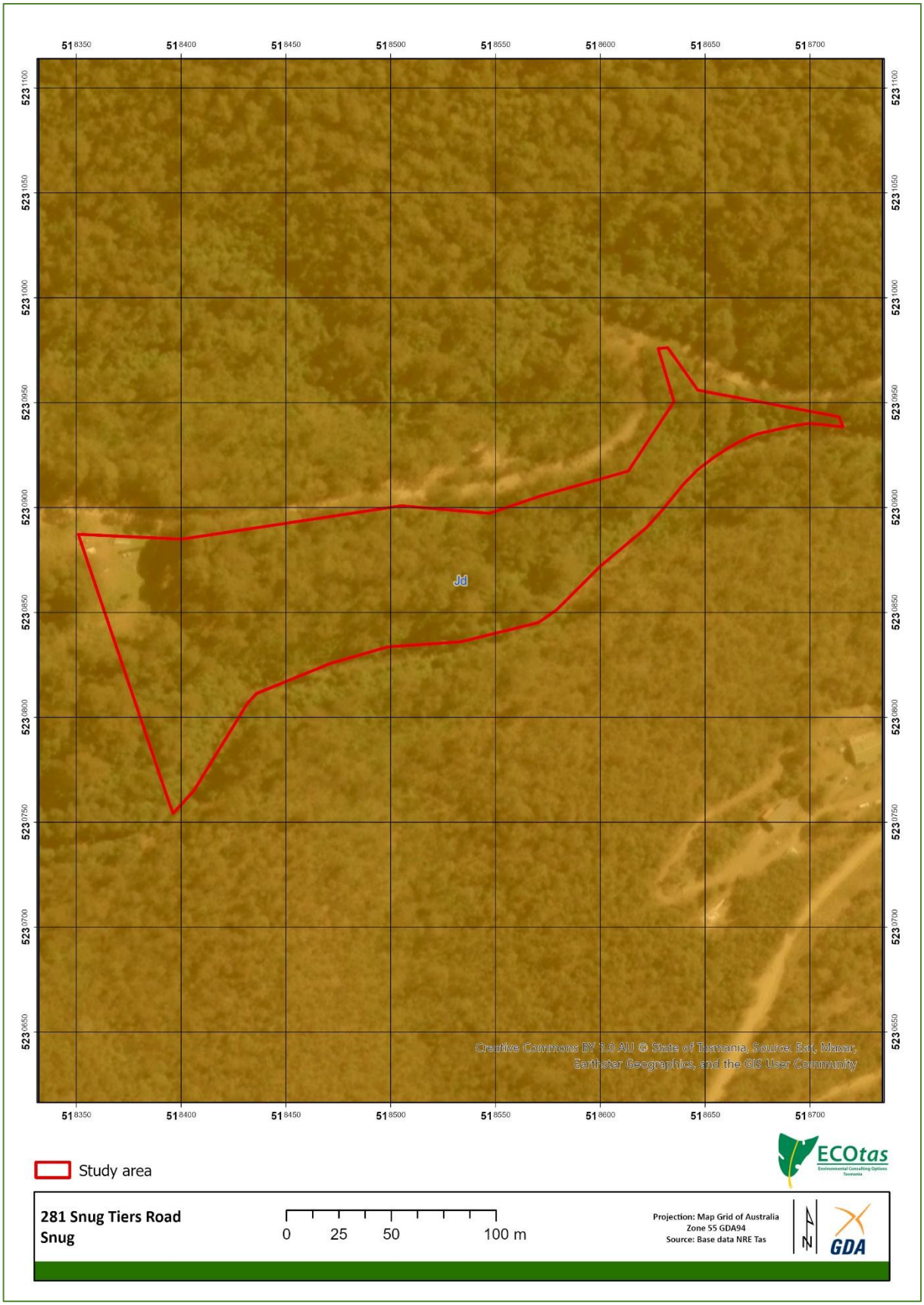


**Figure 7.** Geology of the subject title and surrounds (refer to text for code)


**Plates 11-12.** Views looking north, east, south and west (clockwise from top left) from approximate middle of proposed house site

## METHODS

### *Nomenclature*

All grid references in this report are in GDA94, except where otherwise stated.

Vascular species nomenclature follows de Salas & Baker (2024) for scientific names and Wapstra et al. (2005+) for common names. Fauna species scientific and common names follow the listings in the cited *Natural Values Atlas* reports (DPIPWE 2020; DNRET 2025a).

Vegetation classification follows TASVEG 4.0, as described in *From Forest to Fjaeldmark: Descriptions of Tasmania's Vegetation (*Kitchener & Harris 2013+).

### *Preliminary investigation*

Available sources of previous reports, threatened flora records, vegetation mapping and other potential environmental values were interrogated. These sources include:

- Tasmanian Department of Natural Resources and Environment Tasmania's *Natural Values Atlas* records for threatened flora and fauna (GIS coverage maintained by the author current as at date of report);

- Tasmanian Department of Primary Industries, Parks, Water & Environment Tasmania's *Natural Values Atlas* report ECOtas_SnugTiersRoad for a polygon defining the title area (centred on 518493mE 5230865mN), buffered by 5 km, dated 19 May 2020 (DPIPWE 2020) – Appendix E;
- Department of Natural Resources & Environment Tasmania's *Natural Values Atlas* report ECOtas_SnugTiersRoad for a polygon defining the title area (centred on 518493mE 5230865mN), buffered by 5 km, dated 28 Mar. 2025 (DNRET 2025a) – Appendix E;
- Forest Practices Authority's *Biodiversity Values Database* report, specifically the species' information for grid reference centroid 518493mE 5230865mN (i.e. the centroid of the study area), buffered by 5 km and 2 km for threatened fauna and flora records, respectively, hyperlinked species' profiles and predicted range boundary maps, dated 19 May 2020 (FPA 2020) – Appendix F;
- Commonwealth Department of the Environment & Energy's *Protected Matters Report* for a point location defining the approximate centre of the title (-43.07471 147.22708), buffered by 5 km, dated 19 May 2020 (CofA 2020) – Appendix G;
- Commonwealth *Protected Matters Report* for a polygon defining the title area, buffered by 5 km, dated 28 Mar. 2025 (CofA 2025) – Appendix G;
- TASVEG vegetation coverages (as available through GIS data);
- Google Earth, LISTmap aerial orthoimagery and ESRI World Imagery; and
- other sources listed in tables and text as indicated.

***Field assessment***

An original assessment was undertaken by Mark Wapstra (ECO*tas*) on 21 May 2020 (ECO*tas* 2020). A follow up survey was undertaken by Mark Wapstra & James Wapstra on 21 Mar. 2025. The survey included meandering transects of the whole title, facilitated by access from Snug Tiers Road, Snug River and internal old tracks. Cadastral data uploaded to the iGIS application guided the in-field assessment as none of the boundaries are formally defined by fences or the like. Meandering transects between the above-described features were used to capture the greater range of aspects, slopes and site conditions.

Vegetation classification

Vegetation was classified by waypointing vegetation transitions for later comparison to aerial imagery. The structure and composition of the vegetation types was described using nominal 30 m radius plots at a representative site within the vegetation types, and compiling "running" species lists between plots and vegetation types. Hand-held GPS was used to waypoint the transition between vegetation types.

Threatened flora

With reference to the threatened flora, the survey included consideration of the most likely habitats for such species. Further details are not provided because no such species were detected.

Threatened fauna

Surveys for threatened fauna were largely limited to an examination of "potential habitat" (i.e. comparison of on-site habitat features to habitat descriptions for threatened fauna), and detection of tracks, scats and other signs. Hand-held GPS was used to waypoint the location of clusters of rotten logs (potential habitat of the Mt Mangana stag beetle).

See also notes under **FINDINGS *Threatened fauna***.

See also notes on individual trees under **FINDINGS *Other natural values*** Individual trees.

Weed and hygiene issues

The study area was assessed with respect to plant species classified as declared weeds under the Tasmanian *Weed Management Act 1999* (*Biosecurity Act 2019*), Weeds of National Significance (WoNS) or "environmental weeds" (author opinion and as included in *A Guide to Environmental and Agricultural Weeds of Southern Tasmania*, NRM South 2017).

The study area was assessed with respect to potential impacts of plant and animal pathogens, by reference to habitat types and field symptoms.

## FINDINGS

### *Vegetation types*

Comments on TASVEG mapping

This section, which comments on the existing TASVEG mapping for the study area, is included to highlight the differences between existing mapping and the more recent mapping from the present study to ensure that any parties assessing land use proposals (via this report) do not rely on existing mapping. Note that TASVEG mapping, which was mainly a desktop mapping exercise based on aerial photography, is often substantially different to ground-truthed vegetation mapping, especially at a local scale. An examination of existing vegetation mapping is usually a useful pre-assessment exercise to gain an understanding of the range of habitat types likely to be present and the level of previous botanical surveys.

In this case, all three versions of TASVEG are effectively identical, mapping the subject title area as follows (Figure 8):

- *Eucalyptus obliqua* forest with broad-leaf shrubs (TASVEG code: WOB)

  WOB is mapped along Snug River (both sides) and along Snug Tiers Road (both sides but also including the road itself) with a connection between the river and road in the eastern part of the title and more extensive WOB to the west of the title. There is no apparent aerial photography "signature" or topographic features differentiating WOB from WGL (see below). Note, this polygon was originally coded in TASVEG 3.0 as *Eucalyptus obliqua* wet forest (undifferentiated) (TASVEG code: WOU).
- *Eucalyptus globulus* wet forest (TASVEG code: WGL)

  WGL is mapped across most of the forested portion of the title, extending off-title to the west, and including the far eastern section of the title (and extending off-title to the

adjacent title to the east). Part of the existing cleared area in the northwest of the title is mapped as WGL. As noted under WOB, there is no apparent aerial photography "signature" or topographic features differentiating WGL from WOB and it is noted that any mapping undertaken from road verges would likely be inaccurate (actual dominance in an even-aged canopy with a dense understorey can be difficult to ascertain from a drive-by).

- eastern riparian scrub (TASVEG code: SRE)

  Approximately two-thirds of the existing cleared area in the northwest of the title is mapped as SRE, with the balance of the cleared area mapped as part of the WGL polygon. SRE is an obvious mis-coding as this mapping unit is restricted to flood-prone river systems in eastern Tasmania. A previously cleared area should be mapped as some form of modified land, most usually agricultural land (TASVEG code: FAG), urban areas (TASVEG code: FUR), permanent easements (TASVEG code: FPE), regenerating cleared land (TASVEG code: FRG) or extra-urban miscellaneous (TASVEG code: FUM). The latter unit should also be applied to linear features such as roads.

Kingborough Council also has its own vegetation mapping layer (Figure 9), which is sometimes different to TASVEG 3.0 and TASVEG Live, depending on the part of the municipality. In this case, the Council-managed mapping within the subject title is virtually identical to TASVEG mapping, with only the polygon of SRE re-coded as "SRI" (presumably intended to refer to SRE).

Vegetation types recorded as part of the present study

Vegetation types have been classified according to TASVEG 4.0, as described in *From Forest to Fjaeldmark: Descriptions of Tasmania's Vegetation* (Kitchener & Harris 2013+). Table 1 provides information on the vegetation types identified from the study area. Refer to Figure 10 that provides a map of the revised vegetation types recorded from the subject title. Refer to Appendix A for a more detailed description of the native vegetation mapping units identified from the subject title.

Conservation significance of identified vegetation types

Of the vegetation communities recorded from the subject title, none equate to native vegetation communities listed as threatened on Schedule 3A of the Tasmanian *Nature Conservation Act 2002* or to threatened ecological communities under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA).

WOB is one of the most widespread and well-reserved vegetation types in Tasmania. WGL is less widespread but quite well-reserved, but largely restricted to the southeast region. Both vegetation types are classified as low priority biodiversity value within the intent of Table E10.1 of the *Kingborough Interim Planning Scheme 2015*, although both have some level of association with fauna listed as threatened on the Tasmanian *Threatened Species Protection Act 1995* (TSPA) and/or the EPBCA (see **FINDINGS *Threatened fauna*** and **DISCUSSION *Legislative and policy implications*** for more details).

As presently conceptualised, the proposed development will be largely restricted to the area mapped as FUM, with bushfire hazard management potentially impinging into the disturbed fringes of WOB only.

**Table 1.** Vegetation mapping units present in subject title

[conservation status: NCA – as per Schedule 3A of the Tasmanian *Nature Conservation Act 2002*, using units described by Kitchener & Harris (2013+), relating to TASVEG mapping units (DNRET 2025b); EPBCA – as per the listing of ecological communities on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*, relating to communities as described under that Act, but with equivalencies to TASVEG units]

| **TASVEG equivalent** (Kitchener & Harris 2013+) | **Conservation priority** TASVEG *EPBCA* | **Comments** |
|---|---|---|
| ***Wet eucalypt forest and woodland*** | | |
| *Eucalyptus obliqua* forest with broad-leaf shrubs (WOB) | not threatened *not threatened* | WOB occupied approximately half of the vegetation within the title, occurring in two sections separated by a wide band of WGL. WOB continues to the east of the title (previously assessed by the author), and to the opposite side of Snug River (at least in sections). WOB also appears to continue extensively to the west of the title.<br>WOB is characterised by a relatively even-aged post-1967 bushfire regrowth canopy with occasional emergent "fire survivors" over a typically dense understorey of broad-leaved shrubs and scattered to locally dense graminoids and ground ferns. The structure is simple, both in terms of the strata present and the ground conditions with the generally steep slopes precluding extensive development of coarse woody debris.<br>WOB is in excellent ecological condition with no weeds or symptoms of disease noted. WOB has been affected by fire events and possibly light historical selective tree removal. |
| *Eucalyptus globulus* wet forest (WGL) | not threatened *not threatened* | WGL occupies a wide band of forest in the approximate middle part of the title, bounded to the east, west and south by WOB. The distinction between WGL and WOB is based on numerous GPS waypoints following a relatively broad transition zone of canopy dominance of *Eucalyptus globulus* and *Eucalyptus obliqua*, respectively.<br>WGL is characterised by a relatively even-aged post-1967 bushfire regrowth canopy with occasional emergent "fire survivors" over a typically dense understorey of broad-leaved shrubs and scattered to locally dense graminoids and ground ferns. The structure is simple, both in terms of the strata present and the ground conditions with the generally steep slopes precluding extensive development of coarse woody debris.<br>WGL is in excellent ecological condition with no weeds or symptoms of disease noted. WGL has been affected by fire events. |
| ***Modified land*** | | |
| extra-urban miscellaneous (FUM) | not threatened *not threatened* | The previously cleared area has been mapped as FUM, with this unit the most applicable of the "modified land" category (Kitchener & Harris 2013+) because the site is not used for primary production (i.e. not FAG), is not regenerating actively to native vegetation in any substantial manner (so not FRG), is not a powerline easement (so not FPE), is not dominated by *Pteridium esculentum* (so not FPF), and is not dominated by weeds (so not FWU). The once non-approved structures and associated elements (e.g. gravel areas, solar array, etc.) suggest urban areas (FUR) is a possible classification but this is usually reserved for permanently occupied sites (i.e. once residential dwelling is approved, the previously cleared area would be better classified as FUR). |

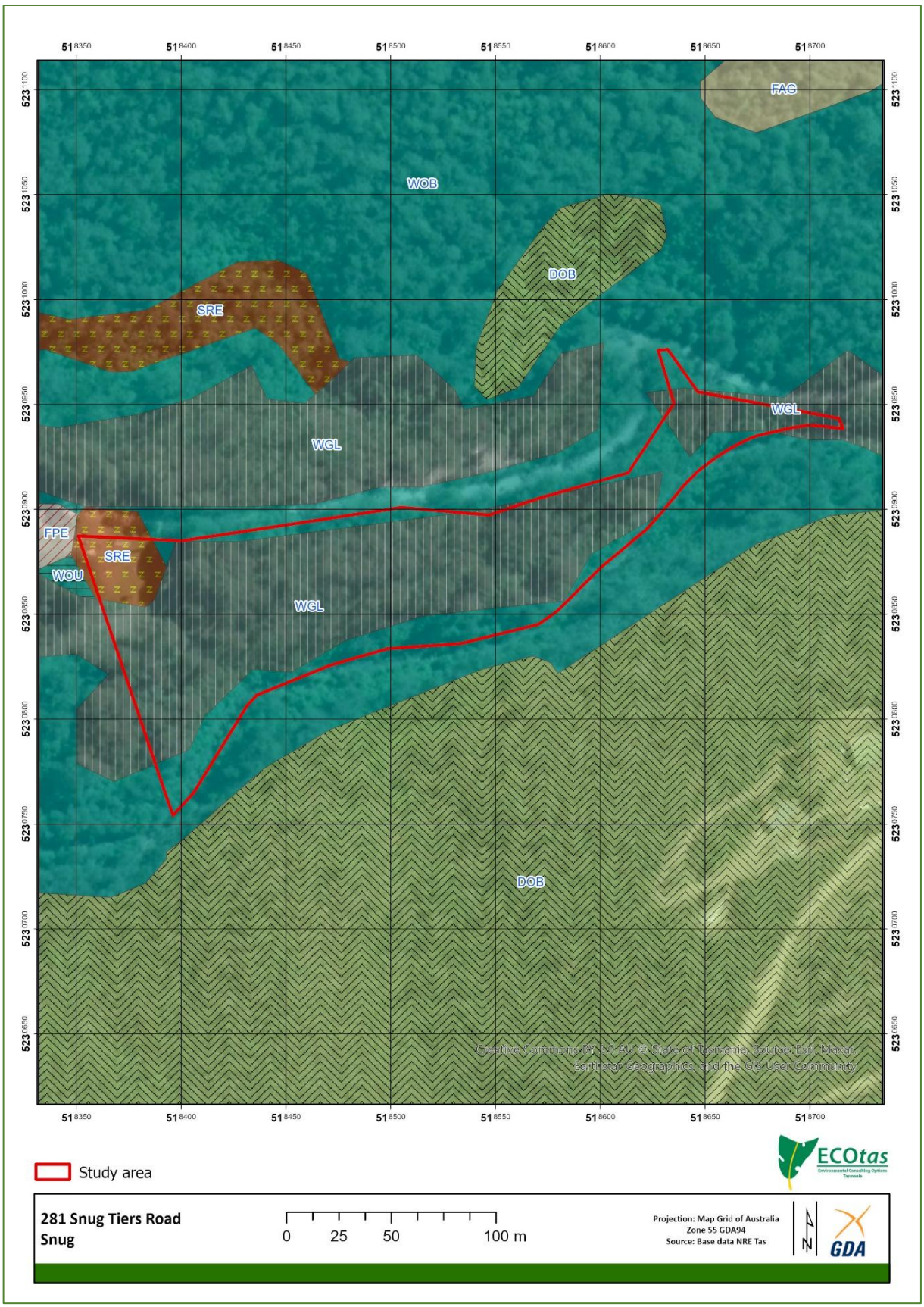


**Figure 8.** Study area and surrounds showing existing TASVEG vegetation mapping (see text for codes)

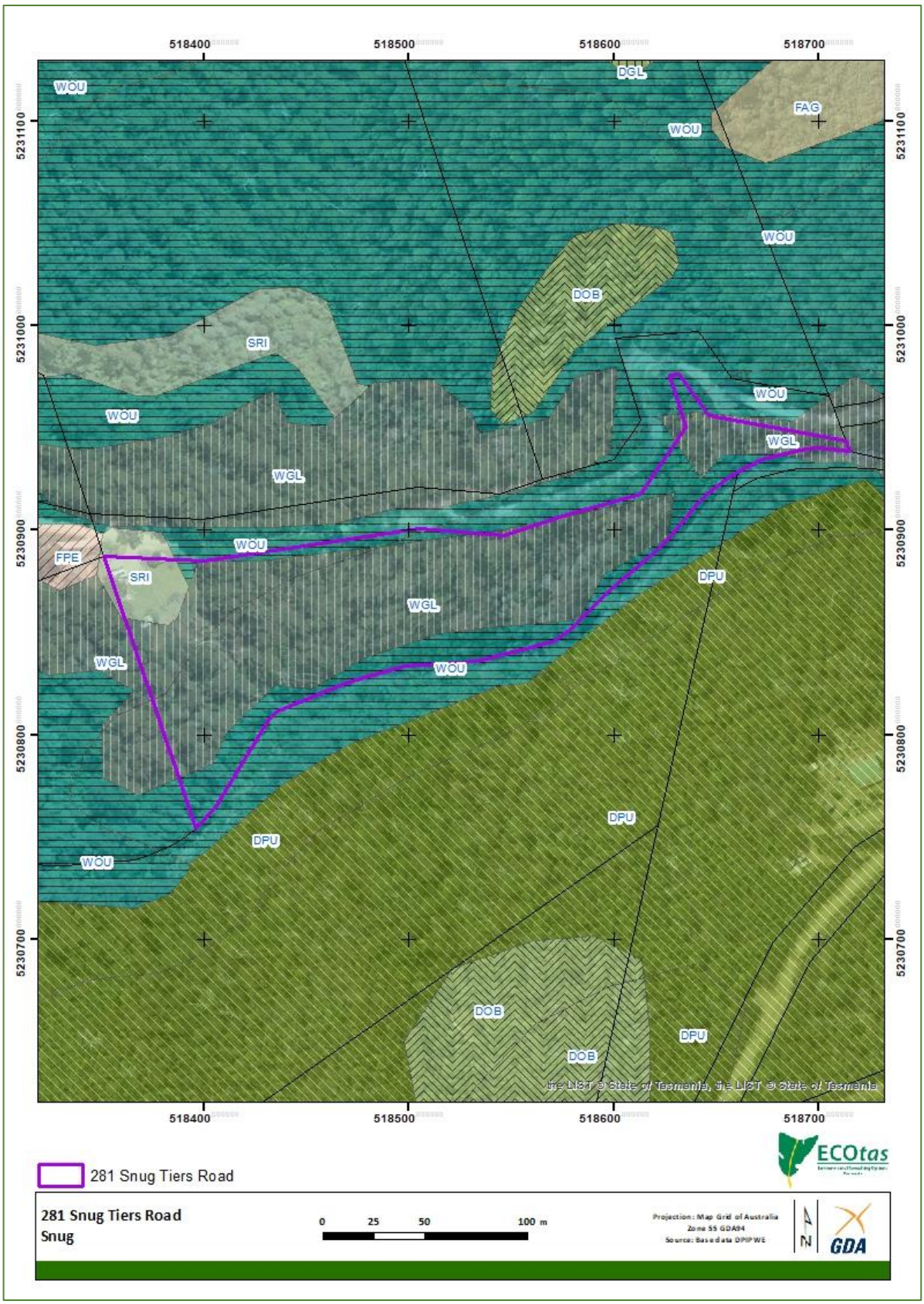


**Figure 9.** Study area and surrounds showing Council-managed vegetation mapping (refer to text for codes)


**Figure 10.** Revised vegetation mapping for subject title (refer to text for codes)

### *Plant species*

General information

A total of 48 vascular plant species were recorded from the subject title (Appendix B), comprising 30 dicotyledons (including 3 endemic species), 11 monocotyledons (including 2 introduced species) and 7 pteridophytes (all native). This species diversity (i.e. relatively low) is highly typical of regrowth-structured wet sclerophyll forest in this part of the State. The diversity in WGL and WOB was virtually identical.

Additional surveys at different times of the year may detect additional short-lived herbs and grasses but a follow-up survey is not considered warranted because of the small disturbance footprint and low likelihood of species with a high priority for conservation management being present.

Threatened flora

No flora species listed as threatened on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) and/or the Tasmanian *Threatened Species Protection Act 1995* (TSPA) are known from database information (Figure 11), or were detected as a consequence of the field survey, from the study area.

The habitat types present (i.e. regrowth-structured wet sclerophyll forest: WGL and WOB) in this part of the State are not strongly associated with threatened flora. Figure 11 indicates threatened flora species near to the study area and Table C1 (Appendix C) provides a listing of threatened flora from within 5,000 m of the study area (nominal buffer width usually used to discuss the potential of a particular study area to support various species listed in databases), with comments on whether potential habitat is present for the species, and possible reasons why a species was not recorded.

### *Threatened fauna*

No fauna species listed as threatened on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) and/or the Tasmanian *Threatened Species Protection Act 1995* (TSPA) are known from database information (Figure 12), or were detected as a consequence of the field survey, from the study area.

Figure 12 indicates threatened fauna species near to the study area and Table D1 (Appendix D) provides a listing of threatened fauna from within 5,000 m of the study area (nominal buffer width usually used to discuss the potential of a particular study area to support various species listed in databases), with comments on whether potential habitat is present for the species, and possible reasons why a species was not recorded.

Site assessment indicated that the title supports ubiquitous potential habitat for a suite of threatened fauna species. This includes potential habitat of species such as *Sarcophilus harrisii* (Tasmanian devil), *Dasyurus maculatus* subsp. *maculatus* (spotted-tailed quoll), *Dasyurus viverrinus* (eastern quoll), *Perameles gunnii* subsp. *gunnii* (eastern barred bandicoot), *Tyto novaehollandiae* (masked owl), *Accipiter novaehollandiae* (grey goshawk) and *Aquila audax* (wedge-tailed eagle). Small-scale development essentially restricted to the already disturbed part of the title is not anticipated to have a significant deleterious impact on these species. The existing

cleared area and immediate fringes are not considered as significant/important habitat for these species.

The subject title does support potential foraging habitat for *Lathamus discolor* (swift parrot) in the form of forest dominated by *Eucalyptus globulus* (blue gum), which has been mapped as WGL; and forest that includes *Eucalyptus globulus* as a minor component in the canopy, which has been mapped as WOB. The subject title is not considered to support potential nesting habitat of this species because of the regrowth-structured even-aged canopy of wet sclerophyll, with even the over-topping scattered emergent trees many decades away from forming hollows.

Wet sclerophyll forest in this part of the State is within the range of *Lissotes menalcas* (Mount Mangana stag beetle) and I have observed the species at nearby Snug Falls in similar habitat. However, most of the title is steep and relatively rocky, with the downed trees elevated above the ground, meaning potential habitat (i.e. a downed rotting log in contact with the ground is absent). However, there are localised patches of rotting logs, mainly associated with the less steep terrain (e.g. toeslope closer to Snug River and flatter terrain closer to Snug Tiers Road). These patches (see Plates 7-12 for examples of coarse woody debris types) are all well outside the disturbance footprint of a development. The fringes of WOB around the previously cleared area are not considered as potential habitat for this species because of the lack of coarse woody debris (Plates 13 & 14).


**Plate 7.** Section of steep slope in eastern part of title with virtually no coarse woody debris



**Plates 8 & 9.** Examples of elevated logs that cannot provide habitat for a ground-dwelling flightless stag beetle (i.e. logs must be in contact with ground)


**Plate 10.** Example of toeslope section with regrowth forest but higher density of coarse woody debris (refer Plates 11 & 12 for examples)



**Plates 11 & 12.** Examples of coarse woody debris with some level of rot

**Plates 13 & 14.** Examples of WOB fringing FUM showing lack of coarse woody debris


**Figure 11.** Distribution of threatened flora close to study area (overview)

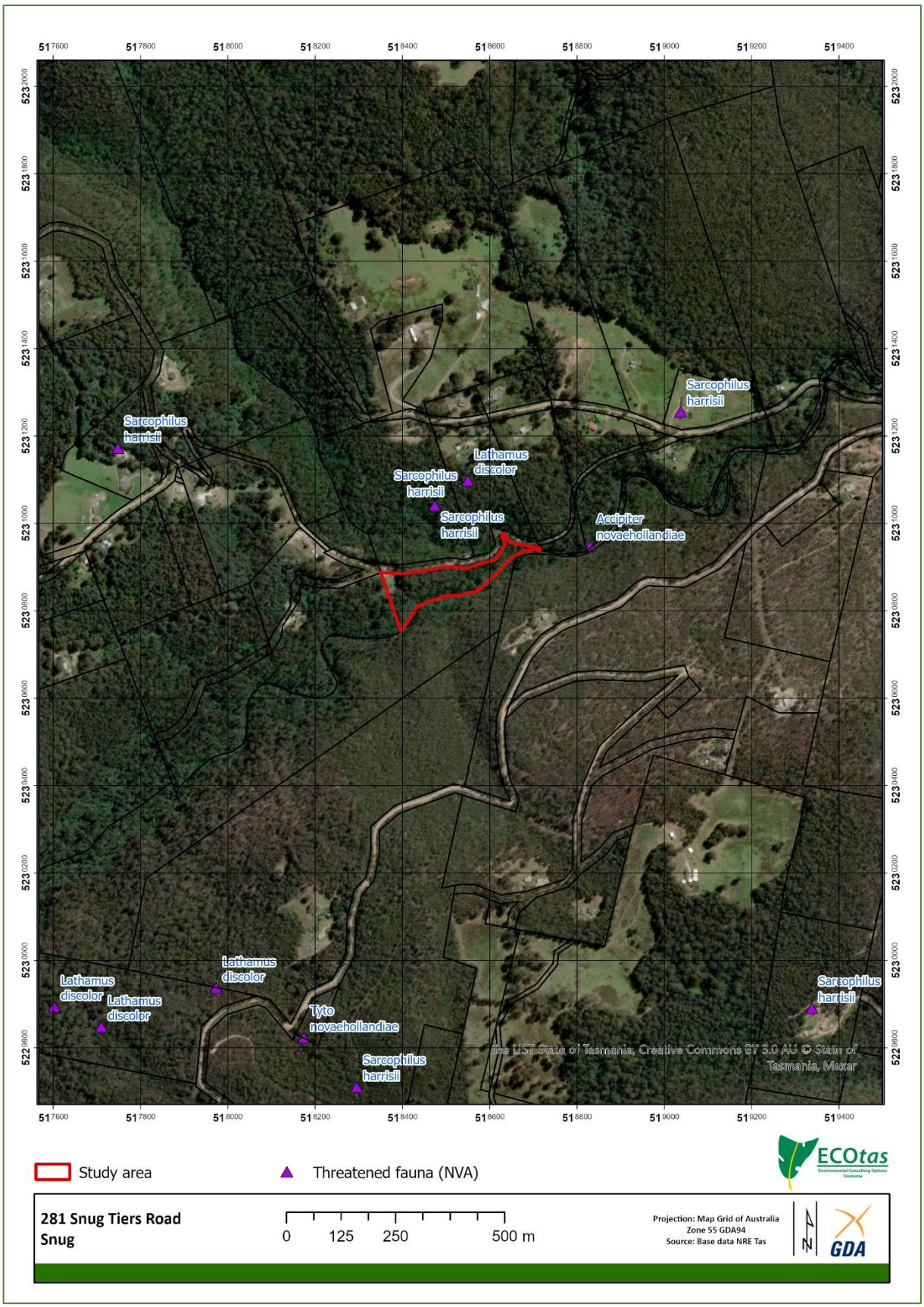


**Figure 12a.** Distribution of threatened fauna close to the study area (overview)


**Figure 12b.** Distribution of threatened fauna close to the study area (detail)

### *Other natural values*

Weed species

No plant species classified as declared weeds within the meaning of the Tasmanian *Biosecurity Act 2019* (*Biosecurity Regulations 2022*) were detected from the subject title.

Given that access to the title will be from the fully-formed and well-maintained Snug Tiers Road, the risk of construction machinery and vehicles introducing weeds to the subject title is considered negligible. In the case of titles with no to negligible weeds present, owner-occupation is considered the most appropriate long-term management option, where vigilance and immediate control are practical.

Several planning manuals provide guidance on appropriate management actions, which can be referred to develop site-specific prescriptions for any proposed works in the study area. These manuals include:

- Allan, K. & Gartenstein, S. (2010). *Keeping It Clean: A Tasmanian Field Hygiene Manual to Prevent the Spread of Freshwater Pests and Pathogens*. NRM South, Hobart;
- Rudman, T. (2005). *Interim* Phytophthora cinnamomi *Management Guidelines*. Nature Conservation Report 05/7, Biodiversity Conservation Branch, Department of Primary Industries, Water & Environment, Hobart;
- Rudman, T., Tucker, D. & French, D. (2004). *Washdown Procedures for Weed and Disease Control*. Edition 1. Department of Primary Industries, Water & Environment, Hobart; and
- DPIPWE (2015). *Weed and Disease Planning and Hygiene Guidelines – Preventing the Spread of Weeds and Diseases in Tasmania*. Department of Primary Industries, Parks, Water & Environment, Hobart.

Rootrot pathogen, *Phytophthora cinnamomi*

*Phytophthora cinnamomi* (PC) is widespread in lowland areas of Tasmania, across all land tenures. However, disease tends not to develop when soils are too cold or too dry. For these reasons, PC is not usually considered a threat to susceptible plant species that grow at elevations higher than about 700 m or where annual rainfall is less than about 600 mm (e.g. Midlands and Derwent Valley). Furthermore, disease is less likely to develop beneath a dense canopy of vegetation because shading cools the soils to below the optimum temperature for the pathogen. A continuous canopy of vegetation taller than about 2 m is usually sufficient to suppress disease. Hence PC is not usually considered a threat to susceptible plant species growing in wet sclerophyll forests, rainforests (except disturbed rainforests on infertile soils) and scrub e.g. teatree scrub (Rudman 2005; FPA 2009).

The vegetation types identified from the study area are not recognised as potentially susceptible to PC. Site assessment did not record any field symptoms (dead and/or dying susceptible plant species). No special management should be required in relation to PC.

Myrtle wilt

Myrtle wilt, caused by a wind-borne fungus (*Davidsoniella* syn. *Chalara australis*), occurs naturally in rainforest where myrtle beech (*Nothofagus cunninghamii*) is present. The fungus enters wounds

in the tree, usually caused by damage from wood-boring insects, wind damage and forest clearing. The incidence of myrtle wilt often increases forest clearing events such as windthrow and wildfire.

The study area does not support *Nothofagus cunninghamii*. No special management is required.

Myrtle rust

Myrtle rust is a disease limited to plants in the Myrtaceae family. This plant disease is a member of the guava rust complex caused by *Austropuccinia psidii*, a known significant pathogen of Myrtaceae plants outside Australia. Infestations are currently limited to NSW, Victoria, Queensland and Tasmania (DPIPWE 2015).

No evidence of myrtle rust was noted (several possible indicator species present). The longer-term management issue for the site is to ensure that any ornamental plantings source plants from a reputable nursery free from the pathogen (such businesses are already subject to strict biosecurity conditions).

Chytrid fungus and other freshwater pathogens

Native freshwater species and habitat are under threat from freshwater pests and pathogens including *Batrachochytrium dendrobatidis* (chytrid frog disease), *Mucor amphibiorum* (platypus mucor disease) and the freshwater algal pest *Didymosphenia geminata* (didymo) (Allan & Gartenstein 2010). Freshwater pests and pathogens are spread to new areas when contaminated water, mud, gravel, soil and plant material or infected animals are moved between sites. Contaminated materials and animals are commonly transported on boots, equipment, vehicles tyres and during road construction and maintenance activities. Once a pest pathogen is present in a water system it is usually impossible to eradicate. The manual *Keeping it Clean - A Tasmanian Field Hygiene Manual to Prevent the Spread of Freshwater Pests and Pathogens* (Allan & Gartenstein 2010) provides information on how to prevent the spread of freshwater pests and pathogens in Tasmanian waterways wetlands, swamps and boggy areas.

While the title supports habitats suitable for amphibian species (e.g. along Snug River), the specific development site is very well-drained and unsuitable for such species, such special management should not be warranted.

Additional "Matters of National Environmental Significance" – Threatened Ecological Communities

CofA (2025) indicates that the following threatened ecological communities listed on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) may or are likely to occur within the area:

- Alpine Sphagnum Bogs and Associated Fens [Endangered];
- Giant Kelp Marine Forests of South East Australia [Endangered];
- Lowland Native Grasslands of Tasmania [Critically Endangered];;
- Subtropical and Temperate Coastal Saltmarsh [Vulnerable]
- Tasmanian Forests and Woodlands dominated by Black Gum or Brookers Gum (*Eucalyptus ovata* / *E. brookeriana*) [Critically Endangered]; and
- Tasmanian White Gum (*Eucalyptus viminalis*) Wet Forest [Critically Endangered].

Existing vegetation mapping (Figure 8) and revised vegetation mapping (Figure 10) indicates that none of these communities are present within or adjacent to the subject title. There are no implications under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

Individual trees

The subject title supports relatively even-aged post-fire regrowth-structured forest. However, there are scattered older-growth/larger trees with potentially higher conservation status.

Under Table E10.1 of the Biodiversity Code of the *Kingborough Interim Planning Scheme 2015*, moderate priority biodiversity values include "high conservation value trees". These are defined under the *Scheme* as:

> "a tree that is of a species that is listed in the *Threatened Species Protection Act 1995* or the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) and/or provide potential or significant habitat for a threatened species listed in either of those acts".

None of the tree species present are listed as threatened on either of the mentioned acts. The tree species present are: *Eucalyptus obliqua* (stringybark), *Eucalyptus regnans* (giant ash) and *Eucalyptus globulus* (blue gum).

*Eucalyptus globulus* (blue gum) is reasonably accepted as providing "potential or significant habitat for a threatened species" (i.e. swift parrot). However, this is dealt with through the *Kingborough Biodiversity Offset Policy 6.10, November 2023* through Table 2 ("Conservation Value of Individual Trees"). This includes *Eucalyptus globulus* where it exceeds 40 cm DBH. The proposed hazard management area does not include any individual of *Eucalyptus globulus*.

Other species are also considered to have conservation value depending on broad vegetation types and girth. In this case, the site is wet forest so the threshold girth is 100 cm DBH. As part of the present assessment, all trees (irrespective of species) with a girth over 25 cm DBH were characterised by geolocating using hand-held GPS, identifying to species and measuring diameter using a diameter tape to nearest centimetre (Figure 13, Table 2).

**Table 2.** Details of all characterised trees [cross-reference to Figure 13]
[CV = conservation value as per *Kingborough Biodiversity Offset Policy 6.10, November 2023*]

| tree | easting | northing | species | DBH (cm) | CV | rationale |
|---|---|---|---|---|---|---|
| **1** | **518400.5** | **5230887.8** | ***Eucalyptus obliqua*** | **102** | **Very High** | **wet forest, any species, >100 cm DBH** |
| 2 | 518403.2 | 5230882.0 | *Eucalyptus obliqua* | 55 | n/a | wet forest, any species, <100 cm DBH |
| **3** | **518401.4** | **5230876.7** | ***Eucalyptus obliqua*** | **112** | **Very High** | **wet forest, any species, >100 cm DBH** |
| 4 | 518403.3 | 5230870.4 | *Acacia dealbata* | 38 | n/a | wet forest, any species, <100 cm DBH |
| 5 | 518405.0 | 5230870.8 | *Acacia dealbata* | 33 | n/a | wet forest, any species, <100 cm DBH |
| 6 | 518403.6 | 5230864.7 | *Eucalyptus obliqua* | 26 | n/a | wet forest, any species, <100 cm DBH |
| 7 | 518405.5 | 5230865.2 | *Eucalyptus obliqua* | 55 | n/a | wet forest, any species, <100 cm DBH |

| tree | easting | northing | species | DBH (cm) | CV | rationale |
|---|---|---|---|---|---|---|
| 8 | 518410.1 | 5230864.0 | *Eucalyptus obliqua* | 46 | n/a | wet forest, any species, <100 cm DBH |
| 9 | 518412.0 | 5230864.7 | *Eucalyptus obliqua* | 45 | n/a | wet forest, any species, <100 cm DBH |
| 10 | 518414.7 | 5230865.3 | *Eucalyptus obliqua* | 36 | n/a | wet forest, any species, <100 cm DBH |
| 11 | 518413.6 | 5230867.7 | *Eucalyptus obliqua* | 57 | n/a | wet forest, any species, <100 cm DBH |
| 12 | 518416.2 | 5230864.8 | *Eucalyptus obliqua* | 81 | n/a | wet forest, any species, <100 cm DBH |
| 13 | 518407.5 | 5230856.9 | *Eucalyptus obliqua* | 47 | n/a | wet forest, any species, <100 cm DBH |
| 14 | 518390.3 | 5230843.5 | *Eucalyptus regnans* | 87 | n/a | wet forest, any species, <100 cm DBH |
| 15 | 518372.2 | 5230827.9 | *Eucalyptus obliqua* | 56 | n/a | wet forest, any species, <100 cm DBH |
| 16 | 518376.8 | 5230830.6 | *Eucalyptus obliqua* | 62 | n/a | wet forest, any species, <100 cm DBH |
| 17 | 518377.7 | 5230833.5 | *Eucalyptus regnans* | 70 | n/a | wet forest, any species, <100 cm DBH |
| 18 | 518377.3 | 5230833.1 | *Eucalyptus obliqua* | 42 | n/a | wet forest, any species, <100 cm DBH |

Nineteen (19) trees with a DBHOB of 25 cm or more were measured within or close to the edge of the indicative hazard management area (Figure 13, Table 2). The intent of this assessment was to meet the intent of the "tree guidelines" usually issued by the planning authority. Of the measured trees, only two qualify as "high conservation value trees" due to girth (over 100 cm DBH), one of which is outside the hazard management area and one inside. Whether the single "high conservation value tree" will require removal as part of the upcoming development is not known but it is likely that it will be practical to retain the tree.

Removal of any very high conservation value trees will have implications under the *Kingborough Interim Planning Scheme 2015*, as they qualify as moderate priority biodiversity value under Table E10.1 of the Biodiversity Code. It is recommended that as part of further site planning (including bushfire hazard management) that these trees are shown on a site plan relative to the structural elements (including access,\ dwelling, water tanks, etc.) and hazard management area with notation indicating the intention to either "retain" or "remove". If a tree is in the "retain" category, the site plan should also show the Tree Protection Zone (equivalent to a radius of 12 x DBH up to a maximum of 15 m) and whether less than 10% of the TPZ will be impacted (nominal threshold after which the planning authority usually request a suitably qualified arborist provide a tree-by-tree assessment). In this case, however, even if the tree is proposed for retention within the hazard management area, it is challenging to anticipate a scenario where fuel modification of the understorey (e.g. by slashing) would impact on the health of the tree in any material manner. If any very high conservation value trees need to be removed, the relevant parts of the *Kingborough Biodiversity Offset Policy 6.10, November 2023* will need to be applied. This is likely to require a financial contribution on a per tree basis, where the removal can be appropriately justified.


**Figure 13a.** Distribution of all characterised trees within and immediately adjacent to proposed development area


**Figure 13b.** Distribution of very high conservation value trees within and immediately adjacent to proposed development area

## DISCUSSION

### *Summary of key findings*

Threatened flora

- No plant species listed as threatened on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) and/or the Tasmanian *Threatened Species Protection Act 1995* (TSPA) were detected, or are known from database information, from the study area.
- The absence of threatened flora means that no part of the title can be classified as any priority biodiversity value under Table E10.1 of the Biodiversity Code of the *Kingborough Interim Planning Scheme 2015*.

Threatened fauna

- No fauna species listed as threatened on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) and/or the Tasmanian *Threatened Species Protection Act 1995* (TSPA) were detected, or are known from database information, from the study area.
- The study area supports potential habitat (to varying degrees) of several species, as follows:
  - Tasmanian devil (*Sarcophilus harrisii*);
  - spotted-tailed quoll (*Dasyurus maculatus* subsp. *maculatus*);
  - eastern quoll (*Dasyurus viverrinus*);
  - eastern barred bandicoot (*Perameles gunnii* subsp. *gunnii*);
  - masked owl (*Tyto novaehollandiae*);
  - grey goshawk (*Accipiter novaehollandiae*);
  - Mount Mangana stag beetle (*Lissotes menalcas*); and
  - swift parrot (*Lathamus discolor*).
- The presence of potential habitat for some threatened fauna means that parts of the title could be classified, in relation to threatened fauna, as moderate priority biodiversity value under Table E10.1 of the Biodiversity Code of the *Kingborough Interim Planning Scheme 2015*, although in this case it is suggested that a non-priority status is more appropriate due to the marginality of potential habitat within the proposed development site.

Vegetation types

- The study area supports the following TASVEG mapping units:
  - *Eucalyptus obliqua* forest with broad-leaf shrubs (TASVEG code: WOB);
  - *Eucalyptus globulus* wet forest (TASVEG code: WGL); and
  - extra-urban miscellaneous (TASVEG code: FUM).
- Occurrences of WOB & WGL do not equate to native vegetation communities listed as threatened on Schedule 3A of the Tasmanian *Nature Conservation Act 2002*.
- Occurrences of WOB & WGL do not equate to threatened ecological communities listed under the Commonwealth *Environment Protection and Biodiversity Protection Act 1999*.

- As vegetation types, WOB & WGL are classified as low priority biodiversity value under Table E10.1 of the Biodiversity Code of the *Kingborough Interim Planning Scheme 2015.*

Weeds

- No plant species classified as declared weeds within the meaning of the Tasmanian *Biosecurity Act 2019* (*Biosecurity Regulations 2022*) were detected from the study area.

Plant disease

- No evidence of *Phytophthora cinnamomi* (PC, rootrot) was recorded within the study area.
- No evidence of myrtle wilt was recorded from within the study area.
- No evidence of myrtle rust was recorded from within the study area.

Animal disease (chytrid)

- The part of the study area proposed for development does not support habitats conducive to frog chytrid disease.

Individual trees

- The study area supports some individual trees that currently meet the criteria for very high conservation value within the intent of Table E10.1 of the Biodiversity Code of the *Kingborough Interim Planning Scheme 2015*, such that these could qualify as moderate priority biodiversity value.

***Legislative and policy implications***

Some commentary is provided below with respect to the key threatened species, vegetation management and other relevant legislation. Note that there may be other relevant policy instruments in addition to those discussed. The following information does not constitute legal advice and it is recommended that independent advice is sought from the relevant agency/authority.

Tasmanian *Threatened Species Protection Act 1995*

Threatened flora and fauna on this Act are managed under Section 51, as follows:

> 51. Offences relating to listed taxa
>
> (1) Subject to subsections (2) and (3), a person must not knowingly, without a permit –
>
> (a) take, keep, trade in or process any specimen of a listed taxon of flora or fauna; or
>
> (b) disturb any specimen of a listed taxon of flora or fauna found on land subject to an interim protection order; or
>
> (c) disturb any specimen of a listed taxon of flora or fauna contrary to a land management agreement; or
>
> (d) disturb any specimen of a listed taxon of flora or fauna that is subject to a conservation covenant entered into under Part 5 of the *Nature Conservation Act 2002*; or
>
> (e) abandon or release any specimen of a listed taxon of flora or fauna into the wild.
>
> (2) A person may take, keep or process, without a permit, a specimen of a listed taxon of flora in a domestic garden.

(3) A person acting in accordance with a certified forest practices plan or a public authority management agreement may take, without a permit, a specimen of a listed taxon of flora or fauna, unless the Secretary, by notice in writing, requires the person to obtain a permit.

(4) A person undertaking dam works in accordance with a Division 3 permit issued under the *Water Management Act 1999* may take, without a permit, a specimen of a listed taxon of flora or fauna.

The simplest interpretation of this is that any activity that results in a specimen (i.e. individual) of listed flora or fauna being "knowingly taken" would require a permit to be issued through Conservation Assessments, Department of Natural Resources and Environment Tasmania, through a formal application process.

In the absence of an identifiable known location of a specimen of a threatened fauna or flora species from the area proposed for development, the Act has no application. The Act does not make reference to the clearance or disturbance of "potential habitat". The Act does not have any work to do in relation to the management of the wedge-tailed eagle nest.

Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

Under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* an action will require approval from the minister if the action has, will have, or is likely to have, a significant impact on a matter of national environmental significance.

Matters of national environmental significance considered under the EPBCA include:

- listed threatened species and communities
- listed migratory species;
- Ramsar wetlands of international importance;
- Commonwealth marine environment;
- world heritage properties;
- national heritage places;
- the Great Barrier Reef Marine Park;
- nuclear actions; and
- a water resource, in relation to coal seam gas development and large coal mining development.

The relevant Commonwealth agency provides a policy statement titled *Matters of National Environmental Significance: Significant Impact Guidelines 1.1* (CofA 2013, herein the *Guidelines*), which provides overarching guidance on determining whether an action is likely to have a significant impact on a matter protected under the EPBCA.

The *Guidelines* define a **significant impact** as:

> *"…an impact which is important, notable, or of consequence, having regard to its context or intensity. Whether or not an action is likely to have a significant impact depends upon the sensitivity, value, and quality of the environment which is impacted, and upon the intensity, duration, magnitude and geographic extent of the impacts"*

and note that:

> *"…all of these factors [need to be considered] when determining whether an action is likely to have a significant impact on matters of national environmental significance".*

The *Guidelines* provide advice on when a significant impact may be likely:

> *"To be 'likely', it is not necessary for a significant impact to have a greater than 50% chance of happening; it is sufficient if a significant impact on the environment is a real or not remote chance or possibility.*
>
> *If there is scientific uncertainty about the impacts of your action and potential impacts are serious or irreversible, the precautionary principle is applicable. Accordingly, a lack of scientific certainty about the potential impacts of an action will not itself justify a decision that the action is not likely to have a significant impact on the environment".*

The *Guidelines* provide a set of Significant Impact Criteria (CofA 2013), which are "intended to assist…in determining whether the impacts of [the] proposed action on any matter of national environmental significance are likely to be significant impacts". It is noted that the criteria are "intended to provide general guidance on the types of actions that will require approval and the types of actions that will not require approval…[and]…not intended to be exhaustive or definitive".

When considering whether or not an action is likely to have a significant impact on a matter of national environmental significance it is relevant to consider all adverse impacts which result from the action, including indirect and offsite impacts. Indirect and offsite impacts include:

a. 'downstream' or 'downwind' impacts, such as impacts on wetlands or ocean reefs from sediment, fertilisers or chemicals which are washed or discharged into river systems;

b. 'upstream impacts' such as impacts associated with the extraction of raw materials and other inputs which are used to undertake the action; and

c. 'facilitated impacts' which result from further actions (including actions by third parties) which are made possible or facilitated by the action.

For example, the construction of a dam for irrigation water facilitates the use of that water by irrigators with associated impacts. Likewise, the construction of basic infrastructure in a previously undeveloped area may, in certain circumstances, facilitate the urban or commercial development of that area.

Consideration should be given to all adverse impacts that could reasonably be predicted to follow from the action, whether these impacts are within the control of the person proposing to take the action or not. Indirect impacts will be relevant where they are sufficiently close to the proposed action to be said to be a consequence of the action, and they can reasonably be imputed to be within the contemplation of the person proposing to take the action.

*Listed ecological communities*

The study area does not support any such communities.

*Threatened flora*

The study area does not support any such species, nor potential habitat of such species (except in a very general sense).

*Threatened fauna*

The study area may support populations of threatened fauna listed on the Act, most notably the Tasmanian devil, spotted-tailed quoll, eastern quoll and eastern barred bandicoot. Note that the study area is within the range of several other species listed on the Act but it is unlikely that the proposal will result in a significant impact on these species (this includes wide-ranging species such as the masked owl – refer to Appendix D for details).

The relevant Commonwealth agency provides a *Significant Impact Guidelines* policy statement (CofA 2013) to determine if referral to the department is required. The *Guidelines* consider a "significant impact" to comprise loss that is likely to lead to a long-term decrease in the size of an important population of a species (unlikely to be the case); reduce the area of occupancy of an

important population (also unlikely at any reasonable scale); fragment an existing important population into two or more populations (minor habitat loss will occur but not such that fragmentation will result); adversely affect habitat critical to the survival of a species ("critical habitat" has not been defined per se); disrupt the breeding cycle of an important population (unlikely); modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline (this seems unlikely – see previous commentary); result in invasive species that are harmful to a threatened species becoming established in the threatened species' habitat (unlikely); introduce disease that may cause the species to decline (unlikely to introduce and/or exacerbate Devil Facial Tumour Disease); or interfere substantially with the recovery of the species (unlikely at any reasonable scale).

It is highly unusual for a development within a small lot, even within the range of the aforementioned species where potential habitat has been identified, to trigger a formal referral to the relevant Commonwealth agency.

Tasmanian *Forest Practices Act 1985* and associated *Forest Practices Regulations 2017*

The *Regulations* provide the following relevant circumstances in which a Forest Practices Plan is not required.

> 4. Circumstances in which forest practices plan, &c., not required
>
> For the purpose of section 17(6) of the Act, the following circumstances are prescribed:
>
> (a) the harvesting of timber or the clearing of trees, with the consent of the owner of the land, if the land is not vulnerable land and –
>
> (i) the volume of timber harvested or trees cleared is less than 100 tonnes for each area of applicable land per year; or
>
> (ii) the total area of land on which the harvesting or clearing occurs is less than one hectare for each area of applicable land per year –
>
> whichever is the lesser;
>
> (j) the harvesting of timber or the clearing of trees on any land, or the clearance and conversion of a threatened native vegetation community on any land, for the purpose of enabling –
>
> (i) the construction of a building within the meaning of the *Land Use Planning and Approvals Act 1993* or of a group of such buildings; or
>
> (ii) the carrying out of any associated development –
>
> if the construction of the buildings or carrying out of the associated development is authorised by a permit issued under that Act.

On this basis, a proposal subject to a planning permit issued pursuant to the Tasmanian *Land Use Planning and Approvals Act 1993* (i.e. under the *Kinborough Interim Planning Scheme 2015*) should not require a Forest Practices Plan.

Tasmanian *Nature Conservation Act 2002*

Schedule 3A of the Act lists vegetation types classified as threatened within Tasmania. The study area supports no such vegetation types.

Tasmanian *Biosecurity Act 2019* (*Biosecurity Regulations 2022*)

No plant species classified as a declared weeds within the meaning of the Tasmanian *Biosecurity Act 2019* (*Biosecurity Regulations 2022*) were detected from the study area.

Owner-occupation is considered the most appropriate longer-term management option, where vigilance and immediate control are practical, with reference to the *General Biosecurity Duty* under the Tasmanian *Biosecurity Act 2019* (https://nre.tas.gov.au/biosecurity-tasmania/general-biosecurity-duty-(gbd).

Tasmanian *Land Use Planning and Approvals Act 1993*

The applicable planning scheme for the project area is the *Kingborough Interim Planning Scheme 2015*. Note that the following is an interpretation of the provisions of the *Scheme* and may not necessarily represent the views of Kingborough Council. The following does not constitute legal advice. It is recommended that formal advice be sought from the relevant agency prior to acting on any aspect of this statement.

The title is zoned as Environmental Living (Figure 4) and wholly subject to the Biodiversity Protection Area overlay (Figure 5).

**Environmental Living zone**

To the best of my knowledge, the *Scheme* does not include any particular Local Area Objectives or Desired Future Character Statements for this part of the municipality.

The Use Table (Table 14.2) indicates that "Residential" is a permitted Use Class with the Qualification that "Only if single dwelling or home-based business".

Under the Development Standards for Building and Works (14.4) and specifically Design (14.4.3), the Acceptable Solutions are stated as:

> A1
>
> The location of buildings and works must comply with any of the following:
>
> (a) be located within a building area, if provided on the title;
>
> (b) be an addition or alteration to an existing building;
>
> (c) be located on a site that does not require the clearing of native vegetation and is not on a skyline or ridgeline.

To the best of my knowledge, A1(a) is not satisfied because there is not a building area shown on title.

A1(b) is not satisfied because the proposal is for a new dwelling.

I do not believe that the development site is on a skyline or ridgeline. While I am not technically qualified to respond to A1(c), my site assessment and examination of topographic maps clearly indicates that the site is on below a minor ridgeline and not on a skyline, such that I believe this element of A1(c) is satisfied.

A1(c) requires that "location of buildings and work must… be located on a site that does not require the clearing of native vegetation…".

The *Scheme* defines "native vegetation as:

> "plants that are indigenous to Tasmania including trees, shrubs, herbs and grasses that have not been planted for domestic or commercial purposes".

While the previously cleared area within the northwest part of the title supports some native plant species, to all intents and purposes the site is best mapped as some form of modified land within the intent of TASVEG mapping unit descriptions (Kitchener & Harris 2013+), viz. extra-urban miscellaneous (TASVEG code: FUM). As such, I believe it is reasonable to indicate that a development wholly contained within the existing cleared area should satisfy A1(c) and hence the Acceptable Solution would be met.

However, I believe that at least some fuel management may need to occur within the fringing areas (mapped as WOB, and hence as "native vegetation"). In this regard, it is noted that A1(c) uses the phrase "clearing of native vegetation". I usually interpret the term "clearing" to have the same meaning as "clearance and conversion" defined under the Biodiversity Code because the term "clearing" is not otherwise defined in the *Scheme*. However, A1(c) does not include the term "disturbance" so I do not believe that it reasonably includes activities such as bushfire hazard management that may need to occur in the fringes of native vegetation mapped as WOB. If this is the interpretation that is accepted, A1 will be satisfied by placing the development within the existing cleared area and restricting bushfire hazard management to its fringes. If, however, the interpretation is tighter than this, the Performance Criteria are considered below.

Below the Performance Criteria of 14.4.3 are explored (those related to "clearing of native vegetation" only).

> P1
>
> The location of buildings and works must satisfy all of the following:
>
> (a) be located in an area requiring the clearing of native vegetation only if:
>
> (i) there are no sites clear of native vegetation and clear of other significant site constraints such as access difficulties or excessive slope;
>
> (ii) the extent of clearing is the minimum necessary to provide for buildings, associated works and associated bushfire protection measures;
>
> (iii) the location of clearing has the least environmental impact;

If the development is within the existing cleared area and bushfire hazard management restricted to its immediate fringes (and hence minimised as far as practical), it appears that all three sub-clauses of P1(a) are immediately met.

Under the Development Standards for Building and Works (14.4) and specifically Environmental Values (14.4.5), the objective is stated as:

> 14.4.5 Environmental Values
>
> Objective
>
> To ensure development maintains and enhances environmental values.

In my opinion, this objective has a logical inconsistency and it is more usual to phrase such an objective as "maintain or enhance". Construction of a residential dwelling will certainly not substantially detract from the identified environmental values of the site and may only marginally impinge on fringing regrowth-structured forest. As such, I believe that the intent of the objective is met.

Under the Development Standards for Building and Works (14.4) and specifically Environmental Values (14.4.5), the Acceptable Solution is stated as:

> A1
>
> Development must be located within a building area on a plan of subdivision.

To the best of my knowledge, A1 is not satisfied because there is not a building area shown on title.

Under the Development Standards for Building and Works (14.4) and specifically Environmental Values (14.4.5), the Performance Criteria are stated as:

> P1
>
> The application is accompanied by an environmental management plan for the whole site, setting out measures to be put in place to protect flora and fauna habitats, riparian areas, any environmental values identified as part of a site analysis, and identify measures to be used to mitigate and offset adverse environmental impacts.

As the title does not include a "building area on a plan of subdivision", the Acceptable Solution A1 cannot be met and the Performance Criteria P1 must be satisfied. This calls for an "environmental management plan". P1 does not specify the format of such a plan, nor who can produce the plan. The planning authority issues some guidelines for such plans for "simple" cases (e.g. where impact to native vegetation will be limited). In this case, in noting that the planning application cannot be valid unless it "is accompanied by an environmental management plan for the whole site", it is recommended that an environmental management plan be produced with the following inclusions.

I suggest that a composite site plan be produced and re-labelled as "Environmental Management Plan". Because 14.4.5 refers to the "whole site", this should be in two pages. Page 1 will show the whole title and include a reference to the effect of "all native vegetation and individual trees within title to be subject to the prevailing zone and code provisions". Page 2 will show the specifics of the project area including the extent of the proposed hazard management area with notes such as "machinery and construction vehicle hygiene is not required because access is from the council-managed Summerleas Road and the internal weed-free shared drive", "no individual trees over 25 cm DBH to be removed without approval of the planning authority unless indicated by a suitably qualified arborist for safety reasons or in accordance with the certified bushfire hazard management plan" and "all native vegetation within the hazard management area to be managed in accordance with the certified bushfire hazard management plan".

On the basis of the above analysis, in my opinion a proposed residential dwelling and associated works and elements should meet the intent and specifics of the provisions of the Environmental Living zone in relation to "natural values", provided that the recommended actions are undertaken in relation to the "environmental management plan" required under 14.4.5.

**Biodiversity Code**

The purpose of the Biodiversity Code is stated below:

> E10.1 Purpose
>
> E10.1.1
>
> The purpose of this provision is to:
>
> (a) minimise loss of identified threatened native vegetation communities and threatened flora species;
>
> (b) conserve identified threatened fauna species by minimising clearance of important habitat and managing environmental impact;
>
> (c) minimise loss of other biodiversity values that are recognised as locally significant by the Planning Authority.

The title does not support threatened vegetation, such that E10.1.1(a) should not have application.

The title does not support threatened flora, such that E10.1.1(a) should not have application.

While the broader title is within the range of some threatened species, and may be utilised opportunistically, the vegetation/habitat within the title could hardly be described as "important" at any reasonable scale, such that E10.1.1(b) should not have application.

The title does contain "other biodiversity values that are recognised as locally significant by the Planning Authority" (usually this refers to individual trees). Note that the detailed elements of high, moderate and low priority biodiversity values included in Table E10.1 are explored in detail below.

The application of the Biodiversity Code is stated below:

> E10.2 Application
>
> This code applies to development involving clearance and conversion or disturbance of native vegetation within a Biodiversity Protection Area.

"Native vegetation" is defined under the *Scheme* as:

> "plants that are indigenous to Tasmania including trees, shrubs, herbs and grasses that have not been planted for domestic or commercial purposes".

The site is wholly covered by the Biodiversity Protection Area overlay and part of the area required for development is mapped as native forest (WOB). That is, the Code has application.

"Clearance and conversion" means:

> "the process of removing native vegetation from an area of land and: (a) leaving the area of land, on a permanent or extended basis, in a state predominantly unvegetated with native vegetation; or (b) replacing the native vegetation so removed, on a permanent or extended basis, with residential, commercial, mining, agriculture or other non-agricultural development".

"Disturbance" means:

> "the alteration of the structure and species composition of a native vegetation community through actions including cutting down, felling, thinning, logging, removing or destroying of a native vegetation community".

In the case of a proposed development, "clearance and conversion" would refer to the area of native vegetation left cleared following construction. The degree to which bushfire hazard management comprises "disturbance" is open to interpretation because the definition requires the "alteration of the structure **and** species composition" (my emphasis). Arguably, fuel modification only results in modification (to some degree) of the structure of the vegetation but is less likely to materially impact the species composition. In a broad sense, however, fuel modification may fall within the intended definition of "disturbance", such that the Biodiversity Code probably has application.

The application requirements under the Biodiversity Code are stated below:

> E10.5 Application Requirements
>
> E10.5.1
>
> In addition to any other application requirements, the planning authority may require the applicant to provide a natural values determination if considered necessary to determine compliance with acceptable solutions.
>
> E10.5.2
>
> In addition to any other application requirements, the planning authority may require the applicant to provide any of the following information if considered necessary to determine compliance with performance criteria:

(a) a natural values determination;

(b) a natural values assessment;

(c) a report detailing how impacts on priority biodiversity values will be avoided, minimised, and/or mitigated;

(d) a special circumstances justification report;

(e) a biodiversity offsets plan.

A "natural values assessment" (a higher level of assessment than a "natural values determination") is defined as:

"an ecological assessment, generally consistent with the Guidelines for Natural Values Assessment (DPIPWE July 2009), by a suitably qualified person (biodiversity) to identify and convey:

(a) the location of priority biodiversity values affecting the site;

(b) the significance of priority biodiversity values, with particular reference to Table E10.1;

(c) any likely impact on these priority biodiversity values including existing activities on the site, nearby land uses, weeds, pests, pathogens and the degree of connectivity with other land with natural values;

(d) the likely impact of the proposed development or use on these priority biodiversity values;

(e) recommendations for the design and siting of the proposed development or use to avoid or minimise the identified impacts;

(f) recommendations for the mitigation or management of any residual impacts.

The preceding report on the natural values and this review of the provisions of the Biodiversity Code should meet the intent and specifics of a "natural values assessment" under the Biodiversity Code.

The Development Standards for Buildings and Works have the following objective:

E10.7 Development Standards

E10.7.1 Buildings and Works

Objective:

To ensure that development for buildings and works that involves clearance and conversion or disturbance within a Biodiversity Protection Area does not result in unnecessary or unacceptable loss of priority biodiversity values.

This is a difficult objective to meet in literal terms because it is subjective and terms such as "unnecessary" and "unacceptable" are not defined, particularly in relation to a proposed use that is acceptable under the zoning. See also previous discussion on the terms "clearance and conversion" and "disturbance".

However, in my opinion, given the configuration of the title, a residential dwelling should be considered a satisfactory outcome that should meet the intent of not resulting in "unnecessary or unacceptable loss of priority biodiversity values" through use of the existing cleared area.

The Acceptable Solution is stated as:

A1

Clearance and conversion or disturbance must be within a Building Area on a plan of subdivision approved under this planning scheme.

To the best of my knowledge, A1 is not satisfied because there is not a building area shown on title.

To address the Performance Criteria, it is necessary to categorise the significance of the "priority biodiversity values" present as "low", "moderate" or "high", as the category affects the manner in which the criteria are addressed.

"High priority biodiversity values" are defined as (taken from Table E10.1 with author commentary below each):

> Native vegetation communities listed as threatened under the *Nature Conservation Act 2002*.

The title supports WOB, which is not equivalent to a listed community. That is, this component of high priority biodiversity value is not present.

> Significant habitat for and/or areas known to contain threatened species listed under the *Threatened Species Protection Act 1995* or the *Environment Protection and Biodiversity Conservation Act 1999* that are:
>
> (a) recognised as endangered or vulnerable; or
>
> (b) largely confined in their total distribution to the municipal area; or
>
> (c) have most of their range within the municipal area.

"Significant habitat" is defined under the *Scheme* as:

> "Native vegetation determined from published literature and/or agreed by the Threatened Species Section (DPIPWE) in consultation with species specialist, and/or endorsed by the Threatened Species Scientific Advisory Committee (TSSAC) as habitat within the range of a threatened or vulnerable flora or fauna species that: (i) is known to be of high priority for the maintenance of breeding populations throughout the species' range; and/or (ii) if converted to non-native vegetation is considered to result in a long term negative impact on breeding populations of the species. It may include areas that do not currently support breeding populations of the species but that need to be maintained to ensure the long-term future of the species".

In relation to threatened flora, the title does not support populations of threatened flora listed as endangered or vulnerable on the Tasmanian *Threatened Species Protection Act 1995* nor potential habitat of such species in any reasonable sense (Appendix C).

In relation to threatened fauna, the title provides ubiquitous potential habitat for species such as the Tasmanian devil, spotted-tailed quoll, eastern quoll and eastern barred bandicoot but the preceding report has demonstrated that it is not reasonable to consider the title as "significant" for these species at any logical level (Appendix D). The part of the title proposed for development does not support potential habitat of species such as the masked owl or swift parrot (see also Appendix D and **FINDINGS *Threatened fauna***), noting that individual trees are discussed under moderate priority biodiversity values.

That is, the part of the title proposed for development is not considered to support "significant habitat" for any threatened fauna.

> Native vegetation communities with a distribution on a bioregional basis having contracted to less than 10% of its former area.

The only native vegetation mapping unit to be affected by the proposal is *Eucalyptus obliqua* forest with broad-leaf shrubs(TASVEG code: WOB). The title is within the South East bioregion. Data from NRE Tas (http://nre.tas.gov.au/conservation/development-planning-conservation-assessment/planning-tools/tasmanian-reserve-estate-spatial-layer) indicates the following extent of WOB at different scales (note that the values below do not include the estimates for WOU, which is still mapped extensively but most would be better coded as WOB):

| | |
|---|---|
| Statewide | 122,200 ha (44% reserved) |
| NRM South | 56,200 ha (42% reserved) |
| South East | 37,600 ha (38% reserved) |
| Kingborough | 3,700 ha (37% reserved) |

That is, there is no notion that this community has contracted to less than 10% of its former range on a bioregional basis. WOB remains one of the more widespread and well-reserved mapping units at a Statewide, bioregional and sub-regional level.

> Native vegetation communities with a total area on a bio-regional basis generally being less than 1,000 ha.

As above.

> Remnants occurring on land systems components which have been more than 90% cleared of their native vegetation.

While the title is on the edge of a large forest area, it is part of a much larger forested catchment. Examination of aerial imagery clearly indicates that the subject title does not represent a remnant in any reasonable sense.

"Moderate priority biodiversity values" are defined as (taken from Table E10.1 with author commentary below each):

> Significant habitat for and/or areas known to contain threatened species listed under the *Threatened Species Protection Act 1995* or the *Environment Protection and Biodiversity Conservation Act 1999* that are:
>
> (a) recognised as rare; and
>
> (b) are not specific to the municipal area.

Of the threatened fauna species identified as potentially present (albeit very marginally so), only the spotted-tailed quoll is listed as "rare" but this species has a landscape-scale distribution and the site did not support particular habitat elements strongly associated with the species. No species recognised as specific to the municipal area have been identified.

> Potential habitat for threatened species listed under the *Threatened Species Protection Act 1995* or the *Environment Protection and Biodiversity Conservation Act 1999*.

"Potential habitat" is defined under the *Scheme* as:

> "All vegetation types within the potential range of a threatened flora or fauna species that are likely to support that species in the short and/or long term. It may not include habitats known to be occupied intermittently. Potential habitat is determined from published and unpublished scientific literature and/or via expert opinion, is agreed by the Threatened Species Section (DPIPWE) in consultation with species specialist, and/or endorsed by the Threatened Species Scientific Advisory Committee (TSSAC) under the *Threatened Species Protection Act 1995*".

In relation to threatened flora, the title does not support potential habitat of threatened flora in any reasonable sense.

Because this definition of "potential habitat" now includes the extremely nebulous concept of "…likely to support that species in the short and/or long term", it becomes almost impossible to discount any area of "native vegetation" (however intact or modified), or even many patches of modified land such as pasture, regenerating cleared land, plantations, etc., within the municipality as not being "moderate priority biodiversity value", which is clearly not the intent. The definition

does, however, include the concept of "may not include habitats known to be occupied intermittently", which means species such as the Tasmanian devil, spotted-tailed quoll, eastern quoll, eastern barred bandicoot, grey goshawk, masked owl, wedge-tailed eagle and swift parrot that may "pass through" (but not permanently occupy) the site would not qualify the site as "moderate priority biodiversity value".

In my opinion, it is very hard to qualify the site as supporting potential habitat of threatened fauna at any reasonable scale that would qualify it as moderate priority biodiversity value.

> Native vegetation communities approaching a reduction in areal extent of 70% within a bioregional context.

See above under high priority biodiversity values. There is no evidence that WOB is approaching a reduction of 70% on a Statewide, bioregional or more localised scale.

> Other priority species that are not listed but are considered of conservation significance in the municipal area.

"Priority species" are defined under the *Scheme* as:

> "…non-listed taxa identified in the Tasmanian RFA (Commonwealth of Australia and State of Tasmania 1997, as amended) as requiring some of form or protection or further research, non-listed species identified as poorly reserved in Tasmania, type locations and edge-of-range populations".

The part of the title proposed for development does not support such values. None of the RFA-listed non-listed taxa are present (note that the RFA has essentially been updated such that the list of priority species is now consistent with formally legislated lists). Poorly-reserved species have attempted to be defined and described at various times by DPIPWE (NRE Tas) but the lists are of limited value because they lack rigour and rely on out-of-date data. This means that "poorly-reserved" taxa are best considered on a case-by-case basis by a suitably qualified person in relation to a specific development proposal and/or site. The part of the title proposed for development does not include any species that could reasonably be categorised as poorly-reserved. The part of the title proposed for development does not support any type locations of any taxa. The part of the title proposed for development does not include any edge-of range populations of any taxa. Note that *Eucalyptus rubida* (candlebark) is now also considered as a priority species by the planning authority: this species is not present within the part of the title proposed for development.

> High conservation value trees.

The *Scheme* defines a "high conservation value tree" as:

> "a tree that is of a species that is listed in the *Threatened Species Protection Act 1995* or the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) and/or provide potential or significant habitat for a threatened species listed in either of those acts".

The tree species present within the part of the title proposed for development are not listed as threatened on either of the mentioned acts. None provide "potential or significant habitat for a threatened species", except at a very general level (i.e. a species such as the swift parrot may forage in any tree species but is most strongly associated with *Eucalyptus globulus* and larger stands of *Eucalyptus ovata*).

That is, I do not believe that "high conservation value trees" are present, if the phrasing in Table E10.1 is interpreted literally. However, the usual interpretation of the planning authority of "high conservation value trees" under Table E10.1 is by reference to *Kingborough Biodiversity Offset Policy 6.10, Nov. 2023*. By reference to this, in this context (wet forest), any tree over 100 cm diameter at breast height (DBH) will qualify as a very high conservation value tree because of the

potential importance (existing or future) for hollow-dwelling species. *Eucalyptus viminalis* (white gum) is not present. The title supports *Eucalyptus globulus* (blue gum) but not within the part proposed for development. The title does not support any *Eucalyptus ovata* (black gum) or *Eucalyptus rubida* (candlebark), the other key species referred to in the *Policy*.

The most usual course taken by the planning authority is to require a "tree plan" (as per their issued guidelines) that provide a map of all trees over 25 cm DBH, numbered, identified to species and DBH measured for comparison to the table in the *Kingborough Biodiversity Offset Policy 6.10, November 2023*. Based on site assessment, this should be modified to just show those that qualify as very high conservation value (as per Table 2, Figure 13). At that stage, the application of the current version of the *Policy* will need to be reviewed.

"Low priority biodiversity values" are defined as (taken from Table E10.1 with author commentary below each):

> All other native vegetation communities.

Applicable to areas of WOB & WGL.

On the basis of the above analysis, the part of the title proposed for development supports low priority biodiversity values (in the form of WOB) and may support moderate priority biodiversity values (in the form of high conservation value trees).

The Performance Criteria for low priority biodiversity values are stated as:

> P1
>
> Clearance and conversion or disturbance must satisfy the following:
>
> (a) if low priority biodiversity values:
>
> (i) development is designed and located to minimise impacts, having regard to constraints such as topography or land hazard and the particular requirements of the development;
>
> (ii) impacts resulting from bushfire hazard management measures are minimised as far as reasonably practicable through siting and fire-resistant design of habitable buildings.

In relation to P1(a)(i), in my opinion will be achieved by reference to the configuration and size of the title.

A bushfire hazard management plan certified by an accredited practitioner should satisfy P1(a)(ii).

The Performance Criteria in relation to moderate priority biodiversity values are also considered in case the interpretation of this assessment and report is that such values are present. These are stated as:

> P1
>
> Clearance and conversion or disturbance must satisfy the following:
>
> (b) if moderate priority biodiversity values:
>
> (i) development is designed and located to minimise impacts, having regard to constraints such as topography or land hazard and the particular requirements of the development;

(ii) impacts resulting from bushfire hazard management measures are minimised as far as reasonably practicable through siting and fire-resistant design of habitable buildings;

(iii) remaining moderate priority biodiversity values on the site are retained and improved through implementation of current best practice mitigation strategies and ongoing management measures designed to protect the integrity of these values;

(iv) residual adverse impacts on moderate priority biodiversity values not able to be avoided or satisfactorily mitigated are offset in accordance with the *Guidelines for the Use of Biodiversity Offsets in the Local Planning Approval Process*, Southern Tasmanian Councils Authority 2013 and *Kingborough Biodiversity Offset Policy 6.10, November 2023*.

P1(b)(i) and P1(b)(ii) have been discussed under the Performance Criteria for low priority biodiversity values.

To satisfy P(b)(iii), the remaining moderate priority biodiversity values need to be "retained and improved" in some manner. In my opinion, retention of part or all of the native vegetation within the balance of the title would satisfy this clause, although it is noted in relation to individual trees only such that no special conditions should be required based on current and future zoning and application of overlays.

P(c)(iv) refers to residual impacts. While the *Guidelines for the Use of Biodiversity Offsets in the Local Planning Approval Process* provide general guidance on offsets, it is *Kingborough Biodiversity Offset Policy 6.10, November 2023* that largely controls the application of P(b)(iv). The *Policy* outlines a structured hierarchy of offsets from in situ protection of similar values, ex situ protection of similar values, restoration and/or rehabilitation of similar values (either in situ or ex situ), financial offsets, or other options (e.g. research, surveys). Given the context and configuration of the title and development, in situ protection is not considered practical. Ex situ conservation options are also not considered practical as the owner will not have alternative land with similar values or the resources to undertake an assessment of alternative titles with such values. *Council Policy 6.10* indicates that "Financial offsets are only appropriate where: 6.13.1 there is no opportunity for a viable on-site or off-site offsets, taking into consideration the size, shape, quality of any potential offset area, or the replacement ratios cannot be fully met on-site or off-site, and a more strategic outcome can be achieved by pooling resources. The appropriateness of a financial offset is determined on merits by Council on a case-by-case basis" and "6.13.2 the scale of loss is small with regards to the conservation status and specific characteristics of the value(s) being impacted. A small level of loss may be considered significant and inappropriate to offset financially for vegetation communities or threatened species that have a greater risk of extinction in light of specialist advice".

Based on the above review, a single residential dwelling, access and hazard management area should meet the intent and specifics of P1 of E10.7.1 of the Biodiversity Code in relation to low priority biodiversity values (with no conditions likely to be required) and moderate priority biodiversity valued (with possible financial offsets on a per tree basis required).

### *Recommendations*

The recommendations provided below are a summary of those provided in relation to each of the nature values described in the main report. The main text of the report provides the relevant context for the recommendations.

Vegetation types

There should be no specific management requirements in relation to the native vegetation types identified from the proposed development area. In general terms, minimising the extent of "clearance and conversion" and/or "disturbance" to native vegetation is recommended but it is noted that the higher priority vegetation types (i.e. WGL – mainly as potential swift parrot habitat) is well outside the development footprint.

Threatened flora

None identified – no special management required.

Threatened fauna

Apart from the generic recommendation to minimise the extent of "clearance and conversion" and/or "disturbance" to native vegetation, it is further recommended that as far as practical, larger trees should be retained, recognising the context of personal safety and bushfire hazard management requirements.

Weed and disease management

None identified – no special management required beyond owner-occupation vigilance and control.

Legislative and policy implications

There are no formal requirements for a permit under Section 51 of the Tasmanian *Threatened Species Protection Act 1995* (TSPA).

A formal referral to the Commonwealth Department of the Environment & Energy under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) is not considered required.

Review of the relevant provisions of the Biodiversity Code of the *Kingborough Interim Planning Scheme 2015* indicates satisfaction of E10.7.1 P1, with possible application of the *Kingborough Biodiversity Offset Policy 6.10, November 2023* in relation to the management of individual trees that qualify as very high conservation value. As part of a development application, an "environmental management plan" is required under 14.4.5 of the Environmental Living zone. This plan should include reference to any trees of very high conservation value and how these will be managed, including reference to the tree root protection zone.

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## APPENDIX A. Vegetation community structure and composition

The tables below provide information on the structure and composition of the vegetation mapping units identified from the study area.

| ***Eucalyptus globulus* wet forest (TASVEG code: WGL)** |
|---|
| WGL occupies a wide band of forest in the approximate middle part of the title, bounded to the east, west and south by WOB. The distinction between WGL and WOB is based on numerous GPS waypoints following a relatively broad transition zone of canopy dominance of *Eucalyptus globulus* and *Eucalyptus obliqua*, respectively.<br>WGL is characterised by a relatively even-aged post-1967 bushfire regrowth canopy with occasional emergent "fire survivors" over a typically dense understorey of broad-leaved shrubs and scattered to locally dense graminoids and ground ferns. The structure is simple, both in terms of the strata present and the ground conditions with the generally steep slopes precluding extensive development of coarse woody debris.<br>WGL is in excellent ecological condition with no weeds or symptoms of disease noted. WGL has been affected by fire events. |


WGL on slopes of title

| **Stratum** | **Height (m)**<br>**Cover (%)** | **Species**<br>(underline = dominant, parentheses = sparse) |
|---|---|---|
| Trees | 35-45 m<br>+ | *Eucalyptus globulus, (Eucalyptus obliqua), (Eucalyptus regnans)* |
| Trees | 30 m<br>30% | *Eucalyptus globulus, (Eucalyptus obliqua), (Acacia dealbata)* |
| Shrubs | 4-9 m<br>60-80% | *Bedfordia salicina, Pomaderris apetala, Acacia leprosa, Notelaea ligustrina, Cassinia aculeata, Olearia argophylla, Nematolepis squamea, Exocarpos cupressiformis* |
| Low shrubs | < 3 m<br>5-30% | *Coprosma quadrifida, Beyeria viscosa, Pimelea drupacea* |
| Grasses | + | *Microlaena stipoides* |

| | | |
|---|---|---|
| Graminoids | variable | *Lepidosperma elatius* |
| Trunked ferns | <1 m<br><1% | *Dicksonia antarctica* |
| Ground ferns | <5% | *Polystichum proliferum, Blechnum nudum, Pteridium esculentum* |
| Herbs | + | *Pterostylis pedunculata, Viola hederacea* |

**_Eucalyptus obliqua_ forest with broad-leaf shrubs (TASVEG code: WOB)**

WOB occupied approximately half of the vegetation within the title, occurring in two sections separated by a wide band of WGL. WOB continues to the east of the title (previously assessed by the author), and to the opposite side of Snug River (at least in sections). WOB also appears to continue extensively to the west of the title.

WOB is characterised by a relatively even-aged post-1967 bushfire regrowth canopy with occasional emergent "fire survivors" over a typically dense understorey of broad-leaved shrubs and scattered to locally dense graminoids and ground ferns. The structure is simple, both in terms of the strata present and the ground conditions with the generally steep slopes precluding extensive development of coarse woody debris.

WOB is in excellent ecological condition with no weeds or symptoms of disease noted. WOB has been affected by fire events and possibly light historical selective tree removal.


WOB on midslopes

| **Stratum** | **Height (m)**<br>**Cover (%)** | **Species**<br>(underline = dominant, parentheses = sparse) |
|---|---|---|
| Trees | 35-45 m<br>+ | *Eucalyptus obliqua, (Eucalyptus globulus), (Eucalyptus regnans)* |
| Trees | 30 m<br>30% | *Eucalyptus obliqua, (Eucalyptus globulus), (Acacia dealbata)* |

| | | |
|---|---|---|
| Shrubs | 4-9 m<br>60-80% | *Bedfordia salicina, Pomaderris apetala, Acacia leprosa, Notelaea ligustrina, Cassinia aculeata, Olearia argophylla, Nematolepis squamea, Exocarpos cupressiformis, Acacia verticillata* |
| Low shrubs | < 3 m<br>5-30% | *Coprosma quadrifida, Beyeria viscosa, Pimelea drupacea* |
| Grasses | + | *Microlaena stipoides* |
| Graminoids | variable | *Lepidosperma elatius* |
| Trunked ferns | <1 m<br><5% | *Dicksonia antarctica* |
| Ground ferns | <5% | *Polystichum proliferum, Blechnum nudum, Pteridium esculentum, Histiopteris incisa* |
| Climbers | + | *Clematis aristata* |
| Herbs | + | *Pterostylis pedunculata, Hydrocotyle hirta, Geranium potentilloides, Viola hederacea, Galium densum, Oxalis perennans* |

## APPENDIX B. Vascular plant species recorded from study area

Botanical nomenclature follows *A Census of the Vascular Plants of Tasmania* (de Salas & Baker 2024), with family placement updated to reflect the nomenclatural changes recognised in the *Flora of Tasmania Online* (de Salas 2024+) and APG (2016); common nomenclature follows *The Little Book of Common Names of Tasmanian Plants* (Wapstra et al. 2005+, updated online at www.dpipwe.tas.gov.au).

i = introduced/naturalised; e = endemic to Tasmania.

**Table B1.** Summary of vascular species recorded from study area

| | ORDER | | | |
|---|---|---|---|---|
| **STATUS** | **DICOTYLEDONAE** | **MONOCOTYLEDONAE** | **GYMNOSPERMAE** | **PTERIDOPHYTA** |
| | 27 | 9 | - | 7 |
| e | 3 | - | - | - |
| i | - | 2 | - | - |
| **Sum** | **30** | **11** | **0** | **7** |
| **TOTAL** | **48** | | | |

| | | |
|---|---|---|
| **DICOTYLEDONAE** | | |
| | **APIACEAE** | |
| | *Hydrocotyle hirta* | hairy pennywort |
| | **ASTERACEAE** | |
| e | *Bedfordia salicina* | tasmanian blanketleaf |
| | *Cassinia aculeata* subsp. *aculeata* | common dollybush |
| | *Euchiton japonicus* | common cottonleaf |
| | *Olearia argophylla* | musk daisybush |
| | *Senecio minimus* | shrubby fireweed |
| | **ELAEOCARPACEAE** | |
| e | *Aristotelia peduncularis* | heartberry |
| | **ERICACEAE** | |
| e | *Leptecophylla divaricata* | spreading pinkberry |
| | **EUPHORBIACEAE** | |
| | *Beyeria viscosa* | pinkwood |
| | **FABACEAE** | |
| | *Acacia dealbata* subsp. *dealbata* | silver wattle |
| | *Acacia leprosa* var. *graveolens* | varnish wattle |
| | *Acacia melanoxylon* | blackwood |
| | *Acacia verticillata* subsp. *verticillata* | prickly moses |
| | **GERANIACEAE** | |
| | *Geranium potentilloides* var. *potentilloides* | mountain cranesbill |
| | **LAMIACEAE** | |
| | *Prostanthera lasianthos* var. *lasianthos* | christmas mintbush |
| | **MYRTACEAE** | |
| | *Eucalyptus globulus* subsp. *globulus* | tasmanian blue gum |
| | *Eucalyptus obliqua* | stringybark |
| | *Eucalyptus regnans* | giant ash |
| | **OLEACEAE** | |
| | *Notelaea ligustrina* | native olive |
| | **OXALIDACEAE** | |
| | *Oxalis perennans* | grassland woodsorrel |
| | **RANUNCULACEAE** | |
| | *Clematis aristata* | mountain clematis |
| | **RHAMNACEAE** | |
| | *Pomaderris apetala* subsp. *apetala* | common dogwood |

| | | |
|---|---|---|
| | **ROSACEAE** | |
| | *Acaena novae-zelandiae* | common buzzy |
| | **RUBIACEAE** | |
| | *Coprosma quadrifida* | native currant |
| | *Galium densum* | shade bedstraw |
| | **RUTACEAE** | |
| | *Nematolepis squamea* subsp. *squamea* | satinwood |
| | *Zieria arborescens* subsp. *arborescens* | stinkwood |
| | **SANTALACEAE** | |
| | *Exocarpos cupressiformis* | common native-cherry |
| | **THYMELAEACEAE** | |
| | *Pimelea drupacea* | cherry riceflower |
| | **VIOLACEAE** | |
| | *Viola hederacea* | ivyleaf violet |
| | **MONOCOTYLEDONAE** | |
| | **ASPARAGACEAE** | |
| | *Lomandra longifolia* | sagg |
| | **CYPERACEAE** | |
| | *Lepidosperma elatius* | tall swordsedge |
| | **JUNCACEAE** | |
| | *Juncus pallidus* | pale rush |
| | *Juncus pauciflorus* | looseflower rush |
| | **ORCHIDACEAE** | |
| | *Pterostylis pedunculata* | maroonhood |
| | **POACEAE** | |
| i | *Agrostis capillaris* var. *capillaris* | browntop bent |
| | *Agrostis venusta* | graceful bent |
| i | *Aira caryophyllea* subsp. *caryophyllea* | silvery hairgrass |
| | *Lachnagrostis filiformis* | common blowngrass |
| | *Microlaena stipoides* var. *stipoides* | weeping grass |
| | *Rytidosperma penicillatum* | slender wallabygrass |
| | **PTERIDOPHYTA** | |
| | **BLECHNACEAE** | |
| | *Blechnum nudum* | fishbone waterfern |
| | **DENNSTAEDTIACEAE** | |
| | *Histiopteris incisa* | batswing fern |
| | *Pteridium esculentum* subsp. *esculentum* | bracken |
| | **DICKSONIACEAE** | |
| | *Dicksonia antarctica* | soft treefern |
| | **DRYOPTERIDACEAE** | |
| | *Polystichum proliferum* | mother shieldfern |
| | **HYMENOPHYLLACEAE** | |
| | *Hymenophyllum cupressiforme* | common filmyfern |
| | **POLYPODIACEAE** | |
| | *Notogrammitis billardierei* | common fingerfern |

## APPENDIX C. Analysis of database records of threatened flora

Table C1 provides a listing of threatened flora from within 5,000 m of the study area (nominal buffer width usually used to discuss the potential of a particular study area to support various species listed in databases), with comments on whether potential habitat is present for the species, and possible reasons why a species was not recorded.

**Table C1.** Threatened flora records from within 5,000 m of boundary of study area

Species listed below are listed as rare (r), vulnerable (v), endangered (e), or extinct (x) on the Tasmanian *Threatened Species Protection Act 1995* (TSPA); vulnerable (VU), endangered (EN), critically endangered (CR) or extinct (EX) on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA). Information below is sourced from DNRET's *Natural Values Atlas* (DNRET 2025a) and other sources where indicated. Habitat descriptions are taken from FPA (2022) and TSS (2003+), except where otherwise indicated. Species marked with # are listed in CofA (2025).

| **Scientific name**<br>**Common name** | **Status**<br>TSPA<br>EPBCA | **Tasmanian habitat description (and distribution)** | **Comments on study area and database records** |
|---|---|---|---|
| *Allocasuarina duncanii*<br>conical sheoak | r<br>- | *Allocasuarina duncanii* is strongly associated with dolerite rock plates or shallow soils over dolerite, where it occurs in monotypic stands or in association with *Eucalyptus delegatensis* or *E. coccifera*. Two small sites are on quarzitic sandstone. The species is found from 230-1,000 m a.s.l. with most sites above 500 m. | Potential habitat present along Snug River.<br>Species not detected (no seasonal constraint on detection and/or identification). |
| *Asperula scoparia* subsp. *scoparia*<br>prickly woodruff | r<br>- | *Asperula scoparia* subsp. *scoparia* is widespread in Tasmania, and is mainly found in native grasslands and grassy forests, often on fertile substrates such as dolerite-derived soils. Forested sites are usually dominated by *Eucalyptus globulus* and *E. viminalis* (lower elevations) and *E. delegatensis* (higher elevations). | Potential habitat absent (wet sclerophyll forest only). |
| *Austrostipa bigeniculata*<br>doublejointed speargrass | r<br>- | *Austrostipa bigeniculata* is found mainly in the southeast and Midlands in open woodlands and grasslands, where it is often associated with *Austrostipa nodosa.* | Potential habitat absent (wet sclerophyll forest only). |
| *Caladenia caudata*<br>tailed spider-orchid | v<br>VU<br># | *Caladenia caudata* has highly variable habitat, which includes the central north: *Eucalyptus obliqua* heathy forest on low undulating hills; the northeast: *E. globulus* grassy/heathy coastal forest, *E. amygdalina* heathy woodland and forest, *Allocasuarina* woodland; and the southeast: *E. amygdalina* forest and woodland on sandstone, coastal *E. viminalis* forest on deep sands. Substrates vary from dolerite to sandstone to granite, with soils ranging from deep windblown sands, sands derived from sandstone and well-developed clay loams developed from dolerite. A high degree of insolation is typical of many sites. | Potential habitat absent (wet sclerophyll forest only). |

| Scientific name<br>Common name | Status<br>TSPA<br>EPBCA | Tasmanian habitat description (and distribution) | Comments on study area and database records |
|---|---|---|---|
| *Caladenia filamentosa*<br>daddy longlegs | r<br>- | *Caladenia filamentosa* occurs in lowland heathy and sedgy eucalypt forest and woodland on sandy soils. | Potential habitat absent (wet sclerophyll forest only). |
| *Colobanthus curtisiae*<br>grassland cupflower | r<br>VU<br># only | *Colobanthus curtisiae* occurs in lowland grasslands and grassy woodlands but is also prevalent on rocky outcrops and margins of forest on dolerite on the Central Highlands. | Potential habitat absent and this part of the State is not known to support the species. |
| *Comesperma defoliatum*<br>leafless milkwort | r<br>- | *Comesperma defoliatum* occurs in wet heathland/sedgeland, buttongrass moorland, coastal low scrub and on the crests of dunes. It has also been recorded from flat alkaline pans. The predominant substrates include peat, quartzite and sand. | Potential habitat absent (wet sclerophyll forest only). |
| *Corunastylis morrisii*<br>bearded midge-orchid | e<br>- | *Corunastylis morrisii* occurs in near-coastal lowland habitats in buttongrass moorland and sedgy open eucalypt woodland on moderately-drained sites, including raised clay pans in poorly drained peaty sedgeland. A site on mudstone at Kellevie occurs in *Eucalyptus amygdalina* forest with sparse shrubs on gently undulating terrain. | Potential habitat absent (wet sclerophyll forest only). |
| *Corunastylis nudiscapa*<br>bare midge-orchid | e<br>- | *Corunastylis nudiscapa* is restricted to a few sites in the area between Hobart and Kettering. It has been recorded from open forests and woodlands on mudstone and sandstone, dominated by *Eucalyptus tenuiramis*, and occasionally *E. obliqua* or *E. amygdalina*, with a heathy or grassy ground layer of varying density. | Potential habitat absent (wet sclerophyll forest only). |
| *Deyeuxia minor*<br>small bentgrass | r<br>- | *Deyeuxia minor* inhabits open eucalypt forests or the margins of wet sclerophyll forest in the southwest, south and northeast of the State. | Potential habitat present, mainly along road verges and in canopy gaps associated with the old tracks.<br>Species not detected (no seasonal constraint on detection and/or identification). |
| *Dianella amoena*<br>grassland flaxlily | r<br>EN<br># only | *Dianella amoena* occurs mainly in the northern and southern Midlands, where it grows in native grasslands and grassy woodlands. | Potential habitat absent (wet sclerophyll forest only). |
| *Dryopoa dives*<br>giant mountaingrass | r<br>- | *Dryopoa dives* occurs on Snug Plains in wet or damp sclerophyll forest, teatree scrub and sedgeland, often on the edge of animal or vehicular tracks. Typically, it occurs within clumps of *Gahnia grandis* (cutting grass) in the ecotone between heathy moorlands and damp sclerophyll forest. Some occurrences are associated with old sawmill sites. | Potential habitat absent (wholly atypical of the only known sites higher on Snug Tiers). |
| *Epacris virgata*<br>pretty heath | e<br>EN<br># only | *Epacris virgata* is restricted to a small area of undulating terrain in the foothills of the Dazzler Range near Beaconsfield, where it occurs on | Potential habitat absent (site is on dolerite not ultramafic soils). |

| Scientific name<br>Common name | Status<br>TSPA<br>EPBCA | Tasmanian habitat description (and distribution) | Comments on study area and database records |
|---|---|---|---|
| | | serpentinite-derived soils in dry sclerophyll forest at an elevation of 40-80 m a.s.l. | |
| *Lepidium hyssopifolium*<br>soft peppercress | e<br>EN<br># only | The native habitat of *Lepidium hyssopifolium* is the growth suppression zone beneath large trees in grassy woodlands and grasslands (e.g. over-mature black wattles and isolated eucalypts in rough pasture). *Lepidium hyssopifolium* is now found primarily under large exotic trees on roadsides and home yards on farms. It occurs in the eastern part of Tasmania between sea-level to 500 m a.s.l. in dry, warm and fertile areas on flat ground on weakly acid to alkaline soils derived from a range of rock types. | Potential habitat absent (wet sclerophyll forest only). |
| *Lepidosperma tortuosum*<br>twisting rapiersedge | r<br>- | *Lepidosperma tortuosum* occurs in heathland and heathy woodland, in lowland sites, mainly in eastern parts of the State. It often occurs in the sedgier (peatier) parts of dry heathland. It can occur on a range of substrates. | Potential habitat absent (wet sclerophyll forest only). |
| *Leucochrysum albicans* subsp. *tricolor*<br>grassland paperdaisy | e<br>EN<br># only | *Leucochrysum albicans* subsp. *tricolor* occurs in the west and on the Central Plateau and the Midlands, mostly on basalt soils in open grassland. This species would have originally occupied *Eucalyptus pauciflora* woodland and tussock grassland, though most of this habitat is now converted to improved pasture or cropland. | Potential habitat absent (wet sclerophyll forest only). |
| *Paraprasophyllum* [syn. *Prasophyllum*] *amoenum*<br>dainty leek-orchid | v<br>EN<br># | *Prasophyllum amoenum* has been recorded from Snug Tiers and Mt Wellington. At Snug Tiers the species occurs in sedgy buttongrass moorland and heath, and also in openings in eucalypt woodland and scrub on damp stony loam. On Mt Wellington the species is found in and near cushion plants in alpine moorland. | Potential habitat absent (wet sclerophyll forest only). |
| *Paraprasophyllum* [syn. *Prasophyllum*] *apoxychilum*<br>tapered leek-orchid | v<br>EN<br># only | *Paraprasophyllum apoxychilum* is restricted to eastern and northeastern Tasmania where it occurs in coastal heathland or grassy and scrubby open eucalypt forest on sandy and clay loams, often among rocks. It occurs at a range of elevations and seems to be strongly associated with dolerite in the east and southeast of its range. | Potential habitat absent (wet sclerophyll forest only). |
| *Paraprasophyllum* [syn. *Prasophyllum*] *castaneum*<br>chestnut leek-orchid | e<br>CR<br># only | *Paraprasophyllum castaneum* has been recorded from coastal areas on Bruny Island in damp shrubby and sedgy heath on sandy loam, on Mt Brown on the Tasman Peninsula in damp skeletal soil under the protection of rocks and *Leptospermum* (teatree) and *Banksia* scrub dwarfed by continual exposure to | Potential habitat absent (wet sclerophyll forest only). |

| Scientific name<br>Common name | Status<br>TSPA<br>EPBCA | Tasmanian habitat description (and distribution) | Comments on study area and database records |
|---|---|---|---|
| | | strong sea winds, and in the Ellarwey Valley near Cape Pillar in recently burnt windswept coastal heath/scrub on skeletal rocky soils. | |
| *Pterostylis atriola*<br>snug greenhood | r<br>- | *Pterostylis atriola* occurs in the north and east of Tasmania on generally stony soil in dry to damp sclerophyll forest, typically with an open understorey. The species occurs at a range of elevations but is most strongly associated with winter cold sites (e.g. Snug Tiers) or areas receiving a moderately consistent rainfall (e.g. Wielangta, Railton). | Potential habitat absent (wet sclerophyll forest only). |
| *Pterostylis squamata*<br>ruddy greenhood | v<br>- | *Pterostylis squamata* occurs in heathy and grassy open eucalypt forest, woodland and heathland on well-drained sandy and clay loams. | Potential habitat absent (wet sclerophyll forest only). |
| *Pterostylis ziegeleri*<br>grassland greenhood | v<br>VU<br># only | *Pterostylis ziegeleri* occurs in the State's south, east and north, with an outlying occurrence in the northwest. In coastal areas, the species occurs on the slopes of low stabilised sand dunes and in grassy dune swales, while in the Midlands it grows in native grassland or grassy woodland on well-drained clay loams derived from basalt. | Potential habitat absent (wet sclerophyll forest only). |
| *Thelymitra bracteata*<br>leafy sun-orchid | e<br>- | *Thelymitra bracteata* is known from two sites in southern Tasmania: Rosny Hill and Coningham. It grows in open grassy and heathy forest/woodland on mudstone and sandstone. | Potential habitat absent (wet sclerophyll forest only). |
| *Thelymitra jonesii*<br>skyblue sun-orchid | e<br>EN<br># only | *Thelymitra jonesii* occurs in moist coastal heath on sandy to peaty soils and in *Eucalyptus obliqua* forest in deep loam soil over dolerite. | Potential habitat absent (wet sclerophyll forest only). |
| *Westringia angustifolia*<br>narrowleaf westringia | r<br>- | *Westringia angustifolia* occurs mainly in mid elevations, always on dolerite (but can be close to dolerite-sediment contact zones), in dry to wet sclerophyll forest on broad ridges, slopes and dense riparian shrubberies. | Potential habitat present along Snug River.<br>Species not detected (no seasonal constraint on detection and/or identification). |
| *Xerochrysum palustre*<br>swamp everlasting | v<br>VU<br># only | *Xerochrysum palustre* has a scattered distribution with populations in the northeast, east coast, Central Highlands and Midlands, all below about 700 m elevation. It occurs in wetlands, grassy to sedgy wet heathlands and extends to associated heathy *Eucalyptus ovata* woodlands. Sites are usually inundated for part of the year. | Potential habitat absent (wet sclerophyll forest only). |

## APPENDIX D. Analysis of database records of threatened fauna

Table D1 provides a listing of threatened fauna from within 5,000 m of the study area (nominal buffer width usually used to discuss the potential of a particular study area to support various species listed in databases), with comments on whether potential habitat is present for the species, and possible reasons why a species was not recorded.

**Table D1.** Threatened fauna records from 5,000 m of boundary of study area

Species listed below are listed as rare (r), vulnerable (v), endangered (e), or extinct (x) on the Tasmanian *Threatened Species Protection Act 1995* (TSPA); vulnerable (VU), endangered (EN), critically endangered (CR) or extinct (EX) on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA). Information below is sourced from the DNRET's *Natural Values Atlas* (DNRET 2025a), Bryant & Jackson (1999) and FPA (2025); marine, wholly pelagic and littoral species such as marine mammals, fish and offshore seabirds are excluded. Species marked with # are listed in CofA (2025). Note that the use of the descriptions of "potential habitat" and "significant habitat" as provided in FPA (2020 updated by reference to nearby report from 2025) does not imply a direct relationship between these concepts and the concept of "significant habitat" as per C7.3.1 of the *State Planning Provisions*.

| **Scientific name**<br>**Common name** | **Status**<br>TSPA<br>EPBCA | **Tasmanian habitat description (and distribution)** | **Comments on project area and database records** |
|---|---|---|---|
| *Accipiter* [syn. *Tachyspiza*] *novaehollandiae*<br>grey goshawk | e<br>- | ***Potential habitat*** is native forest with mature elements below 600 m altitude, particularly along watercourses.<br>***Significant habitat*** may be summarised as areas of wet forest, rainforest and damp forest patches in dry forest, with a relatively closed mature canopy, low stem density, and open understorey in close proximity to foraging habitat and a freshwater body (i.e. stream, river, lake, swamp, etc.). | ***Potential habitat*** present.<br>***Significant habitat*** absent.<br>The species may occasionally utilise the greater title area as part of a home range and for foraging but nesting is highly unlikely (none detected at either of the site assessments).<br>This species should not require further consideration. |
| *Antipodia chaostola* tax. *leucophaea*<br>chaostola skipper | e<br>EN<br># | ***Potential habitat*** is dry forest and woodland supporting *Gahnia radula* (usually on sandstone and other sedimentary rock types) or *Gahnia microstachya* (usually on granite-based substrates). | ***Potential habitat*** absent (neither *Gahnia radula* or *G. microstachya* are present).<br>This species should not require further consideration. |
| *Apus pacificus*<br>fork-tailed swift | -<br>-<br># only | Seasonal migrant (December through March) with habitat open skies over any habitat, more commonly associated with forested hills and mountains (McNab 2022). | ***Potential habitat*** widespread but this is a species that flies at high altitude, very fast and highly mobile, feeding on the wing and virtually never perches (McNab 2022).<br>This species should not require further consideration. |
| *Aquila audax* subsp. *fleayi*<br>wedge-tailed eagle | e<br>EN<br># | ***Potential habitat*** comprises ***potential nesting habitat*** and ***potential foraging habitat***.<br>***Potential foraging habitat*** is a wide variety of forest (including areas subject to native forest silviculture) and non-forest habitats.<br>***Potential nesting habitat*** is tall eucalypt trees in large tracts (usually more than 10 ha) of eucalypt or mixed forest. Nest trees are usually amongst the largest in a locality. They are generally in sheltered positions on leeward slopes, between the lower and mid sections of a slope and with the top | ***Potential foraging habitat*** widespread.<br>***Potential nesting habitat*** absent (regrowth-dominated forest in a mosaic of rural residential and cleared areas – no nests detected within title or on nearby titles previously assessed).<br>***Significant habitat*** absent.<br>This species should not require further consideration. |

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|---|---|---|---|
| | | of the tree usually lower than the ground level of the top of the ridge, although in some parts of the State topographic shelter is not always a significant factor (e.g. parts of the northwest and Central Highlands). Nests are usually not constructed close to sources of disturbance and nests close to disturbance are less productive.<br>***Significant habitat*** is all native forest and native non-forest vegetation within 500 m or 1 km line-of-sight of known nest sites (where the nest tree is still present). | |
| *Botaurus poiciloptilus*<br>Australasian bittern | -<br>EN<br># | ***Potential habitat*** is comprised of wetlands with tall dense vegetation, where it forages in still, shallow water up to 0.3 m deep, often at the edges of pools or waterways, or from platforms or mats of vegetation over deep water. It favours permanent and seasonal freshwater habitats, particularly those dominated by sedges, rushes and reeds or cutting grass growing over a muddy or peaty substrate (TSSC 2011). | ***Potential habitat*** absent.<br>This species should not require further consideration. |
| *Bubulcus coromandus*<br>[syn. *B. ibis*, *Ardea ibis*]<br>cattle egret | -<br>-<br># only | Seasonal migrant (April through October) with habitat agricultural lands, crops, dams, pastures, particularly those with cattle, mudflats and wetlands (McNab 2022). | ***Potential habitat*** absent.<br>This species should not require further consideration. |
| *Ceyx azureus* subsp. *diemenensis* [syn. *Alcedo azurea* subsp. *diemenensis*]<br>Tasmanian azure kingfisher | e<br>EN<br># | ***Potential habitat*** comprises potential foraging habitat and potential breeding habitat.<br>***Potential foraging habitat*** is primarily freshwater (occasionally estuarine) waterbodies such as large rivers and streams with well-developed overhanging vegetation suitable for perching and water deep enough for dive-feeding.<br>***Potential breeding habitat*** is usually steep banks of large rivers (a breeding site is a hole (burrow) drilled in the bank). | ***Potential habitat*** absent (Snug River at this location is very marginal potential habitat because it is shallow and heavily forested so unlikely to be utilised).<br>***Potential breeding habitat*** absent (as above).<br>This species should not require further consideration. |
| *Dasyurus maculatus* subsp. *maculatus*<br>spotted-tailed quoll | r<br>VU<br># | ***Potential habitat*** is coastal scrub, riparian areas, rainforest, wet forest, damp forest, dry forest and blackwood swamp forest (mature and regrowth), particularly where structurally complex and steep rocky areas are present, and includes remnant patches in cleared agricultural land.<br>***Significant habitat*** is all potential denning habitat within the core range of the species. ***Potential denning habitat*** for the spotted-tailed quoll includes 1) any forest remnant (>0.5 ha) in a cleared or plantation landscape that is structurally complex (high canopy, with dense understorey and ground vegetation cover), free | ***Potential habitat*** present (at least in a ubiquitous sense), although den sites will not be present within the part of the title proposed for development of the lack of coarse woody debris, caves, rock overhangs, wombat or rabbit burrows or similar features suitable for denning.<br>The species may utilise the greater title area as part of a home range and for foraging but development at the scale proposed and within the context of surrounding land uses should not have a significant impact on potential habitat of the species.<br>This species should not require further consideration. |

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|---|---|---|---|
| | | from the risk of inundation, or 2) a rock outcrop, rock crevice, rock pile, burrow with a small entrance, hollow logs, large piles of coarse woody debris and caves. | |
| *Dasyurus viverrinus*<br>eastern quoll | -<br>EN<br># | ***Potential habitat*** is a variety of habitats including rainforest, heathland, alpine areas and scrub. However, it seems to prefer dry forest and native grassland mosaics which are bounded by agricultural land. | ***Potential habitat*** present – see notes under spotted-tailed quoll.<br>The species may utilise the greater title area as part of a home range and for foraging but development at the scale proposed and within the context of surrounding land uses should not have a significant impact on potential habitat of the species.<br>This species should not require further consideration. |
| *Gallinago hardwickii*<br>Lathams snipe | -<br>VU<br># | Seasonal migrant that prefers brackish, fresh and saline habitats including lagoons, lakes, marshes, swamps, wet grasslands and paddocks and wetlands with tussockgrasses (McNab 2022). | ***Potential habitat*** absent.<br>This species should not require further consideration. |
| *Haliaeetus* [syn. *Ichthyophaga*] *leucogaster*<br>white-bellied sea-eagle | v<br>- | ***Potential habitat*** comprises ***potential nesting habitat*** and ***potential foraging habitat***.<br>***Potential foraging habitat*** is any large waterbody (including sea coasts, estuaries, wide rivers, lakes, impoundments and even large farm dams) supporting prey items (fish).<br>***Potential nesting habitat*** is tall eucalypt trees in large tracts (usually more than 10 ha) of eucalypt or mixed forest within 5 km of the coast (nearest coast including shores, bays, inlets and peninsulas), large rivers (class 1), lakes or complexes of large farm dams. Scattered trees along river banks or pasture land may also be used.<br>***Significant habitat*** is all native forest and native non-forest vegetation within 500 m or 1 km line-of-sight of known nest sites (where nest tree still present). | ***Potential foraging habitat*** widespread (although this would be mainly over the nearby open waters near Snug).<br>***Potential nesting habitat*** absent (see comments under wedge-tailed eagle).<br>***Significant habitat*** absent.<br>This species should not require further consideration. |
| *Hirundapus caudacutus*<br>white-throated needletail | -<br>VU<br># only | Seasonal migrant (December through March) with habitat open skies over any habitat, more commonly associated with forested hills and mountains (McNab 2022). | ***Potential habitat*** widespread but this is a species that flies at high altitude, very fast and highly mobile, feeding on the wing and virtually never perches (McNab 2022).<br>This species should not require further consideration. |
| *Lathamus discolor*<br>swift parrot | e<br>CR<br># | ***Potential breeding habitat*** comprises ***potential foraging habitat*** and ***potential nesting habitat***, and is based on definitions of foraging and nesting trees (see Table A in swift parrot habitat assessment Technical Note).<br>***Potential foraging habitat*** comprises *Eucalyptus globulus* or *E. ovata* trees that are old enough to flower. In the Eastern Tiers, potential foraging habitat | ***Potential foraging habitat*** present.<br>***Potential nesting habitat*** absent (no hollow-bearing trees). While there are some larger-girthed trees present, these do not have hollows due to age. The site is highly atypical of almost all reported nesting sites that tend to be on ridgelines and upper slopes in hollow-rich mature forest. |

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|---|---|---|---|
| | | also includes *E. brookeriana* where it has the potential to contribute a substantial foraging resource. The occurrence of foraging-habitat can be remotely assessed, although only to a limited extent, by using mapping layers such as GlobMap (DPIPWE 2010). Due to the scale and inadequacies in current foraging-habitat mapping, potential foraging-habitat density within operational areas should be identified by ground-based surveys as per Table B in the swift parrot habitat assessment Technical Note. For management purposes potential nesting habitat is considered to comprise eucalypt forests that contain hollow-bearing trees. The FPA mature habitat availability map (see Technical Note 2) predicts the availability of hollow-bearing trees using the relevant definitions of habitat provided in Table C of the swift parrot habitat assessment Technical Note. The mature habitat availability map is designed to be used to make landscape-scale assessments and may not be reliable for stand-level assessments required during the development of a Forest Practices Plan. At the stand-level the availability and distribution of hollow-bearing trees across a coupe or operation area is best determined from a ground-based assessment (see Table C in the swift parrot habitat assessment Technical Note).<br>***Significant habitat*** is all potential breeding habitat within the SE potential breeding range and the NW breeding areas.<br>This site is within the Channel Swift Parrot Important Breeding Area (SPIBA). | ***Significant habitat*** absent – while the site is within the core breeding range, and within the Channel Swift Parrot Special Breeding Area (SPIBA), the lack of hollow-bearing trees means that the site is not reasonably considered to be significant habitat.<br>This species should not require further consideration but see **FINDINGS *Threatened fauna*** for more details. |
| *Lissotes menalcas*<br>Mount Mangana stag beetle | r<br>- | ***Potential habitat*** is any eucalypt forest that contains rotting logs (often numerous, and usually greater than about 40 cm diameter at mid-log length) below about 650 m elevation (generally moist habitats that have not been subject to high intensity or frequent fires in about the last 20 years). The species has a patchy distribution within areas of potential habitat. Some rainforest will support the species, although in low densities as the species has an apparent preference for eucalypt logs<br>***Significant habitat*** is all potential habitat within the known range. | ***Potential habitat*** technically present within title but not from within part of title proposed for development because of absence of coarse woody debris.<br>***Significant habitat*** absent (see above).<br>This species should not require further consideration but see **FINDINGS *Threatened fauna*** for more details. |
| *Litoria raniformis*<br>green and golden frog | v<br>VU<br># | ***Potential habitat*** is permanent and temporary waterbodies, usually with vegetation in or around them, including features such as natural lagoons, | ***Potential habitat*** absent (no waterbodies).<br>***Significant habitat*** absent. |

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| | | permanently or seasonally inundated swamps and wetlands, farm dams, irrigation channels, artificial water-holding sites such as old quarries, slow-flowing stretches of streams and rivers and drainage features.<br>***Significant habitat*** is still or very slow flowing water bodies, with at least some vegetation, and a lack of obvious pollutants (oil, chemicals, etc.). | This species should not require further consideration. |
| *Myiagra cyanoleuca*<br>satin flycatcher | -<br>-<br># only | Seasonal migrant (November through march) with habitat scrub, wet and dry sclerophyll forests, woodlands and creeklines (McNab 2022). | ***Potential habitat*** present in the form of ubiquitous foraging habitat with potential nesting habitat present also in the wet forest.<br>This species should not require further consideration given proposal to retain virtually all native vegetation as is. |
| *Neophema chrysostoma*<br>blue-winged parrot | -<br>VU<br># | Seasonal migrant (October through April) with habitat agricultural lands, crops, dams, paddocks, coastal scrub, open grassy woodlands, heathland and saltmarshes (McNab 2022).<br>***Potential habitat*** includes native eucalypt forest, native eucalypt woodlands, grasslands and wetlands (FPA 2024). | ***Potential habitat*** present in the form of ubiquitous foraging habitat but potential nesting habitat absent from proposed development site (no hollow-bearing trees present – see also under swift parrot).<br>This species should not require further consideration. |
| *Pardalotus quadragintus*<br>forty-spotted pardalote | e<br>EN<br># | ***Potential habitat*** is any forest and woodland supporting *Eucalyptus viminalis* (white gum) where the canopy cover of *E. viminalis* is greater than or equal to 10% or where *E. viminalis* occurs as a localised canopy dominant or codominant in patches exceeding 0.25 ha.<br>***Significant habitat*** is all potential habitat associated with known colonies and such habitat within 500 m of known colonies. | ***Potential habitat*** absent (*Eucalyptus viminalis* absent).<br>***Significant habitat*** absent (site is not close to any known breeding sites).<br>This species should not require further consideration. |
| *Perameles gunnii* subsp. *gunnii*<br>eastern barred bandicoot | -<br>VU<br># | ***Potential habitat*** is open vegetation types including woodlands and open forests with a grassy understorey, native and exotic grasslands, particularly in landscapes with a mosaic of agricultural land and remnant bushland.<br>***Significant habitat*** is dense tussock grass-sagg-sedge swards, piles of coarse woody debris and denser patches of low shrubs (especially those that are densely branched close to the ground providing shelter) within the core range of the species. | ***Potential habitat*** marginally present.<br>***Significant habitat*** absent.<br>The species may occasionally utilise the greater study area as part of a home range and for foraging but small-scale development essentially within the existing cleared area and its immediate fringes should not have a significant impact on this aspect of the life history of the species. In fact, maintaining the grassy opening may actively benefit this species.This species should not require further consideration. |
| *Prototroctes maraena*<br>Australian grayling | v<br>VU<br># | ***Potential habitat*** is all streams and rivers in their lower to middle reaches. Areas above permanent barriers (e.g. Prosser River dam, weirs) that prevent fish migration are not habitat. | ***Potential habitat*** absent (Snug River at this elevation no longer suitable).<br>This species should not require further consideration. |

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|---|---|---|---|
| *Pseudemoia pagenstecheri*<br>tussock skink | v<br>- | ***Potential habitat*** is grassland and grassy woodland (including rough pasture with paddock trees), generally with a greater than 20% cover of native grass species, especially where medium to tall tussocks are present. | ***Potential habitat*** absent (there are no areas with greater than 20% cover of tussock-forming grass species present).<br>This species should not require further consideration. |
| *Sarcophilus harrisii*<br>Tasmanian devil | e<br>EN<br># | ***Potential habitat*** all terrestrial native habitats, forestry plantations and pasture. Devils require shelter (e.g. dense vegetation, hollow logs, burrows or caves) and hunting habitat (open understorey mixed with patches of dense vegetation) within their home range (427 $km^2$).<br>***Significant habitat*** is a patch of potential denning habitat where three or more entrances (large enough for a devil to pass through) may be found within 100 m of one another, and where no other potential denning habitat with three or more entrances may be found within a 1 km radius, being the approximate area of the smallest recorded devil home range.<br>***Potential denning habitat*** is areas of burrowable, well-drained soil, log piles or sheltered overhangs such as cliffs, rocky outcrops, knolls, caves and earth banks, free from risk of inundation and with at least one entrance through which a devil could pass. | ***Potential habitat*** present – see notes under spotted-tailed quoll.<br>***Potential habitat*** absent.<br>The species may utilise the greater title area as part of a home range and for foraging but development at the scale proposed and within the context of surrounding land uses should not have a significant impact on potential habitat of the species.<br>This species should not require further consideration. |
| *Tyto novaehollandiae* subsp. *castanops*<br>masked owl | e<br>VU<br># | ***Potential habitat*** is all areas with trees with large hollows (≥15 cm entrance diameter). Remnants and paddock trees (in any dry or wet forest type) in agricultural areas may constitute potential habitat.<br>***Significant habitat*** is any areas within the core range of native dry forest with trees over 100 cm dbh with large hollows (≥15 cm entrance diameter). | ***Potential habitat*** present in the form of ubiquitous foraging habitat but nesting/roosting habitat is absent (no large trees with large hollows).<br>***Significant habitat*** absent (as above).<br>The species may utilise the greater title area as part of a home range and for foraging but development at the scale proposed and within the context of surrounding land uses should not have a significant impact on potential habitat of the species.<br>This species should not require further consideration. |

**APPENDIX E. DPIPWE's *Natural Values Atlas* report (2020) & DNRET's Natural Valeus Atlas report (2025) for study area**

Appended as pdf files.

**APPENDIX F. Forest Practices Authority's *Biodiversity Values Atlas* (2020) report for study area**

Appended as pdf file.

**APPENDIX G. CofA's *Protected Matters* report (2020 & 2025) for study area**

Appended as pdf files.

**ATTACHMENTS**

- .shp file of revised vegetation mapping
- .shp file of individual trees