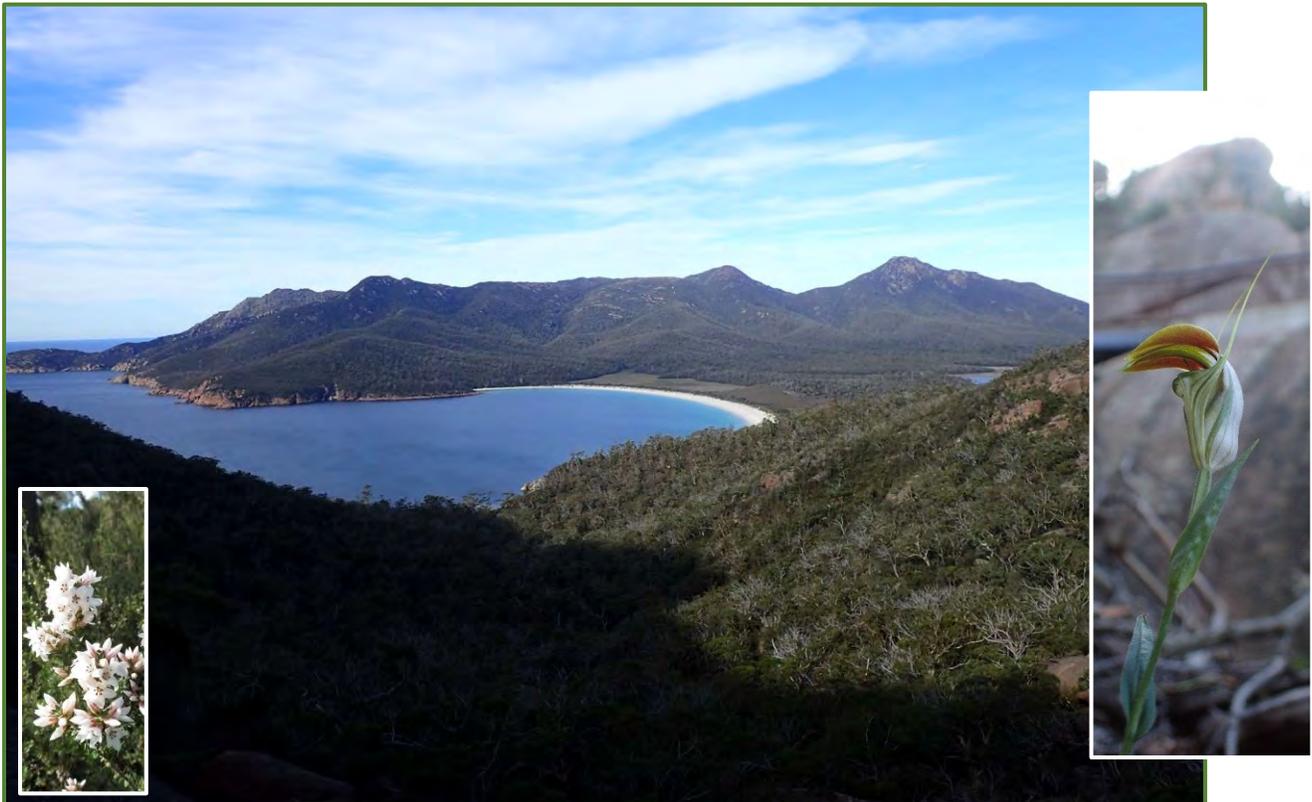


## ECOLOGICAL ASSESSMENT OF PROPOSED NEW ELEVATED VIEWING PLATFORM AND LOOP TRACK, WINEGLASS BAY LOOKOUT, FREYCI NET NATIONAL PARK, TASMANIA



Environmental Consulting Options Tasmania (ECOtas) for  
Parks & Wildlife Service

27 May 2019

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#### AUTHORSHIP

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Base data for mapping: TheList, Parks & Wildlife Service

Digital and aerial photography: Mark Wapstra, GoogleEarth, TheList

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Laura Spikula (Parks & Wildlife Service) provided background information on the project. Steve Heggie (Parks & Wildlife Service) provided on-site guidance.

#### COVER ILLUSTRATIONS

Main image: View of Wineglass Bay from near existing lookout. Insets: (bottom left) *Epacris barbata* (bearded heath – found within and close to the proposed project site; (right) *Pterostylis grandiflora* (superb greenhood) – confirmed from outside the proposed project site.

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



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## SUMMARY

### *General*

The Parks & Wildlife Service engaged Environmental Consulting Options Tasmania (ECOtas) to undertake an assessment of the ecological values associated with a proposed new elevated viewing platform and loop track at the Wineglass Bay Lookout, Freycinet National Park, eastern Tasmania, primarily to ensure that the requirements of the identified ecological values are appropriately taken into account during further project planning under local, State and Commonwealth government approval protocols.

The project area was assessed by Mark Wapstra on 17 May 2019.

### *Summary of key findings*

#### Threatened flora

- One plant species listed as threatened (Endangered) on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) was detected from the proposed project area; as follows:
  - *Epacris barbata* (bearded heath).
- One plant species listed as threatened (endangered) on the Tasmanian *Threatened Species Protection Act 1995* (TSPA) was detected from the project area, as follows:
  - *Epacris barbata* (bearded heath).
- One plant species listed as threatened (rare) on the Tasmanian *Threatened Species Protection Act 1995* (TSPA) was detected from close to the project area, as follows:
  - *Pterostylis grandiflora* (superb greenhood).
- It is recommended that a solution be sought to avoid the need to “take” individuals of *Epacris barbata*. No disturbance to individuals of *Pterostylis grandiflora* is anticipated. A permit will be required under Section 51 of the Tasmanian *Threatened Species Protection Act 1995* to take individuals of *Epacris barbata* if the individuals cannot be avoided.

#### Threatened fauna

- Potential habitat is present for *Sarcophilus harrisii* (Tasmanian devil), *Dasyurus maculatus* subsp. *maculatus* (spotted-tailed quoll), *Dasyurus viverrinus* (eastern quoll), and *Antipodia chaostola* tax. *leucophaea* (chaostola skipper) but the scale of works is such that no significant impact on potential habitat is anticipated.

#### Vegetation types

- The project area supports the following TASVEG mapping units:
  - *Eucalyptus tenuiramis* forest and woodland on granite (DTG);
  - *Leptospermum glaucescens* heathland and scrub (SLG); and
  - lichen lithosere (ORO).
- None of these mapping units equate to threatened ecological communities listed on schedules of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

- None of these mapping units are listed as threatened on Schedule 3A of the Tasmanian *Nature Conservation Act 2002*.
- Works will result in minimal impact on native vegetation.

#### Weeds

- No species classified as “declared weeds” within the meaning of the Tasmanian *Weed Management Act 1999* or “environmental weed” were detected from project area.
- Recommendations are made to maximise the chance of maintaining the area as weed-free.

#### Plant disease

- No evidence of plant disease (*Phytophthora cinnamomi*, rootrot fungus) was detected from the project area, which appears to be PC-free.
- Recommendations are made to maximise the chance of maintaining the area as disease-free.

#### Animal disease (chytrid)

- The project area does not support habitats conducive to the frog chytrid pathogen.
- Special management is recommended.

#### *Recommendations*

The recommendations provided below are a summary of those provided in relation to each of the ecological features described in the main report. The main text of the report provides the relevant context for the recommendations. It is assumed that the phrasing below will be modified in planning documents for the project. It is essential that machinery operators and other contractors are made aware of the reasons for undertaking the recommended actions.

#### *Vegetation types*

Formal management recommendations are not made in relation to the identified vegetation types. However, it is recommended that:

- the extent of clearing and associated disturbance to native vegetation is minimised as far as practical; and
- wherever practical, individual trees (i.e. *Eucalyptus* species) be protected from disturbance.

#### *Threatened flora*

It is recommended that:

- a solution be sought that avoids material impact (taking and/or disturbance) of *Epacris barbata* (bearded heath);
- prior to the commencement of works, all plants identified for protection from taking and/or disturbance be appropriately shown on design plans;
- prior to the commencement of works, all plants identified for protection from taking and/or disturbance be appropriately flagged to minimise the risk of inadvertent disturbance (flagging tape may be sufficient but barrier mesh or equivalent may be warranted, depending on the distance of works from the plants); and

- prior to commencement of works, all relevant personnel be advised of the location of individual plants to be avoided.

#### *Threatened fauna*

There is potential habitat present for several State- and Commonwealth-listed fauna species but no known sites or specific habitat features (e.g. den, nest) requiring special management.

#### *Weeds and plant disease*

It is recommended that specific weed and hygiene management actions be developed as part of the Reserve Activity Assessment for the project and incorporated into any associated construction management plans. As a minimum, the following is recommended:

- induct construction personnel on the management concerns with respect to PC (and weeds), especially with respect to risks to threatened flora (*Epacris barbata*) and native vegetation, including information on field symptoms and hygiene protocols;
- apply strict machinery, vehicle and personnel hygiene protocols for all construction activities, which includes spraying work boots with Phytoclean™ prior to leaving the walkers' car park;
- check boots and socks (and other clothing) for seeds and remove prior to leaving the walkers' car park;
- source any gravel (or other materials that can host the pathogen) from a quarry certified as PC-free;
- ensure any track surfaces are formed such that pooling of water on the track surface and adjacent to the track is minimised (such pooling should be the subject of regular inspections and fixed if observed);
- direct water across granite exposures (if practical) rather than into adjacent vegetation downslope of the track;
- compact any track surfaces as far as practical to minimise both water pooling and the opportunity to shift soil from one section of the track to another; and
- undertake post-installation monitoring by suitably qualified personnel (e.g. PWS ranger/field officer) in the spring months following installation – if weeds (such as thistles) are detected, they should be relatively simple to treat without herbicides (i.e. grub out).

#### *Legislation and policy*

No formal referral to the relevant Commonwealth government agency under the provisions of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* should be required but this should be confirmed by the client through their own consideration of the *Significant Impact Guidelines* (or through discussion with DPIPWE and/or the Commonwealth Department of the Environment & Energy), especially if all individuals of *Epacris barbata* (bearded heath) cannot be protected during construction.

A permit under the Tasmanian *Threatened Species Protection Act 1995* will be required to take individuals of *Epacris barbata* (bearded heath) if all individuals cannot be protected during construction. This permit should only be applied for once the design of the track is finalised.

It is assumed that a Reserve Activity Assessment will be needed for approval through the Parks & Wildlife Service (DPIPWE).

It is assumed a development application will be required to be prepared under the provisions of the *Glamorgan-Spring Bay Interim Planning Scheme 2015*.



## PURPOSE, SCOPE, LIMITATIONS AND QUALIFICATIONS OF THE SURVEY

### *Purpose*

The Parks & Wildlife Service engaged Environmental Consulting Options Tasmania (ECOtas) to undertake an assessment of the ecological values associated with a proposed new elevated viewing platform and loop track at the Wineglass Bay Lookout, Freycinet National Park, eastern Tasmania, primarily to ensure that the requirements of the identified ecological values are appropriately taken into account during 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 ecological 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 used as part of various approval processes that will be required for works at the site. Specifically, the proposal will require preparation of a Reserve Activity Assessment (RAA) under the Parks & Wildlife Service's internal administration procedures, and the present report is intended to allow the client to complete the relevant sections on ecological matters.

The report format will also be applicable to other assessment protocols as required by the Commonwealth Department of the Environment & Energy (for any referral/approval that may be required under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*), and under the local planning scheme (*Glamorgan Spring Bay Interim Planning Scheme 2015*).

### *Limitations*

The initial ecological assessment was undertaken on 17 May 2019. 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 is 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, the survey was timed to coincide with the peak flowering period of *Pterostylis grandiflora* (superb greenhood), which flowers in autumn-winter (Wapstra 2018) and is known from a population under the existing elevated walkway to the existing viewing area. Other target threatened flora are perennial and no seasonal restriction on survey timing was indicated.

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 **practically 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, except as indicated in METHODS.

### *Qualifications*

Except where otherwise stated, the opinions and interpretations of legislation and policy expressed in this report are made by the author 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.

### *Permit*

Any plant material was collected under DPIPW permits TFL 18174 (in the name of Mark Wapstra). **Relevant data will be entered into DPIPW's *Natural Values Atlas* database** by the author. Some plant material may be lodged at the Tasmanian Herbarium by the author.

No vertebrate or invertebrate material was collected. A permit is not needed to undertake habitat-level surveys of the type indicated (non-destructive searching of *Gahnia microstachya*).

## PROJECT AREA

The project area is wholly within Freycinet National Park (Figures 1-3), specifically located at the existing Wineglass Bay Lookout.

The topography of the project area is moderately steep to very steep generally south-facing slopes developed on massive outcrops and bedrock of Devonian-Carboniferous granitoids and related **rocks, specifically "undifferentiated alkali-feldspar granite/granite/monzogranite (I-type)"** (geocode: Dga) with associated gravelly soils.

The geology is mentioned because of its sometimes strong influence on the classification of vegetation and the potential to support threatened flora (and to a lesser extent threatened fauna, usually through the geological influence on vegetation structure and composition).

Apart from the existing track and lookout infrastructure, the project area is dominated by either native vegetation (low woodland and scrub) or granite exposures (with limited native vegetation in crevices).

The project area is positioned between c. 180 m a.s.l. and 230 m a.s.l.

No defined drainage features are present within or immediately adjacent to the project area.

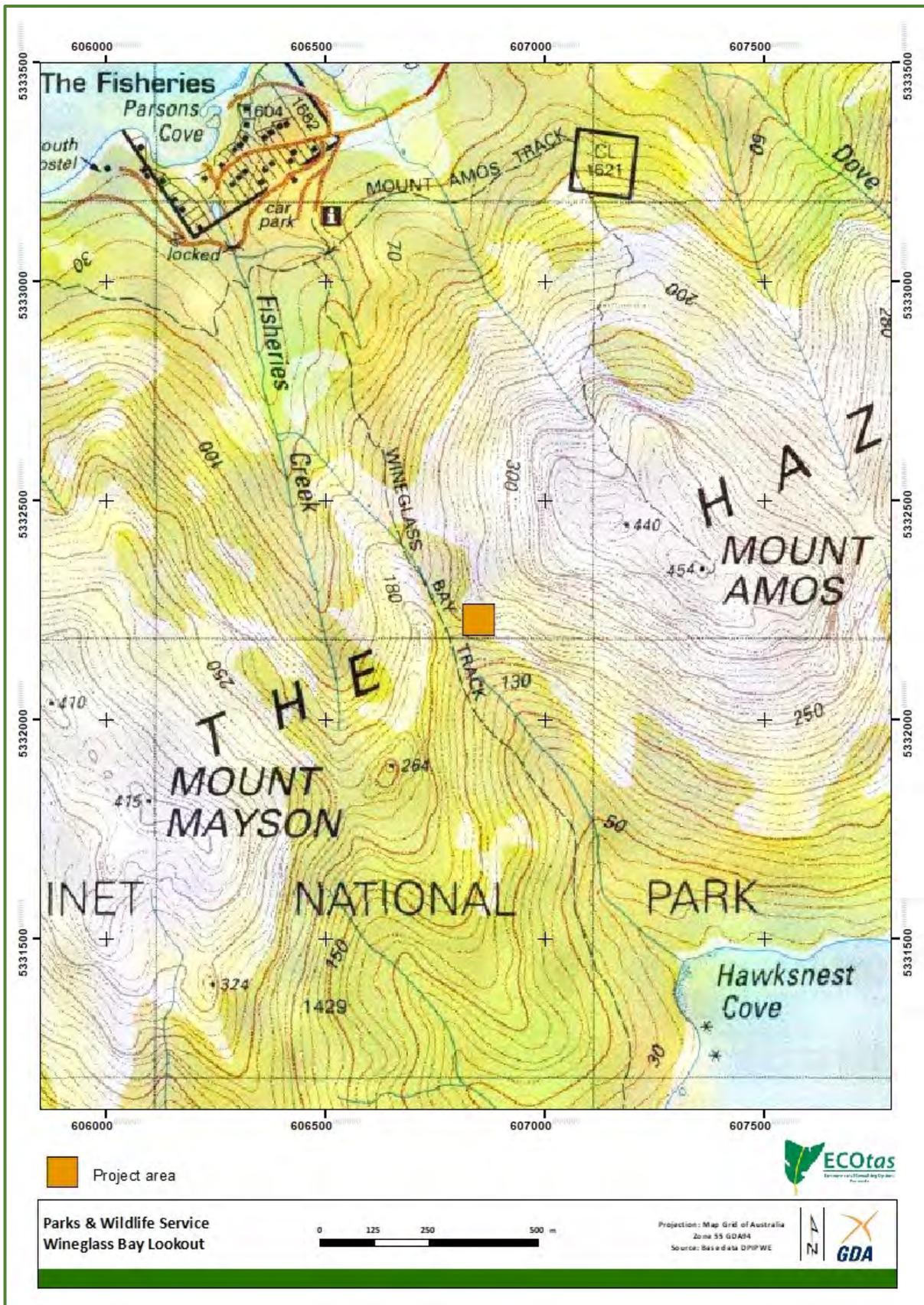


Figure 1. General location of project area

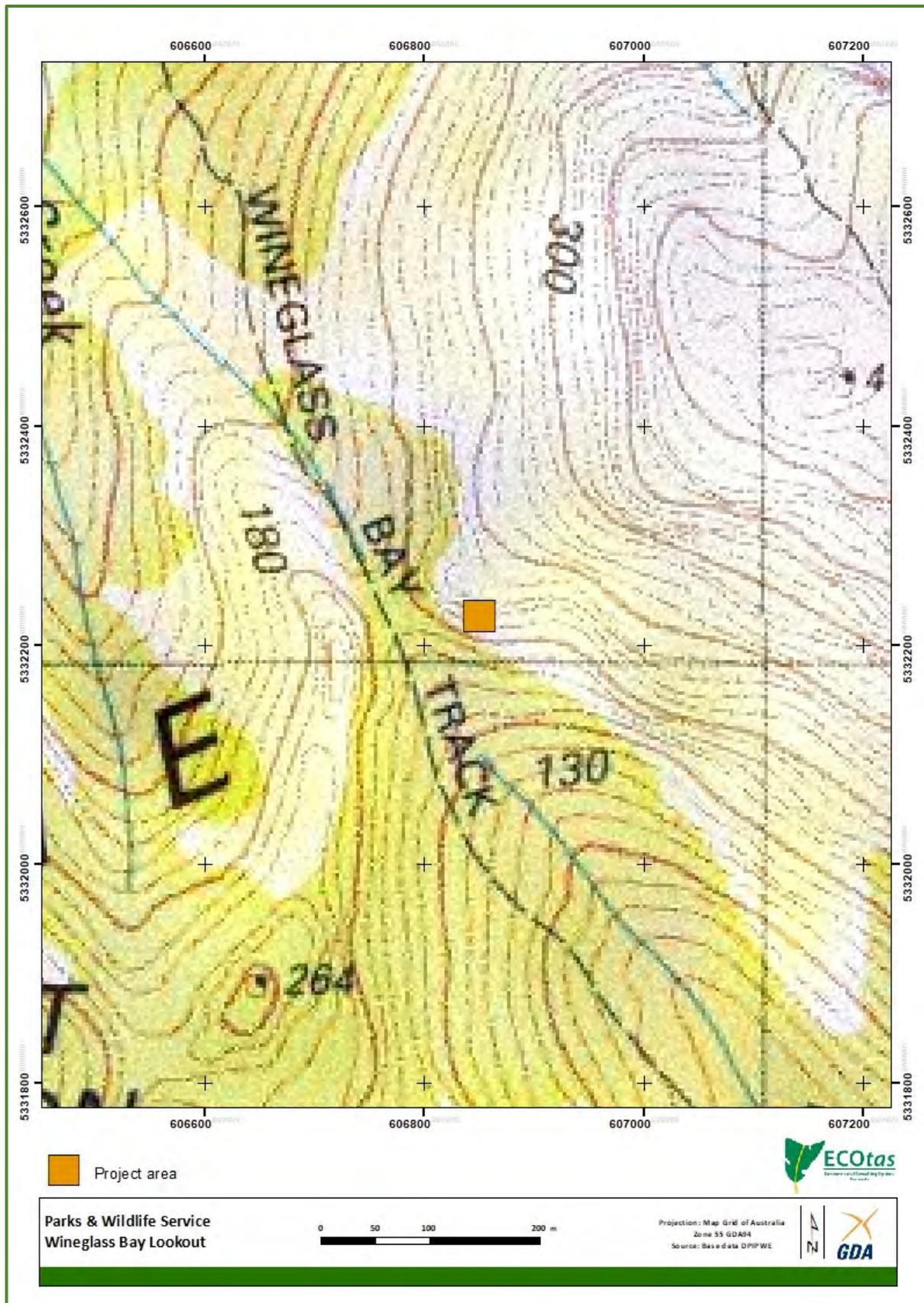


Figure 2. Detailed location of project area (topographic)

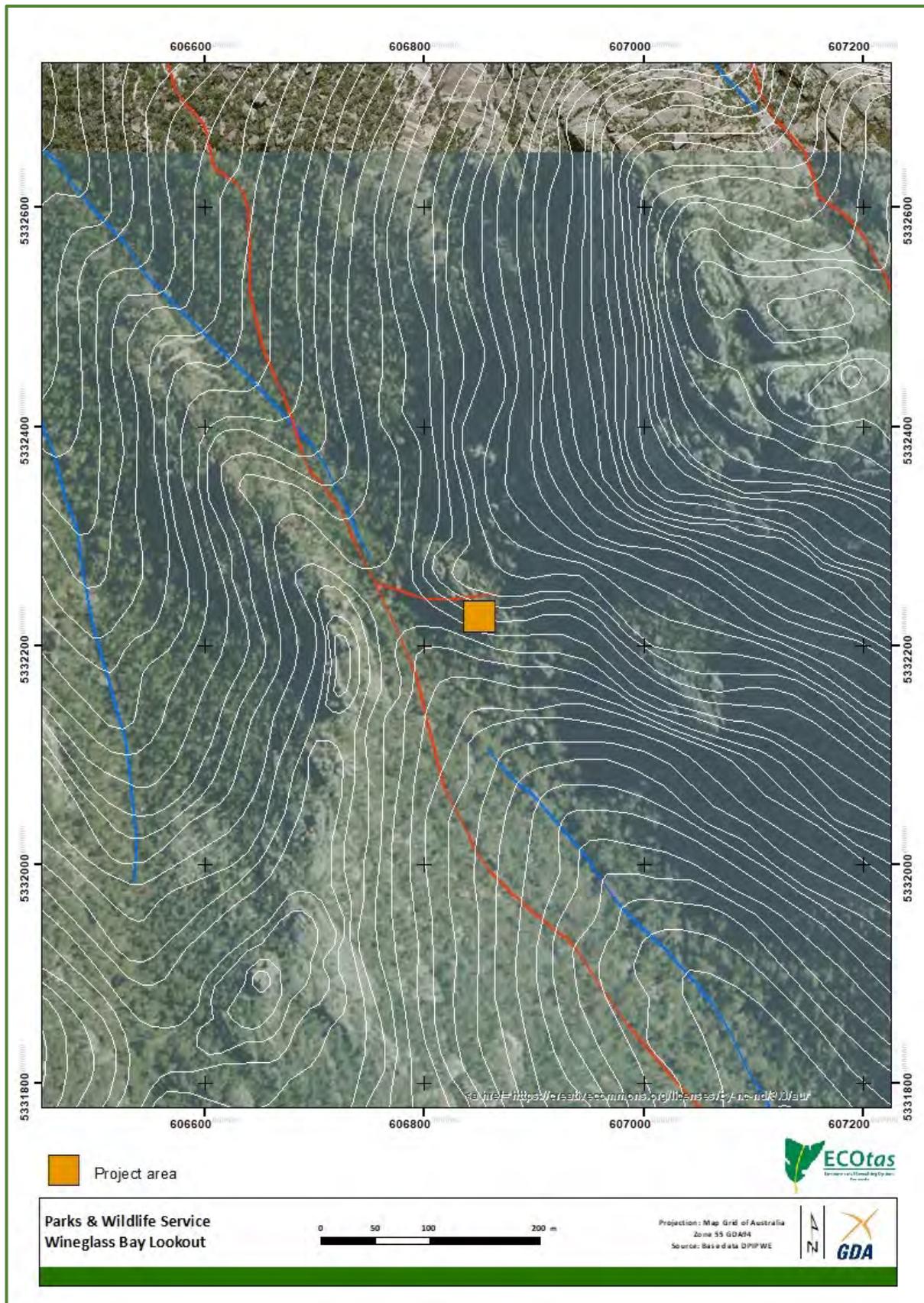


Figure 3. Detailed location of project area showing aerial imagery shown

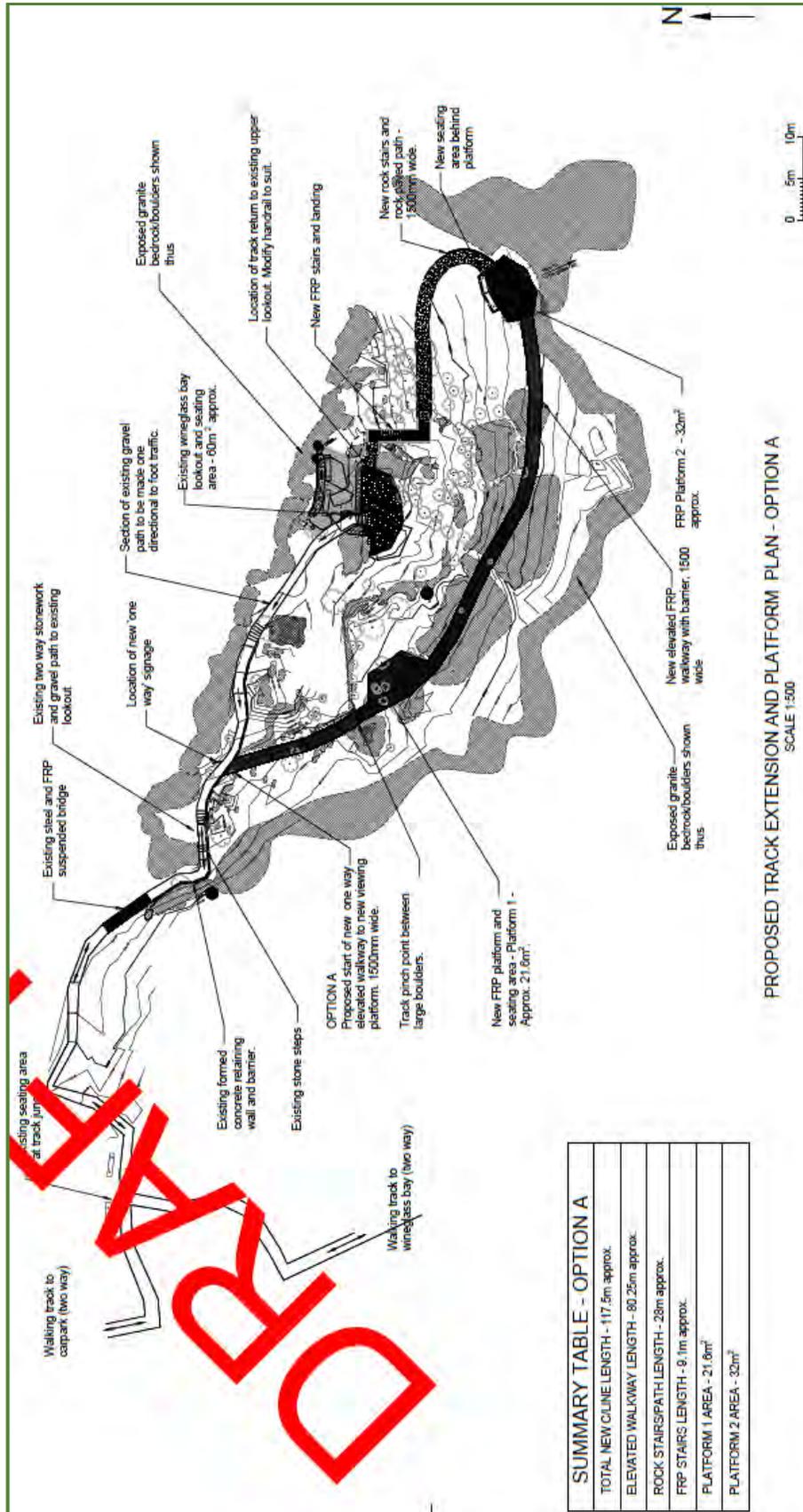


Figure 4. Draft proposed project (indicative only) [source: Parks & Wildlife Service]

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

- Freycinet National Park;
- Glamorgan-Spring Bay municipality, zoned as Environmental Management under the *Glamorgan-Spring Bay Interim Planning Scheme 2015* but not subject to the Biodiversity Protection Area overlay;
- South East Bioregion; and
- Southern Natural Resource Management (NRM) region.

## PROPOSAL

The proposal is shown in Figure 4. The details of the project were discussed on-site.

## METHODS

### *Nomenclature*

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

Vascular species nomenclature follows de Salas & Baker (2018) 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 2019).

Vegetation classification follows TASVEG 3.0, as described in *From Forest to Fjaeldmark: Descriptions of Tasmania's Vegetation* (Kitchener & Harris 2013+).

### *Preliminary investigation*

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

- Tasmanian Department of Primary Industries, Parks, Water & Environment'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's *Natural Values Atlas Report ECOtas\_PWS\_WineglassBayLookout* for a point defining the approximate centre of the project area (606861mE 5332224mN), buffered by 5 km, dated 16 May 2019 (DPIPWE 2019) – Appendix E;
- Forest Practices Authority's *Biodiversity Values Database report, specifically the species' information for grid reference centroid 606861mE 5332224mN (nominally the centroid of the Natural Values Atlas search area), buffered by 2 km, hyperlinked species' profiles and predicted range boundary maps*, dated 16 May 2019 (FPA 2019) – Appendix F;
- Commonwealth Department of the Environment & Energy's *Protected Matters Search Tool Report* for a point defining the approximate centre of the project area (-42.15556 148.29432), buffered by 5 km, dated 16 May 2019 (CofA 2019) – Appendix G;

- the TASVEG 3.0 vegetation coverage (as available through a GIS coverage) and TASVEG Live (as available through TheList);
- GoogleEarth and TheList aerial orthoimagery; and
- other sources listed in tables and text as indicated.

### *Field assessment*

A detailed site assessment was undertaken by Mark Wapstra on 17 May 2019. Prior to site assessment, the proposed project area had been well-defined as both a site plan and in the field with flagging tape and survey points clearly indicating the preferred track route and locations of viewing platforms. On-site guidance was also provided by Steve Heggie (Parks & Wildlife Service) to further guide the limits of the field assessment.

### *Botanical survey – vegetation classification*

Vegetation classification follows TASVEG 3.0, as described in *From Forest to Fjaeldmark: Descriptions of Tasmania's Vegetation* (Kitchener & Harris 2013+). 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.

In this case, a revised detailed vegetation map is not required because of the existing accuracy (within certain limits) of TASVEG 3.0/TASVEG Live and the small-scale of the project.

### *Botanical survey – threatened flora*

The anticipated disturbance footprint of the project was assessed for the presence of threatened flora by slow-walking the route in both directions, initially under the guidance of a PWS officer and then by myself to record finer details of the ecological values of the project area, including threatened flora. The survey was extended outside the anticipated works footprint to ensure that any minor alterations to the design (e.g. because of site constraints) would not trigger the need for a follow-up assessment.

Where threatened flora were detected, hand-held GPS (Garmin Oregon 600) was used to waypoint the location of individuals. Individuals (of *Epacris barbata*) within or close to the anticipated construction footprint were flagged with blue flagging tape at their bases, as well as (for selected individuals located in the likely construction footprint) at a higher level (to facilitate easy detection for future on-site detailed planning). Notes were made on abundance, habitat and possible impacts.

A small population of *Pterostylis grandiflora* (superb greenhood) is also known from immediately below the existing elevated walkway to the existing viewing area. This site was confirmed by using iGIS (iPhone GIS app) to navigate to the precise location. Following confirmation of the site, which is outside the anticipated construction footprint, the extent of the population was further determined by extension survey downslope, below the existing track. All individuals were waypointed using hand-held GPS (Garmin Oregon 600) and notes taken on fecundity (i.e. sterile rosette, budding flowers, plants at full anthesis, post-fertilised flowers).

### *Zoological survey – general*

Surveys for threatened fauna were practically 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, except as indicated below.

#### Chaostola skipper, *Antipodia chaostola* tax. *leucophaea*

Potential habitat of this species is described by FPA (2019) as dry forest and woodland supporting *Gahnia radula* (usually on sandstone and other sedimentary rock types) or *Gahnia microstachya* (usually on granite-based substrates). The project area is within the potential range of the species, and there are known colonies on the lower to middle slopes of the northern face of Mount Amos.

Limited parts of the project area supported an understorey with scattered to locally dense patches of *Gahnia microstachya* (slender sawsedge). Searching for larval shelters (and sometimes the chewed tips of *Gahnia* leaves) is the recognised survey method for the species. Larval shelters are reasonably obvious if one is familiar with their appearance. All patches of *Gahnia microstachya* within and close to the project area were examined. Because no evidence of the chaostola skipper was detected, further details are not provided.

### *Declared and environmental weeds*

The presence of “declared weeds” within the meaning of the Tasmanian *Weed Management Act 1999* or “environmental weeds” (author opinion and as included in *A Guide to Environmental and Agricultural Weeds of Southern Tasmania*, NRM South 2017), was assessed, with the intention to waypoint individuals/patches using hand-held GPS (Garmin Oregon 600). Because no evidence of the declared or environmental was detected, further details are not provided.

### *Plant and animal disease*

The potential presence of plant disease, including *Phytophthora cinnamomi* (rootrot, PC), myrtle wilt and myrtle rust, was assessed by reference to field symptoms in susceptible vegetation types and plant species.

The potential presence of animal disease (chytrid) was assessed by reference to the presence of habitats conducive to supporting populations of amphibians.

## FINDINGS

### *Vegetation types*

#### Comments on TASVEG mapping

This section, which comments on the existing TASVEG 3.0 and TASVEG Live mapping for the project 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.

TASVEG 3.0 & TASVEG Live (identical) map the broader project area (Figure 5) as:

- *Eucalyptus tenuiramis* forest and woodland on granite (TASVEG code: DTG): extensive areas of the south-facing slopes below the existing track and lookout;
- *Leptospermum glaucescens* heathland and scrub (TASVEG code: SLG): extensive areas above the existing track and lookout; and
- lichen lithosere (TASVEG code: ORO): patch northeast of saddle.

The existing vegetation mapping across much of The Hazards is indicative only, especially with respect to the finer-scaled extent of forest and woodland communities, including the differentiation of DTG from other mapping units such as *Eucalyptus amygdalina* coastal forest and woodland (DAC). In addition, extensive areas are allocated to SLG and ORO but represent a fine-scale mosaic of SLG, ORO and other mapping units such as DTG. In the case of the present project area, it is clear that at the scale of the project, the limits of DTG, SLG and ORO are inaccurate to varying degrees, although these units are all present.

#### Vegetation types recorded as part of the present study

Vegetation types have been classified according to TASVEG 3.0, as described in *From Forest to Fjaeldmark: Descriptions of Tasmania's Vegetation* (Kitchener & Harris 2013+). Appendix A provides detailed descriptions of the native vegetation mapping units identified from the project area. A revised vegetation map is not presented because it would represent minor corrections to the existing TASVEG mapping, has little practical application in relation to the specific project, and such miniscule changes (relative to The Hazards) would not make a meaningful addition to TASVEG Live.

The project area supports a mosaic of DLG, SLG and ORO. The DLG is expressed quite typically for The Hazards with as low woodland form over a variably dense scrub layer. *Eucalyptus amygdalina* is present throughout the areas allocable to DLG but is at most sub-dominant so no areas are classified as DAC. Much more detailed field mapping would be needed to properly separate DLG and DAC across The Hazards.

SLG is also expressed in the typical form observed across much of The Hazards, which is a complex mix of low to medium shrubs, sometimes obviously dominated by *Leptospermum glaucescens* but often at a local level dominated by other shrub species, with occasional emergent low woodland-form trees. SLG occurs as a fringe of the DLG and as narrow bands between massive granite exposures. The granite exposures are mapped as ORO and are generally devoid of vascular plants except in crevices and small ledges.

Of the vegetation types recorded from the project area, none equate to threatened ecological communities listed on schedules of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

Of the vegetation types recorded from the project area, none are classified as threatened on Schedule 3A of the Tasmanian *Nature Conservation Act 2002*.

All the mapping units identified from the project area are widespread and well-reserved in Freycinet National Park, especially across The Hazards. The works, as presently conceptualised, will have a

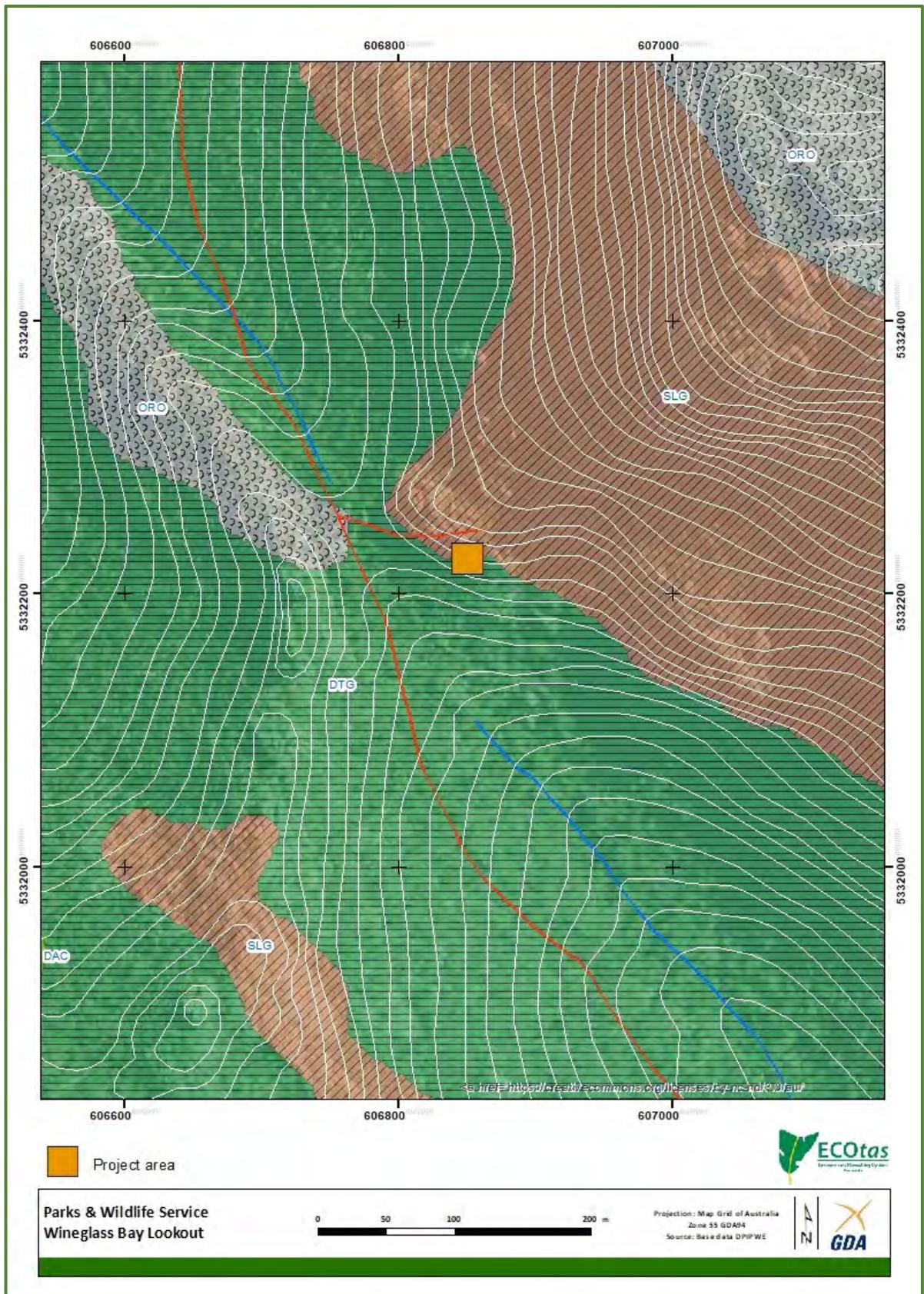


Figure 5. Existing TASVEG 3.0/TASVEG Live vegetation mapping for the project area and surrounds [refer to text for codes]

negligible impact on the native vegetation within and adjacent to the project area. There will be limited material loss of native vegetation, limited to a narrow elevated walkway between the existing track take-off point and the first viewing/seating area (this section includes open form DLG and a narrow band of open SLG). The first viewing platform is effectively on exposed rock (ORO). Further limited vegetation modification will occur between the first viewing/seating area and the main new elevated viewing platform (all in SLG, which mainly occurs as narrow bands between rock exposures). The main new elevated viewing platform is also a large area of exposed granite (ORO). The new track from this platform that will curve up and around to the existing upper lookout is through a band of SLG and then woodland-form DLG. On-site discussions clearly indicated that vegetation removal would be limited to that required to install the elevated walkways, platforms and paths, with the intention to go between trees and only trim over-hanging branches if necessary.

### *Plant species*

#### General information

A total of 37 vascular plant species were recorded from the project area (Appendix B), comprising 20 dicotyledons (including 7 endemic), 14 monocotyledons (including 1 endemic and 3 exotic species), 1 gymnosperm (native) and 2 pteridophytes (both native), 8 pteridophytes (all native). The very low proportion of exotic species (just three annual grass species, all highly localised) is noted.

While the diversity of native plant species is low, it is quite typical for this part of The Hazards, especially for sites with such large areas of exposed granite and where the long period of fire has resulted in dense understories of just a few shrub species and/or deep leaf litter and coarse woody debris, both limiting the diversity of grasses and herbs. Additional surveys at different times of the year may detect additional short-lived herbs and grasses but such surveys are not considered warranted given the very good coverage of the small project area and the list of species recorded, indicating that most species likely to be present have already been recorded. The opportunity to detect additional threatened flora species is considered very low.

#### Threatened flora species recorded from project area

The Freycinet Peninsula is well-known as a “hotspot” for threatened flora and locally endemic species (refer Figure 6 for an overview of records from wider area and Figure 7 for a more detailed map of threatened flora from closer to the project area). Many such species occur on the granite hills of The Hazards and the foothills between The Hazards and the coastline.

One plant species listed as threatened (endangered) on the Tasmanian *Threatened Species Protection Act 1995* (TSPA) and the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) was detected from the project area, viz. *Epacris barbata* (bearded heath). An additional species listed as threatened (rare) on the TSPA was detected from outside the project area, viz. *Pterostylis grandiflora* (superb greenhood). Refer to Figure 8.

- *Epacris barbata* (bearded heath) [TSPA: endangered; EPBCA: Endangered]

*Epacris barbata* (Plates 1 & 2) is restricted to the granite-based hills of the Freycinet Peninsula, generally on the higher slopes but also occasionally on the lower near-coastal slopes. The species

has been previously reported from across The Hazards but no formal records are reported from between the saddle and the existing lookout (the species is reported from the informal original western lookout granite exposures).

Several individuals were recorded (Table 1) from within and adjacent to the anticipated construction footprint (Figure 8). Note that the hand-held GPS waypoints provide an indicative position only. No attempt has been made to georeference these waypoints to the design plan because all relevant (i.e. those that may be impacted) individuals were blue-flagged. This means that a professional-level survey/designer/engineer can georeference (or otherwise accurately place) the specific location of the individuals on to the design plans.

Table 1. Details of *Epacris barbata* recorded from within and close to the project site

Easting	Northing	Individual details	Comments
606875.2	5332195.4	1 x 1 m (blue flagged)	in crevice between exposed granite outcrops
606876.5	5332188.1	1 x 60 cm	in crevice between exposed granite outcrops
606876.4	5332196.9	1 x 90 cm + 26 x 5-30 cm	in crevice between exposed granite outcrops and extending around and under overhang in c. 2 x 2 m area + 1 x 1.2 m further downslope
606875.3	5332194.7	1 x 60 cm (blue flagged)	in crevice between exposed granite outcrops * [Plates 5 & 6]
606873.3	5332210.7	1 x 1.1 m (blue flagged)	hidden amongst dense scrub between exposed granite outcrops * [Plates 5 & 6]
606871.7	5332202.5	1 x 15 cm (blue flagged)	hidden amongst dense scrub between exposed granite outcrops * [Plates 5 & 6]
606863.3	5332201.1	1 x 1.1 m (blue flagged)	eastern edge of exposed granite outcrop * [Plate 7]
606866.3	5332199.2	1 x 10 cm seedling in crack	in crack in exposed granite boulder * [Plates 3 & 4]

Given the high conservation status of *Epacris barbata* and the localised novel population not previously reported from the eastern side of the saddle between Mt Amos and Mt Mayson, it is recommended that further site planning be undertaken with the objective of avoiding the need to **"take" any individuals of the species**. Of the individuals indicated in Table 1, those marked with \* are close enough (or within) the anticipated design and construction footprint to warrant further management consideration.

It is noted that *Epacris barbata* is susceptible to *Phytophthora cinnamomi* (PC). However, no evidence of PC was observed in several highly susceptible species (including individuals of *Epacris barbata*) and it appears that the project area is currently disease-free. Refer to FINDINGS *Other ecological values Plant disease (Phytophthora cinnamomi)* for more information. However, in summary it is recommended that strict hygiene protocols be applied to all relevant stages of the project, especially construction.

If all individuals cannot be avoided, the legislative implications under both the TSPA and the EPBCA will need to be further considered – refer to DISCUSSION *Legislative and policy implications* for more details.



Plates 1 & 2. *Epacris barbata* showing budding flowers (from project site) and open flowers (from a different site on The Hazards)



Plates 3 & 4. Seedling of *Epacris barbata* growing in a small crevice of an exposed boulder along the proposed route of the elevated walkway between the first and main viewing platforms



Plates 5 & 6. Blue flagging tape (circled in red) showing location of individuals of *Epacris barbata* along the proposed route (blue arrow) of the elevated walkway between the first and main viewing platforms, just west of the large granite exposure proposed as the site for the main viewing platform (LHS image looking west from the platform; RHS image looking east towards the platform)



Plate 7. Blue-flagged (red circle) individual of *Epacris barbata* (c. 1.1 m tall) growing amongst another shrub (difficult to separate the two) along the proposed route (blue arrow) of the elevated walkway, just east of the proposed first viewing area



Plates 8 & 9. Crevice at western edge of main granite exposure proposed as the site of main elevated viewing platform (approximate area indicated in yellow) – *Epacris barbata* occurs as scattered individuals in the dense scrub at the edge of the exposure (red ellipse), most of which are well below the anticipated construction zone so should not be affected

- *Pterostylis grandiflora* (superb greenhood) [TSPA: rare; EPBCA: not listed]

*Pterostylis grandiflora* (Plates 10-12) is widespread in eastern and northern Tasmania, from about Swansea through to Narawntapu, mainly in near-coastal sites at lower elevations. Freycinet National park, especially The Hazards, has long been known as supporting several long-persistent but highly localised colonies of the species.



Plates 10-12. *Pterostylis grandiflora*: flower from front, flower from top and sterile basal rosette

Prior to the present assessment, a small population of *Pterostylis grandiflora* was reported from the "Wineglass Bay Lookout" where it was noted as "growing under elevated walkway, c. 60 m west of main lookout", recorded by Steve Everts (PWS ranger at the time) on 10 July 2013, with "1 plant in full flower, other withered" and a note stating "area disturbed during track construction in 2011" (Figure 7).

This site (Figures 7 & 8) was confirmed on the present assessment, with four sterile basal rosette leaves observed in the bare ground immediately below the western end of the start of the elevated walkway (Plate 13). This site will remain undisturbed by the proposed additional works.



Plate 13. Sterile basal rosettes of *Pterostylis grandiflora* from previously reported site below start of elevated walkway

As part of the present assessment, the opportunity was taken to conduct an extension survey for *Pterostylis grandiflora* to determine the extent and abundance of the local population. The area of low *Eucalyptus tenuiramis* woodland below the elevated walkway and west of a massive granite outcrop below the walkway was searched. This site supports a locally abundant population of the species (Table 2; Figure 8).

Table 2. Details of *Pterostylis grandiflora* recorded from close to the project site

Easting	Northing	Individual details	Comments
606802.5	5332237.9	1 x late bud + 1 x rosette	
606806.2	5332240.5	1 x full anthesis + 1 x just fertilised	See Plate 14.
606804.5	5332243.8	1 x full anthesis + 3 x rosettes	
606807.6	5332239.7	1 x late bud	
606808.1	5332244.0	4 x rosettes just below boardwalk (original NVA site)	
606807.7	5332220.1	1 x full anthesis	
606809.4	5332229.2	1 x full anthesis + 2 x rosettes	on flat rock
606812.5	5332221.5	2 x late bud + c. 10 rosettes	growing in <i>Dockrillia striolata</i> (yellow rock-orchid) on near-vertical granite wall [Plate 15]



Plate 14. (LHS) *Pterostylis grandiflora* at full anthesis growing below massive granite outcrop below the existing elevated walkway (note walkway is visible in upper part of image)

Plate 15. (RHS) *Pterostylis grandiflora* growing amongst a clump of *Dockrillia striolata* (yellow rock-orchid) on near-vertical granite wall below existing elevated walkway



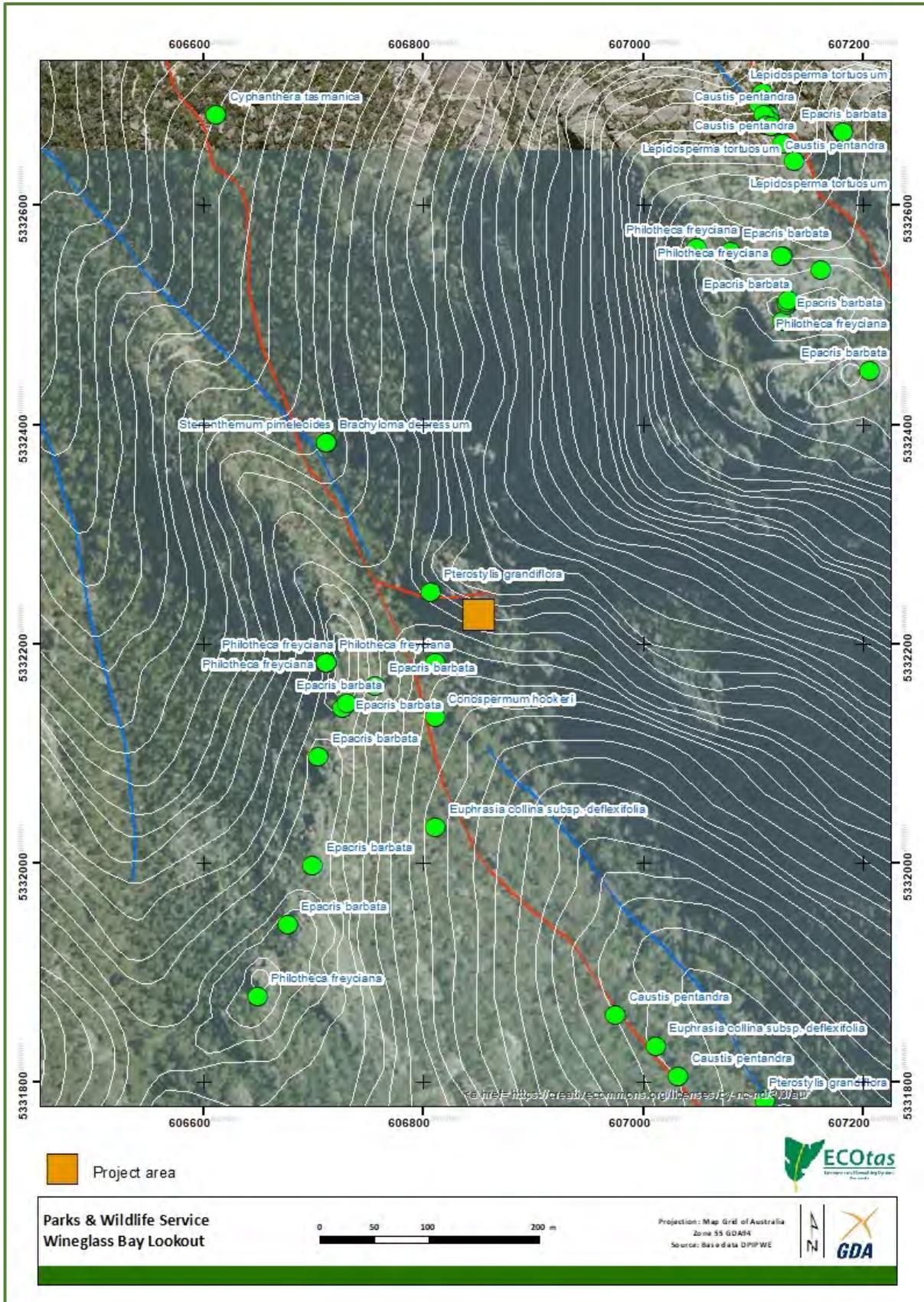


Figure 7. More detailed distribution of known threatened flora records from the project area

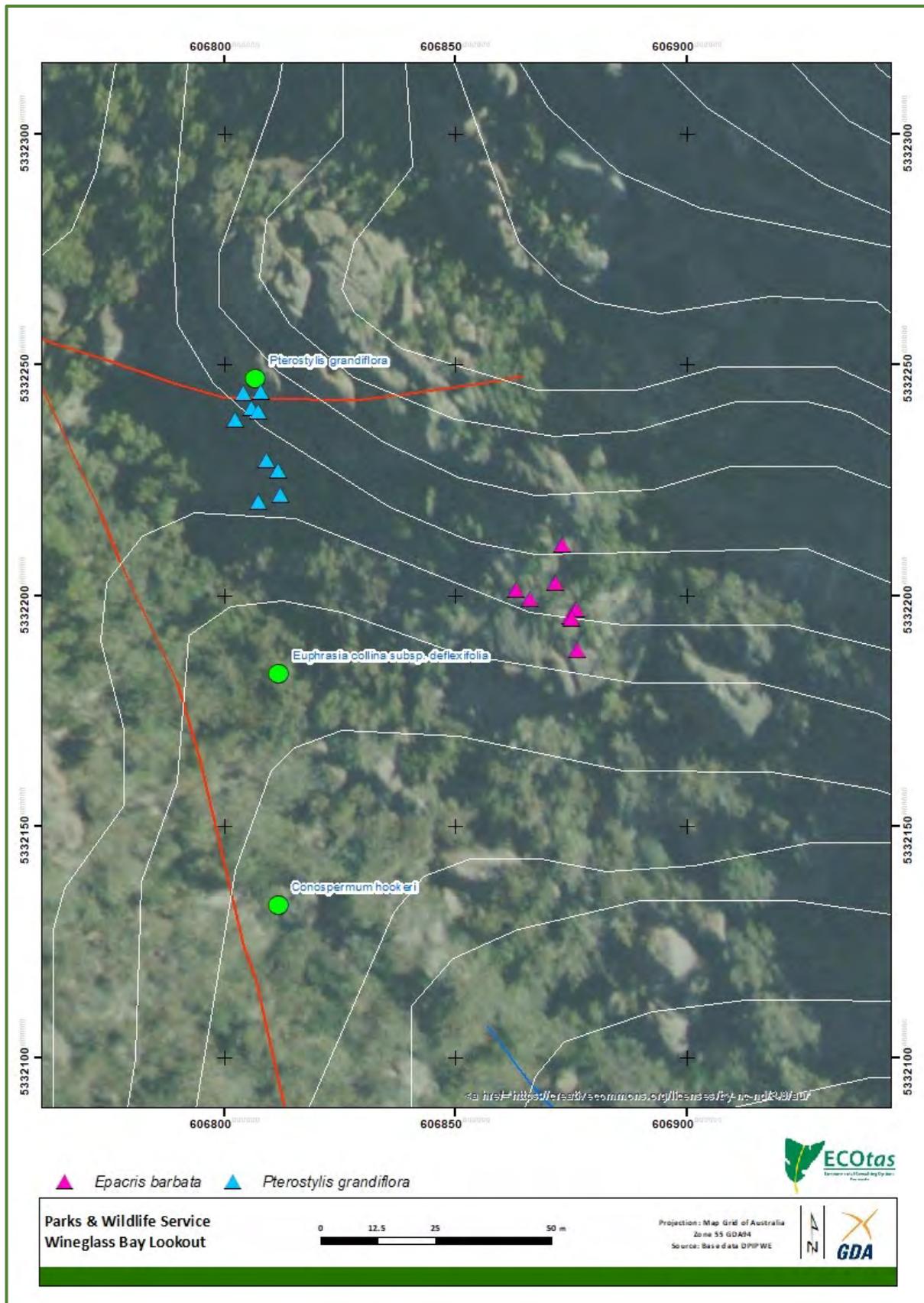


Figure 8. Existing and novel records of threatened flora from the project area

While the present project will not impact on the existing and now expanded population of *Pterostylis grandiflora*, the extension survey did reveal a potential threat to the population. Patrons are leaving the track to the lookout to use bush toilet facilities, following an instinctive route down the side of the massive granite outcrop along a now quite well-worn trail through the leaf litter. *Pterostylis grandiflora* is growing in this trail and on its immediate verges, as well as on small leaf litter-covered rocks that people are scrambling over and around to find a private toilet site. The present works may provide an opportunity to minimise access to this site **by infilling the elevated walkway's** rails so that "slipping through" becomes difficult and either extending the infilled rail to a few metres further back (as it is easy to slip past and head down slope) or make it unattractive by putting some teatree/wattle slash (might be a suitable site to dispose of some of the vegetation debris from the project area). While this is by no means critical, this action would also minimise further littering, which is now becoming quite extensive below the elevated walkway.

#### Threatened flora species potentially present (database analysis)

Table C1 (Appendix C) provides a listing of threatened flora from within 5,000 m of the project 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.

Note that the field assessment was not restricted to the species listed in Table C1 but considered any threatened flora with the potential to be present. While the database analysis utilises a nominal buffer of **5,000 m, the author's own experience** of the vegetation and flora of the general project area combined with database interrogation, meant that the specific potential for numerous other species previously recorded from the wider area were taken into account.

#### *Fauna species*

#### Threatened fauna species known from the project area

The project area is within the predicted range of a number of threatened fauna species – refer to Appendix D for reasoning why several of these are not considered likely to be present (lack of potential habitat). Those species with known records close to the project area and for which some potential habitat is present are discussed in greater detail below (refer also to Figure 9 for overview of existing records of threatened fauna from general project area).

- *Sarcophilus harrisii* (Tasmanian devil), *Dasyurus maculatus* subsp. *maculatus* (spotted-tailed quoll) and *Dasyurus viverrinus* (eastern quoll)

These three large carnivore marsupials have wide ranges and are almost certainly present in the area (based on database records). No evidence of these species (e.g. scats, latrine sites or potential dens) was detected from the project area. A significant impact on the potential habitat of these species is not anticipated from the proposed works and special management is not considered warranted.

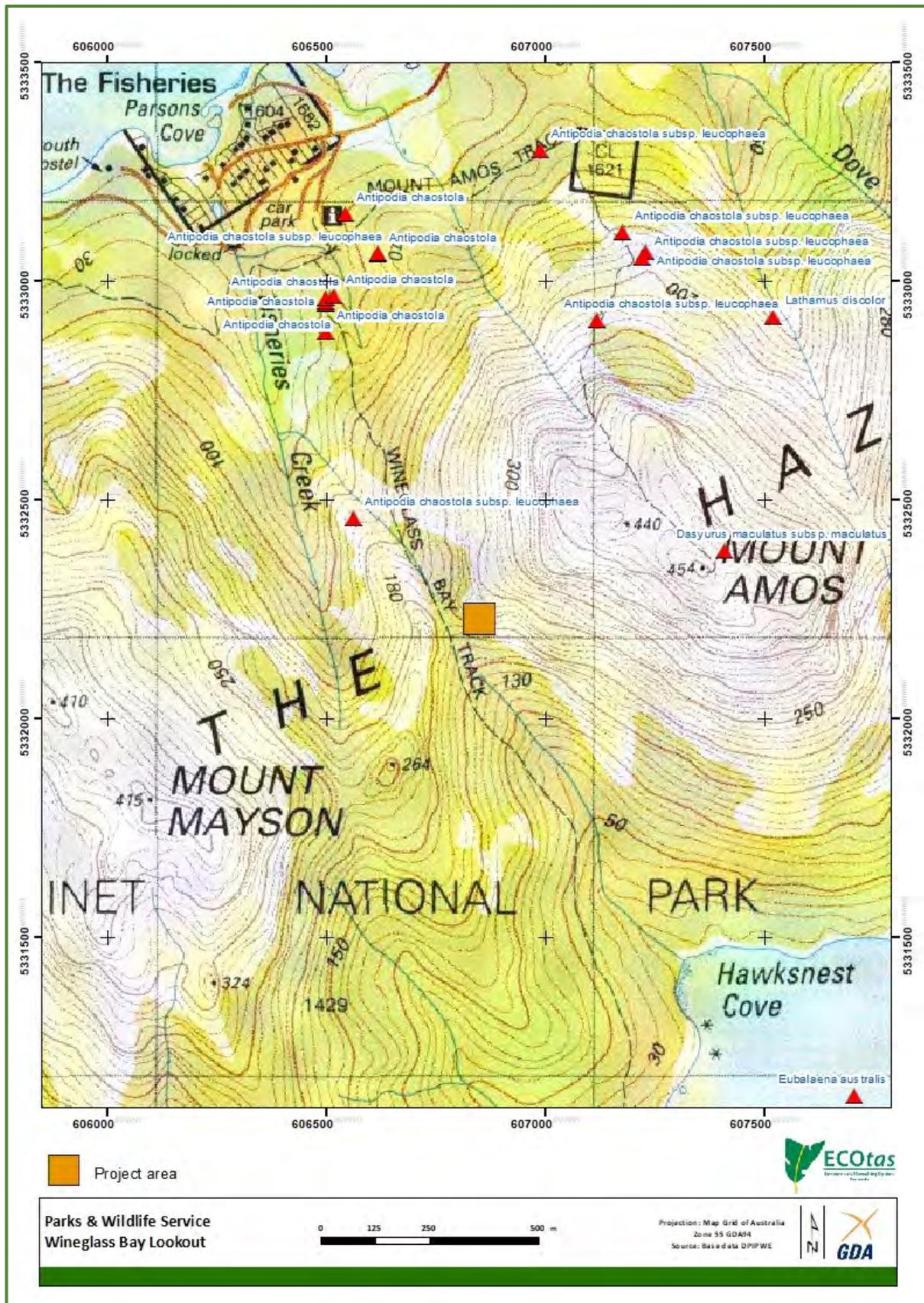


Figure 9. Overview of distribution of known threatened fauna records from the greater Hazards area

- *Antipodia chaostola* tax. *leucophaea* (chaostola skipper)

Potential habitat of this species is described by FPA (2019) as dry forest and woodland supporting *Gahnia radula* (usually on sandstone and other sedimentary rock types) or *Gahnia microstachya* (usually on granite based substrates). The project area is within the potential range of the species, and there are known colonies (Plate 16) on the lower to middle slopes of the northern face of Mount Amos and at the first lookout on the Wineglass Bay Track overlooking Coles Bay (Figure 9).

Limited parts of the project area supported *Gahnia microstachya* (*Gahnia radula* was absent) – one patch opposite the proposed take-off point for the new elevated walkway (Plate 17). This patch was searched for larval shelters (see Plate 16 for example) but no evidence of the species was detected. Given the high level of disturbance (foot traffic, leaving of day packs, eating spot, bush toilet site, etc.) to this location, special management of this small patch of potential habitat is not considered warranted.



Plate 16. (LHS) Larval shelter (circled) of the chaostola skipper formed out of the twisted leaves of *Gahnia microstachya* (Mount Amos track – 25 Jul. 2016)

Plate 17. (RHS) Patch of *Gahnia microstachya* amongst massive granite boulders opposite proposed start of new elevated walway

### Threatened fauna species potentially present (database analysis)

Table D1 (Appendix D) provides a listing of threatened fauna from within 5,000 m of the project 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.

### *Other ecological values*

### Weed species

**No plant species classified as “declared weeds” within the meaning of the Tasmanian *Weed Management Act 1999*, or plant species regarded as “environmental weeds” by the author, were detected from the project area. The only exotic species plant species recorded were three annual**

grasses (*Aira caryophyllea*, *Aira praecox* and *Vulpia bromoides*), species almost ubiquitous in State, including in many reserve areas. Within the project area, these species were highly localised and nowhere abundant and not considered a significant risk of further spread.

Maintaining the effectively weed-free status of the project area is important because (a) the project area supports species of plants with a high priority for conservation management, and (b) the project area is within a national park.

Management actions should aim to minimise the risk of introducing weeds the project area. The key to this will be strict hygiene protocols for machinery, vehicles and personnel entering the work area from a potentially weed-affected site. It is noted that Coles Bay Road and Freycinet Drive are sealed such that vehicles only travelling on these routes can be considered clean, unless they have come from a potentially contaminated site. In addition, the main walkers' car park and the existing walking track to the lookout are weed-free, such that the access to the site presents a low risk of acting as a source of new weed introductions. However, it is recommended that worker's boots and socks are subject to hygiene protocols before leaving the car park to minimise the risk of inadvertent transport of seeds of weeds. Any material (e.g. gravel) brought into the site should be sourced from a facility certified as both weed- and PC-free (see section below). Several planning manuals provide guidance on appropriate management actions, which can be referred to develop site-specific prescriptions for the project. 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.

It is also recommended that post-installation monitoring is undertaken by suitably qualified personnel (e.g. PWS ranger/field officer) in the spring months following installation. If weeds (such as thistles) are detected, they should be relatively simple to treat without herbicides (i.e. grub out).

#### Rootrot pathogen, *Phytophthora cinnamomi*

*Phytophthora cinnamomi* (PC) is widespread in lowland areas of Tasmania, across all land tenures. However, disease will not develop when soils are too cold or too dry. For these reasons, PC is not a threat to susceptible plant species that grow at altitudes higher than about 700 metres or where annual rainfall is less than about 600 mm (e.g. Midlands and Derwent Valley). Furthermore, disease is unlikely 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 metres is sufficient to suppress disease. Hence PC is not 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 project area is within part of the State where PC is a key management issue because extensive parts of Freycinet National Park support vegetation types (e.g. heathland and heathy woodland) and plant species (e.g. *Xanthorrhoea* spp., *Conospermum hookeri*, *Thryptomene micrantha*, *Epacris* spp.) that are highly susceptible to the pathogen. The pathogen is already known from the reserve but there are no known sites along the Wineglass Bay Track (Figure 10).

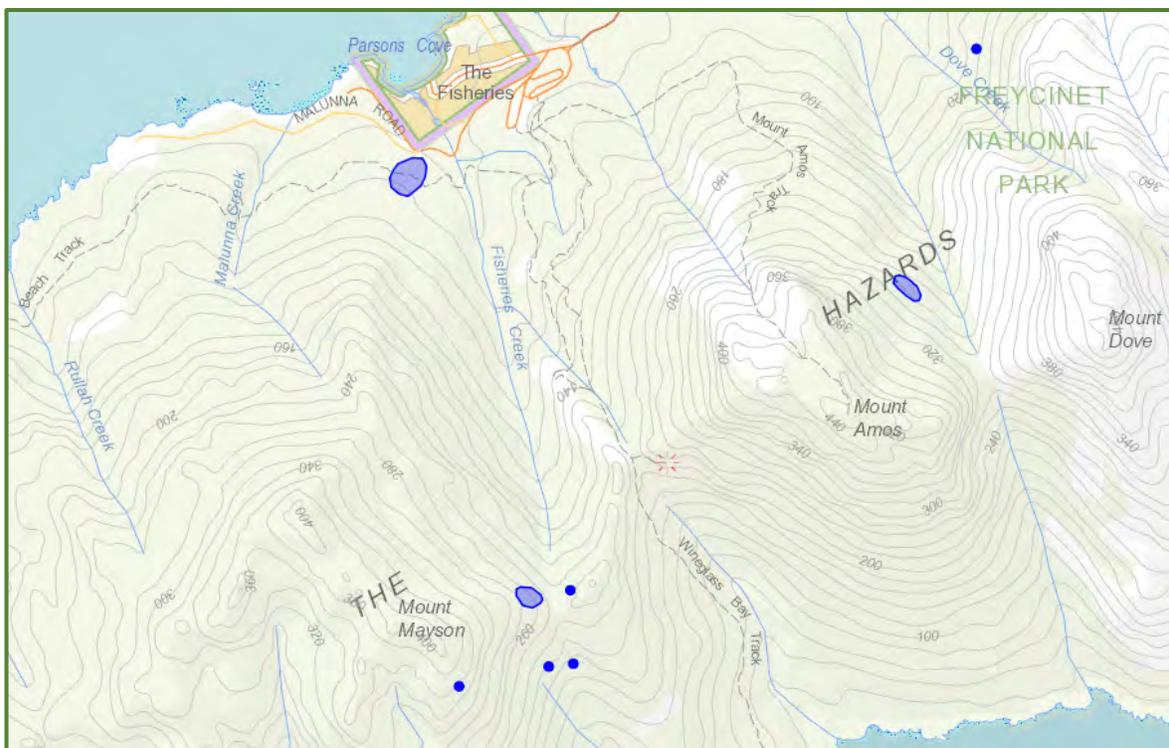


Figure 10. Records of *Phytophthora cinnamomi* from The Hazards  
[source: *Natural Values Atlas*, 27 May 2019]

Field assessment did not detect any field symptoms of PC from the project area. The dead *Leptospermum grandiflorum* and dying *Acacia myrtifolia* on the exposed rock below the proposed new main viewing platform are attributed to drought only (not PC) as all other plants in the vicinity are healthy. It is reasonable to assume that the project site is PC-free. As such, all management should be aimed at maintaining this status. Refer to recommendations under Weed species for suggested hygiene protocols.

The following summarises the key weed and disease management recommendations for the project:

- induct construction personnel on the management concerns with respect to PC (and weeds), especially with respect to risks to threatened flora (*Epacris barbata*) and native vegetation, including information on field symptoms and hygiene protocols;
- apply strict machinery, vehicle and personnel hygiene protocols for all construction activities, which includes spraying work boots with Phytoclean™ prior to leaving the walkers' car park;
- check boots and socks (and other clothing) for seeds and remove prior to leaving the walkers' car park;
- source any gravel (or other materials that can host the pathogen) from a quarry certified as PC-free;
- ensure any track surfaces are formed such that pooling of water on the track surface and adjacent to the track is minimised (such pooling should be the subject of regular inspections and fixed if observed);
- direct water across granite exposures (if practical) rather than into adjacent vegetation downslope of the track;

- compact any track surfaces as far as practical to minimise both water pooling and the opportunity to shift soil from one section of the track to another; and
- undertake post-installation monitoring by suitably qualified personnel (e.g. PWS ranger/field officer) in the spring months following installation – if weeds (such as thistles) are detected, they should be relatively simple to treat without herbicides (i.e. grub out).

### Myrtle wilt

Myrtle wilt, caused by a wind-borne fungus (*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.

*Nothofagus cunninghamii* is absent from the project area. No special management is recommended.

### 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 *Puccinia 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. No special management is recommended.

### Chytrid fungus and other freshwater pathogens

Native freshwater species and habitat are under threat from freshwater pests and pathogens including *Phytophthora cinnamomi* (root rot), *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.

There are no records of chytrid on the Freycinet Peninsula (*Natural Values Atlas*, 20 April 2017): whether this is a genuine absence or a reflection of the bias in survey effort towards other parts of the State is not known. However, the project area does not include any permanent or ephemeral drainage features. No special management is recommended.

### Additional "Matters of National Environmental Significance"

The EPBCA *Protected Matters Area* report (CofA 2019) indicates that the project area is within 10 km of a Wetland of International Importance (Ramsar), namely Moulting Lagoon. The site is

outside the catchment of Moulting Lagoon (site is on the ocean-side of The Hazards overlooking Wineglass Bay) and any works will not have an impact on this feature.

The EPBCA *Protected Matters Area* report (CofA 2019) also indicates that the Threatened Ecological Community Giant Kelp Marine Forests of South East Australia, listed as Endangered, is likely to occur within the area. Works will not have any impact on the marine environment so this community, even if present in the bay, would not be affected.

## DISCUSSION

### *Summary of key findings*

#### Threatened flora

- One plant species listed as threatened (Endangered) on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) was detected from the proposed project area; as follows:
  - *Epacris barbata* (bearded heath).
- One plant species listed as threatened (endangered) on the Tasmanian *Threatened Species Protection Act 1995* (TSPA) was detected from the project area, as follows:
  - *Epacris barbata* (bearded heath).
- One plant species listed as threatened (rare) on the Tasmanian *Threatened Species Protection Act 1995* (TSPA) was detected from close to the project area, as follows:
  - *Pterostylis grandiflora* (superb greenhood).
- It is recommended that a solution be sought to avoid the need to “take” individuals of *Epacris barbata*. No disturbance to individuals of *Pterostylis grandiflora* is anticipated. A permit will be required under Section 51 of the Tasmanian *Threatened Species Protection Act 1995* to take individuals of *Epacris barbata* if the individuals cannot be avoided.

#### Threatened fauna

- Potential habitat is present for *Sarcophilus harrisii* (Tasmanian devil), *Dasyurus maculatus* subsp. *maculatus* (spotted-tailed quoll), *Dasyurus viverrinus* (eastern quoll), and *Antipodia chaostola* tax. *leucophaea* (chaostola skipper) but the scale of works is such that no significant impact on potential habitat is anticipated.

#### Vegetation types

- The project area supports the following TASVEG mapping units:
  - *Eucalyptus tenuiramis* forest and woodland on granite (DTG);
  - *Leptospermum glaucescens* heathland and scrub (SLG); and
  - lichen lithosere (ORO).
- None of these mapping units equate to threatened ecological communities listed on schedules of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.
- None of these mapping units are listed as threatened on Schedule 3A of the Tasmanian *Nature Conservation Act 2002*.
- Works will result in minimal impact on native vegetation.

### Weeds

- No species classified as “declared weeds” within the meaning of the Tasmanian *Weed Management Act 1999* or “environmental weed” were detected from project area.
- Recommendations are made to maximise the chance of maintaining the area as weed-free.

### Plant disease

- No evidence of plant disease (*Phytophthora cinnamomi*, rootrot fungus) was detected from the project area, which appears to be PC-free.
- Recommendations are made to maximise the chance of maintaining the area as disease-free.

### Animal disease (chytrid)

- The project area does not support habitats conducive to the frog chytrid pathogen.
- Special management is recommended.

### *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, not represent the views of relevant agencies, and it is recommended that independent advice is sought from the relevant agency/authority.

### Tasmanian Threatened Species Protection Act 1995

Threatened flora on this Act are managed under Section 51, where a permit is required to knowingly “take” (which includes kill, injure, catch, damage, destroy and collect), keep, trade in or process any specimen of a listed species. Where threatened flora are likely to be taken, it is usual to apply for a permit under Section 51 of the Act on the required proforma to the Policy & Conservation Advice Branch (PCAB, DPIPWE). This should only be submitted when a specific action is known such that details can be provided of the degree of anticipated impact on the species. Note that even activities that may benefit (or not materially impact on) a species can still require a permit (e.g. fuel reduction burning across a known site).

In this case, if the final design of the project requires the “taking” of individuals of *Epacris barbata* (bearded heath), a permit will need to be sought from the Policy & Conservation Advice Branch (PCAB, DPIPWE).

Potential habitat of threatened fauna is more complex to manage under Section 51 of the Act because unless works would result in the “taking” of a specimen, a permit under the Act is not technically possible. However, it is usual for development proposals involving the disturbance of potential habitat of threatened species listed on the Act to be referred to DPIPWE for advice. In the absence of being in a position to issue a permit under Section 51 of the Act, DPIPWE’s Policy & Conservation Advice Branch (PCAB, DPIPWE) may make recommendations to a development proponent in regard to managing habitat of threatened species and/or may endorse or comment on proposed offset/mitigation strategies. In this case, I do not believe that formal advice is required in relation to threatened fauna due to the small scale of the proposed works, and the absence of particular habitat features such as dens, colonies or nests of threatened fauna species.

Commonwealth Environment Protection and Biodiversity Conservation Act 1999

*Threatened flora*

One flora species listed on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* was detected from within the project area. If the final design of the project avoids the taking of individuals of *Epacris barbata* (bearded heath), or materially impacting on its supporting habitat, there should be no implications under this Act. The Commonwealth Department of the Environment provides a *Significant Impact Guidelines* policy statement (CofA 2013) to determine if referral to the department is required. These *Guidelines* will need to be reviewed if the project will result in a material impact on the species. However, it is highly unlikely that the loss of a small number of individuals would warrant a formal referral.

*Threatened fauna*

There is potential habitat for several fauna species listed on this Act including *Sarcophilus harrisii* (Tasmanian devil), *Dasyurus maculatus* subsp. *maculatus* (spotted-tailed quoll), *Dasyurus viverrinus* (eastern quoll), and *Antipodia chaostola* tax. *leucophaea* (chaostola skipper).

In my opinion, with respect to the above species, under the *Significant Impact Guidelines* policy statement (CofA 2013) the project **will not constitute a "significant impact" because while there** may be a loss of/disturbance to a small area of potential habitat, the loss is not such that it is likely to lead to a long-term decrease in the size of an important population of a species, reduce the area of occupancy of an important population, fragment an existing important population into two or more populations, adversely affect habitat critical to the survival of a species, disrupt the breeding cycle of an important population, modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline, result in invasive species that are harmful to a threatened species **becoming established in the threatened species' habitat**, introduce disease that may cause the species to decline, or interfere substantially with the recovery of the species. On this basis, a referral under the provisions of the Act is not considered warranted.

Tasmanian Nature Conservation Act 2002

Schedule 3A of the Act lists vegetation types classified as threatened within Tasmania. The project area does not support any such vegetation types.

Tasmanian Forest Practices Act 1985 and associated regulations

The Act provides this definition of the concept of "clearing":

*clearing of trees* means the removal of trees by–

- (a) clearing, cutting, pushing or otherwise removing; or
- (b) destroying the trees in any way.

The Act provides this definition of the concept of "trees":

*trees* means –

- (a) any woody plants with a height or potential height of 5 metres or more, whether or not living, dead, standing or fallen, that are–
  - (i) native to Tasmania; or

- (ii) introduced into Tasmania and used for the processing or harvesting of timber; and
- (b) tree ferns [where *tree fern* means a plant of the species *Dicksonia antarctica*].

Within the project area, on this basis, even the removal of seedlings, saplings, logs or trunks (dead or alive) of various species of trees **and tall shrubs may constitute “clearing” of “trees” under the Act.**

The *Forest Practices Regulations 2017* specify circumstances in which an FPP is not required, as follows:

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 for each 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 for each year–
 whichever is the lesser.

While the Regulations specify various land use activities that are exempt from the requirements of an FPP (e.g. mineral exploration and extraction, construction of dams, public roads, etc.), construction of pedestrian tracks is not specified. The consequence of this non-exemption is that the requirements for an FPP for this project must be considered. Critical to this is whether over a period of one calendar year, the permitted volume of timber (100 tonne threshold) or total area of land (1 ha threshold) is likely to be reached or exceeded.

The following discussion is provided on the assumption that the shared use track will be the only clearing on the particular land and will occur within one year. It is unlikely that clearing will exceed 100 tonnes of timber, meaning clause 4.(a)(i) is potentially met. It is presumed that the extent of clearing will not exceed 1 ha.

Another key issue is whether the land on which the track will be established is classified as **“vulnerable land”, because if it is, an FPP is required irrespective of volume or areal clearing thresholds.**

The Regulations provides this definition of **“vulnerable land”**:

*vulnerable land* means land that–

- (a) is within a streamside reserve or a machinery exclusion zone within the meaning of the *Forest Practices Code*; or
- (b) has a slope of more than the landslide threshold slope angles within the meaning of the *Forest Practices Code*; or
- (c) is within the High or Very High Soil Erodibility Class within the meaning of the *Forest Practices Code*; or
- (d) consists of, or contains, a threatened native vegetation community; or
- (e) is inhabited by a threatened species within the meaning of the *Threatened Species Protection Act 1995*; or
- (f) contains vulnerable karst soil within the meaning of the *Forest Practices Code*; or
- (g) contains an area of trees reserved from the harvesting of timber or the clearing of trees under a forest practices plan where the period specified in the plan has expired.

I can reasonably indicate that clauses (a), (d), (f) and (g) are not applicable. I am not qualified to respond to clauses (b) and (c). Some areas are steep but it is beyond the scope of the present report to determine the landslide threshold slope angles so, if this becomes a critical point, it is

recommended that clause (b) be considered in greater detail by relevant specialists. Most of the project area is within the range of threatened flora and fauna, and includes known sites of one species (*Epacris barbata*) of the former. Irrespective of the ambiguity of clause (e) – because neither the Tasmanian *Threatened Species Protection Act 1995* nor the *Forest Practices Act 1985* and supporting *Regulations* define “inhabited by” – it would appear reasonable to argue that clause (e) is met in relation to at least the sections supporting threatened flora that will be impractical to avoid.

It is noted that Section 4 of the *Forest Practices Regulations 2017* also specifies the following circumstance in which an FPP is not required, as follows:

4. Circumstances in which forest practices plan, &c., not required
  - (g) the harvesting of timber or the clearing of trees, or the clearance and conversion of a threatened native vegetation community, carried out in accordance with–
    - (i) a conservation covenant of a kind that the Authority has approved in writing for the purposes of this paragraph; or
    - (ii) a vegetation management agreement of a kind that the Authority has approved in writing for the purposes of this paragraph.

To the best of my knowledge, none of the land proposed for development is subject to the conditions outlined as 4.(g)(i) or 4.(g)(ii), and development of a vegetation management agreement is intended for small-scale works that affect native vegetation rather than broader scale projects that involve multiple additional values (e.g. threatened fauna, cultural heritage, etc.). That said, it is understood that the Forest Practices Authority has approved such agreements for this type of project – this option would need to be explored further with the Authority.

Section 4 of the *Forest Practices Regulations 2017* also specifies the following circumstance in which an FPP is not required, as follows:

4. Circumstances in which forest practices plan, &c., not required
  - (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.

The important terms in this section are “buildings” and “any associated development”.

“Associated development” is defined under the Regulations as

“development that is related to the construction or use of a building, or to the construction or use of a group of buildings, and includes the development of –

- (a) water, sewerage, gas, electrical, telecommunications and other services to be provided to the building or group of buildings; and
- (b) roads, footpaths and cycle paths; and
- (c) firebreaks; and
- (d) recreational facilities, including but not limited to parks and sportsgrounds; and
- (e) facilities to enable the commercial use of the building or group of buildings”.

On this definition, the proposed loop track would presumably meet the intent of (b) “footpaths” and possibly (d) “recreational facilities...”. The *Regulations* do not define a building but a definition is provided under the *Land Use Planning and Approvals Act 1993*, as follows:

“building includes–

- (a) a structure and part of a building or structure; and
- (b) fences, walls, out-buildings, service installations and other appurtenances of a building; and
- (c) a boat or a pontoon which is permanently moored or fixed to land”.

Therefore, it appears that the **project includes some form of “building”** (i.e. the elevated viewing platforms) within the meaning of the *Land Use Planning and Approvals Act 1993*. It is assumed that a planning permit will be issued under that Act (i.e. the *Scheme*) for the project including the track, such that it should be exempt from the requirements of an FPP.

### Tasmanian Land Use Planning and Approvals Act 1993

The applicable planning scheme for the project area is the *Glamorgan-Spring Bay Interim Planning Scheme 2015*. The project area and surrounds are zoned as Environmental Management, with no part of the project area subject to the Biodiversity Protection Area overlay (and hence not subject to the Biodiversity Code).

At this stage of planning, only brief comments are made against the planning scheme requirements because it is assumed that a detailed development application will be made once the final design is known and other approvals/advice incorporated (e.g. Parks & Wildlife Service advice). However, comment is provided against some of the relevant *Scheme* conditions that relate to ecological values to demonstrate the level of likely compliance such that other assessment and approval processes are not delayed because of lack of information in this regard.

The following comments are made under the provisions of the Environmental Management Zone [author comments in square brackets and italics].

#### 29.0 Environmental Management Zone

#### 29.1 Zone Purpose

#### 29.1.1 Zone Purpose Statements

##### 29.1.1.1

To provide for the protection, conservation and management of areas with significant ecological, scientific, cultural or aesthetic value, or with a significant likelihood of risk from a natural hazard.

*[The purpose of the present report, the Reserve Activity Assessment process, and threatened flora permit application (if required), is to ensure that such values are appropriately managed. In my opinion, the intent of zone purpose statement 29.1.1.1 will be met].*

##### 29.1.1.2

To only allow for complementary use or development where consistent with any strategies for protection and management.

*[As above. In my opinion, the intent of zone purpose statement 29.1.1.2 will be met].*

##### 29.1.1.3

To facilitate passive recreational opportunities which are consistent with the protection of natural values in bushland and foreshore areas.

*[As above. In my opinion, the intent of zone purpose statement 29.1.1.3 will be met].*

29.1.1.4

To recognise and protect highly significant natural values on private land.

[*Not applicable – not private land*].

29.1.1.5

To protect natural values in un-developed areas of the coast.

[*Not applicable – the project area will not affect the coastline*].

29.1.1.6

To recognise and protect reserved natural areas as great natural assets.

[*See response to 29.1.1.1*].

29.2 Use Table

[*I am uncertain as to the application of the Use Table to the proposed elevated walkways, viewing platforms and loop track. However I note that there are reserve management plans for Freycinet National Park, as follows:*

*PWS (Parks & Wildlife Service) (2000). Freycinet National Park, Wye River State Reserve Management Plan 2000. Parks & Wildlife Service, Hobart.*

*PWS (Parks & Wildlife Service) (2004). Freycinet National Park Management Plan 2004 (altering the Freycinet National Park, Wye River State Reserve Management Plan 2000). Parks & Wildlife Service, Hobart.*

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29.3 Use Standards

29.3.1 Use Standards for Reserved Land

Objective

To provide for use consistent with any strategies for the protection and management of reserved land.

[*The use is consistent with the current management plan*].

Acceptable Solution

Use is undertaken in accordance with a reserve management plan.

[*The use is consistent with the current management plan, which means the Acceptable Solution is met*].

Other use standards refer mainly to design and visual amenity, which are beyond the scope of this report to comment on.

In my opinion, the project will comply with the intent and specifics of the provisions of the *Glamorgan-Spring Bay Interim Planning Scheme 2015* related to ecological values, including those that are applicable to the Environmental Management zoning.

Tasmanian Wildlife (General) Regulations 2010

While the assessment of the project area indicated the presence of species listed on schedules of the *Regulations* (i.e. "specially protected wildlife", "protected wildlife", "partly protected wildlife"), no individuals, or products (e.g. nests, dens, etc.), of these species, are likely to be directly physically affected by the works.

Tasmanian Weed Management Act 1999

No plant species classified as "declared weeds" within the meaning of the *Tasmanian Weed Management Act 1999* were detected from the project area. There are no implications under this Act.

Tasmanian Reserve Management Code of Practice 2003

The *Tasmanian Reserve Management Code of Practice* (PWS et al. 2003) is the result of a commitment under the *Tasmanian Regional Forest Agreement* (RFA) to develop and implement a code of practice to cover all environmental practices in reserves. The Code is seen as an important element in the framework for protecting conservation values encompassed by the Comprehensive, Adequate and Representative (CAR) reserve system, which was expanded under the RFA to meet agreed reservation targets for wilderness, old growth forest and biodiversity.

The project area is wholly within a formal reserve (Freycinet National Park) managed by the Tasmanian Parks & Wildlife Service, meaning that the Code has direct applicability.

The present report addresses the assessment of biodiversity values identified in the Code as requiring management, which include: "species listed under the *Tasmanian Threatened Species Protection Act 1995*, species or ecological communities listed under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999*, threatened forest communities identified in the RFA as warranting protection [now listed under Schedule 3A of the *Tasmanian Nature Conservation Act 2002*], non-forest communities identified in the *Vegetation Management Strategy for Tasmania* [also now listed under Schedule 3A of the *Tasmanian Nature Conservation Act 2002*], and locally or regionally significant species in the area".

The Code supports the concept of monitoring of potential impacts of disturbance on reserve values. In relation to weeds, for example, the Code states: "Where disturbance to soil and/or vegetation could increase the risk of weed infestation, the site of the disturbance should be monitored and weed infestations responded to appropriately. Monitoring should be prioritised in accordance with available resources, taking into account the potential for weed infestation and the level of threat to natural values". The Code suggests that "particular attention should be given to inspecting and monitoring: areas that are prone to weed infestation in a reserve, such as disturbed sites, wastewater, disposal sites, roads, tracks and waterbodies; areas that are free or relatively free of weeds, including the margins of larger weed-free areas; the spread of significant weeds on road and track corridors".

The Code has a specific section on tracks and states that "tracks designated for recreational purposes other than walking (e.g. horse riding, exercising dogs, cycling, mountain biking) should be clearly identified and managed to ensure that conservation values are protected". The Code advocates a process of monitoring and review indicating that the "location and condition of walking tracks should be assessed and monitored, giving priority to high use and sensitive areas" and that "track assessment and monitoring programs should assess: the condition of track infrastructure;

the condition of vegetation beside the track for disease symptoms; and the extent, degree and **rates of change of track impacts including erosion depth and track width**".

The Code has an extensive section on the management of plant diseases, principally myrtle wilt and *Phytophthora cinnamomi*. It recommends that if the proposed activity is located in a PC Management Area, a specialist should be consulted (the project area is not in a PC Management Area). The Code indicates that if a site is known to be infected with PC, the main risk is further spread to adjacent susceptible areas. In these cases, the Code recommends that if the site is not in common use, activity or developments in infected areas should be minimised, and to avoid the development of new tracks crossing into adjacent uninfected areas. The Code indicates that if a site is not known to be infected by PC but is susceptible to infection, the main risk is infection of the area. In these cases, the Code recommends that if a development is proposed, field surveys of the site and adjacent areas should be undertaken to determine the PC status, and if surveys confirm a disease-free status, the following measures should be applied: (1) minimise activities that have the potential to introduce PC; (2) control vehicular access along tracks where possible; (3) apply basic hygiene to high-risk activities, e.g. earth-moving operations; (4) minimise introduction of soil, gravel and plants to the area (and ensure all material introduced is screened for potential PC infection; (5) maintain vehicles and tools in a clean state for emergency operations, such as fire-fighting, in PC-free areas; and (6) restrict activities to times when soils are dry to minimise transfer of PC.

### *Recommendations*

The recommendations provided below are a summary of those provided in relation to each of the ecological features described in the main report. The main text of the report provides the relevant context for the recommendations. It is assumed that the phrasing below will be modified in planning documents for the project. It is essential that machinery operators and other contractors are made aware of the reasons for undertaking the recommended actions.

### *Vegetation types*

Formal management recommendations are not made in relation to the identified vegetation types. However, it is recommended that:

- the extent of clearing and associated disturbance to native vegetation is minimised as far as practical; and
- wherever practical, individual trees (i.e. *Eucalyptus* species) be protected from disturbance.

### *Threatened flora*

It is recommended that:

- a solution be sought that avoids material impact (taking and/or disturbance) of *Epacris barbata* (bearded heath);
- prior to the commencement of works, all plants identified for protection from taking and/or disturbance be appropriately shown on design plans;
- prior to the commencement of works, all plants identified for protection from taking and/or disturbance be appropriately flagged to minimise the risk of inadvertent disturbance (flagging tape may be sufficient but barrier mesh or equivalent may be warranted, depending on the distance of works from the plants); and

- prior to commencement of works, all relevant personnel be advised of the location of individual plants to be avoided.

#### *Threatened fauna*

There is potential habitat present for several State- and Commonwealth-listed fauna species but no known sites or specific habitat features (e.g. den, nest) requiring special management.

#### *Weeds and plant disease*

It is recommended that specific weed and hygiene management actions be developed as part of the Reserve Activity Assessment for the project and incorporated into any associated construction management plans. As a minimum, the following is recommended:

- induct construction personnel on the management concerns with respect to PC (and weeds), especially with respect to risks to threatened flora (*Epacris barbata*) and native vegetation, including information on field symptoms and hygiene protocols;
- apply strict machinery, vehicle and personnel hygiene protocols for all construction activities, which includes spraying work boots with Phytoclean™ prior to leaving the walkers' car park;
- check boots and socks (and other clothing) for seeds and remove prior to leaving the walkers' car park;
- source any gravel (or other materials that can host the pathogen) from a quarry certified as PC-free;
- ensure any track surfaces are formed such that pooling of water on the track surface and adjacent to the track is minimised (such pooling should be the subject of regular inspections and fixed if observed);
- direct water across granite exposures (if practical) rather than into adjacent vegetation downslope of the track;
- compact any track surfaces as far as practical to minimise both water pooling and the opportunity to shift soil from one section of the track to another; and
- undertake post-installation monitoring by suitably qualified personnel (e.g. PWS ranger/field officer) in the spring months following installation – if weeds (such as thistles) are detected, they should be relatively simple to treat without herbicides (i.e. grub out).

#### *Legislation and policy*

No formal referral to the relevant Commonwealth government agency under the provisions of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* should be required but this should be confirmed by the client through their own consideration of the *Significant Impact Guidelines* (or through discussion with DPIPW and/or the Commonwealth Department of the Environment & Energy), especially if all individuals of *Epacris barbata* (bearded heath) cannot be protected during construction.

A permit under the Tasmanian *Threatened Species Protection Act 1995* will be required to take individuals of *Epacris barbata* (bearded heath) if all individuals cannot be protected during construction. This permit should only be applied for once the design of the track is finalised.

It is assumed that a Reserve Activity Assessment will be needed for approval through the Parks & Wildlife Service (DPIPWE).

It is assumed a development application will be required to be prepared under the provisions of the *Glamorgan-Spring Bay Interim Planning Scheme 2015*.

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APPENDIX A. Vegetation community structure and composition

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

<i>Eucalyptus tenuiramis</i> forest and woodland on granite (TASVEG code: DTG)		
 <p>LHS. View through open DTG woodland at proposed take-off point RHS. View of DTG grading into SLG near proposed main viewing platform</p>		
Stratum	Height (m) Cover (%)	Species (underline = dominant, parentheses = sparse or occasional)
Trees	8-10(-15) m 5-30%	<u><i>Eucalyptus tenuiramis</i></u> , ( <i>Eucalyptus amygdalina</i> ), <i>Allocasuarina</i> spp.
Tall shrubs	3-9 m 5-30%	<i>Leptospermum glaucescens</i> , <i>Banksia marginata</i> , <i>Allocasuarina littoralis</i> , eucalypt regeneration, <i>Callitris rhomboidea</i>
Low shrubs	0.1-4 m variable	<i>Acacia genistifolia</i> , <i>Leptospermum glaucescens</i> , <i>L. scoparium</i> , <i>Allocasuarina monilifera</i> , eucalypt regeneration, <i>Kunzea ambigua</i> , <i>Xanthosia ternifolia</i>
Ground ferns	+	<i>Gleichenia microphylla</i>
Grass	+	<i>Microlaena stipoides</i>
Graminoids	+	<i>Lepidosperma concavum</i> , <i>L. laterale</i> , ( <i>Gahnia microstachya</i> )
Herbs	+	<i>Pterostyllis</i> spp., <i>Caladenia</i> sp., <i>Acianthus pusillus</i>
Climber	+	<i>Cassytha pubescens</i>

*Leptospermum glaucescens* heathland and scrub (TASVEG code: SLG)



Mosaic of SLG and exposed granite bedrock with DTG in background

Stratum	Height (m) Cover (%)	Species (underline = dominant, parentheses = sparse or occasional)
Low shrubs	0.1-4 m variable	<u>Acacia genistifolia</u> , <u>Leptospermum glaucescens</u> , <u>L. scoparium</u> , <u>L. grandiflorum</u> , <u>Allocasuarina monilifera</u> , <u>Kunzea ambigua</u> , <u>Banksia marginata</u> , <u>Epacris barbata</u>
Ground ferns	+	<u>Gleichenia microphylla</u> , <u>Asplenium flabellifolium</u>
Grass	+	<u>Aira spp.</u> , <u>Vulpia bromoides</u>
Graminoids	+	<u>Lepidosperma concavum</u>
Herbs	+	<u>Chiloglottis reflexa</u> , <u>Euchiton japonicus</u> , <u>Crassula sieberiana</u>

lichen lithosere (TASVEG code: ORO)



ORO at the proposed main elevated viewing platform – lenses of SLG occur between massive granite outcrops and DTG is shown in the background

Stratum	Height (m) Cover (%)	Species (underline = dominant, parentheses = sparse or occasional)
Low shrubs	0.1-0.5 m +	<u>Acacia myrtifolia</u> , <u>Leptospermum glaucescens</u> , <u>L. scoparium</u> , <u>L. grandiflorum</u> , <u>Allocasuarina monilifera</u> , <u>Kunzea ambigua</u> , <u>Banksia marginata</u> , <u>Epacris barbata</u>
Ground ferns	+	<u>Asplenium flabellifolium</u>
Herbs	+	<u>Crassula sieberiana</u>

APPENDIX B. Vascular plant species recorded from project area

Botanical nomenclature follows *A Census of the Vascular Plants of Tasmania* (de Salas & Baker 2018), with family placement updated to reflect the nomenclatural changes recognised in the *Flora of Tasmania Online* (Duretto 2009+) 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).

The list includes *Pterostylis grandiflora*, recorded just outside the project's footprint.

i = introduced/naturalised; e = endemic to Tasmania

TSPA = threatened species within the meaning of the Tasmanian *Threatened Species Protection Act 1995* (status shown)

EPBCA = threatened species within the meaning of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (status shown)

Table B1. Summary of vascular species recorded from the project area

STATUS	ORDER			
	DICOTYLEDONAE	MONOCOTYLEDONAE	GYMNOSPERMAE	PTERIDOPHYTA
	12	10	1	2
e	7	1	-	-
i	-	3	-	-
Sum	20	14	1	2
TOTAL	37			

MAGNOLIDS			
Lauraceae			
<i>Cassytha pubescens</i>		downy dodderlaurel	
DICOTYLEDONAE			
Apiaceae			
<i>Xanthosia ternifolia</i>		shrubby crossherb	
Asteraceae			
<i>Euchiton japonicus</i>		common cottonleaf	
Casuarinaceae			
<i>Allocasuarina littoralis</i>		black sheoak	
e <i>Allocasuarina monillifera</i>		necklace sheoak	
Crassulaceae			
<i>Crassula sieberiana</i>		rock stonecrop	
Ericaceae			
e <i>Epacris barbata</i>		bearded heath	TSPA/EPBCA (endangered)
Fabaceae			
<i>Acacia genistifolia</i>		spreading wattle	
<i>Acacia myrtifolia</i>		redstem wattle	
<i>Acacia terminalis</i>		sunshine wattle	
Geraniaceae			
<i>Pelargonium australe</i>		southern storksbill	
Myrtaceae			
e <i>Eucalyptus amygdalina</i>		black peppermint	
e <i>Eucalyptus tenuiramis</i>		silver peppermint	
<i>Kunzea ambigua</i>		white kunzea	
e <i>Leptospermum glaucescens</i>		smoky teatree	
e <i>Leptospermum grandiflorum</i>		autumn teatree	
<i>Leptospermum scoparium</i>		common teatree	
Proteaceae			
<i>Banksia marginata</i>		silver banksia	
e <i>Lomatia tinctoria</i>		guitarplant	

STYLIDIACEAE		
<i>Stylidium graminifolium</i>	narrowleaf triggerplant	
GYMNOSPERMAE		
CUPRESSACEAE		
<i>Callitris rhomboidea</i>	oyster bay pine	
MONOCOTYLEDONAE		
CYPERACEAE		
<i>Gahnia microstachya</i>	slender sawsedge	
<i>Lepidosperma concavum</i>	sand sword-sedge	
<i>Lepidosperma laterale</i>	variable sword-sedge	
ORCHIDACEAE		
<i>Acianthus pusillus</i>	small mosquito-orchid	
<i>Caladenia</i> sp.	finger-orchid	
<i>Chiloglottis reflexa</i>	autumn bird-orchid	
<i>Corybas aconitiflorus</i>	spurred helmet-orchid	
<i>Pterostylis grandiflora</i>	superb greenhood	TSPA (rare)
<i>Pterostylis parviflora</i>	tiny greenhood	
e <i>Pterostylis williamsonii</i>	brownlip greenhood	
POACEAE		
i <i>Aira caryophyllea</i> subsp. <i>caryophyllea</i>	silvery hairgrass	
i <i>Aira praecox</i>	early hairgrass	
<i>Microlaena stipoides</i> var. <i>stipoides</i>	weeping grass	
i <i>Vulpia bromoides</i>	squirreltail fescue	
PTERIDOPHYTA		
ASPLENIACEAE		
<i>Asplenium flabellifolium</i>	necklace fern	
GLEICHENIACEAE		
<i>Gleichenia microphylla</i>	scrambling coralfern	

APPENDIX C. Analysis of database records of threatened flora

Table C1 provides a listing of threatened flora from within 5,000 m of the project 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.

Note that the field assessment was not restricted to the species listed in Table C1 but considered any threatened flora with the potential to be present. While the database analysis utilises a nominal buffer of 5,000 m, the author's own experience of the vegetation and flora of the greater project area combined with database interrogation, meant that the specific potential for numerous other species previously recorded from the wider area were taken into account.

Table C1. Threatened flora records from within 5,000 m of boundary of project 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 DPIPWE's *Natural Values Atlas* (DPIPWE 2019) and other sources where indicated. Habitat descriptions are taken from FPA (2016) and TSS (2003+), except where otherwise indicated. Species marked with # are listed in CoFA (2019).

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on project area and database records
<i>Acacia ulicifolia</i> juniper wattle	r -	<i>Acacia ulicifolia</i> is found in sandy coastal heaths and open heathy forest and woodland in the north and east of Tasmania. Populations are often sparsely distributed and most sites are near-coastal but it can occasionally extend inland (up to 30 km).	Potential habitat limited. Species not detected (no restriction on survey period for this distinctive shrub).
<i>Brachyloma depressum</i> spreading heath	r -	<i>Brachyloma depressum</i> is found in shrubby heathland and low open woodland amongst granite boulders/sheets or on granite soils, mainly in near-coastal sites in northern and eastern Tasmania.	Potential habitat present. Species not detected (no restriction on survey period for this distinctive shrub).
<i>Caladenia caudata</i> tailed spider-orchid	v VU #	<i>Caladenia caudata</i> has highly variable habitat, which includes the central north: <i>Eucalyptus obliqua</i> heathy forest on low undulating hills; the northeast: <i>E. globulus</i> grassy/heathy coastal forest, <i>E. amygdalina</i> heathy woodland and forest, <i>Allocasuarina</i> woodland; and the southeast: <i>E. amygdalina</i> forest and woodland on sandstone, coastal <i>E. viminalis</i> 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 effectively absent. The survey period was outside the peak flowering period (Wapstra 2018). A follow-up targeted survey is not recommended because the likelihood of coincidence of a population within the project area is statistically very low.
<i>Caladenia filamentosa</i> daddy longlegs	r -	<i>Caladenia filamentosa</i> occurs in lowland heathy and sedgy eucalypt forest and woodland on sandy soils.	As above.

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on project area and database records
<i>Caustis pentandra</i> thick twistsedge	r -	<i>Caustis pentandra</i> occurs on sandy soils derived from granite in coastal heathland and heathy woodland, mainly between Freycinet Peninsula and Binalong Bay (with some outlying historical sites).	Potential habitat present. Species not detected (no restriction on survey period for this distinctive sedge).
<i>Conospermum hookeri</i> tasmanian smokebush	v VU #	<i>Conospermum hookeri</i> usually occurs in coastal and near-coastal heathland and heathy forest/woodland dominated by <i>Eucalyptus amygdalina</i> or <i>E. tenuiramis</i> . It extends from Bruny Island to the Furneaux islands, on granite or sandy, acid, low-nutrient soils. There are some inland occurrences in heathy <i>E. amygdalina</i> forest on granite substrates (e.g. near Avoca, Royal Ruby Flats).	Potential habitat marginally present and it is known from records on the first section of the Wineglass Bay Track. The species was not detected (no constraint on detection and identification).
<i>Corunastylis firthii</i> firths midge-orchid	e CR # only	<i>Corunastylis firthii</i> has been recorded from the Friendly Beaches area in tall open <i>Banksia</i> shrubland with heathy and sedgy ground cover, growing on a well-drained rise in sand derived from granite. It has also been located on an almost bare roadside strip on sandy soil, with a recent record from near Kellevie, where it grows on mudstone in <i>Eucalyptus amygdalina</i> forest with sparse shrubs on gently undulating terrain.	Potential habitat (as presently understood) absent from the project area.
<i>Corunastylis morrisii</i> bearded midge-orchid	e -	<i>Corunastylis morrisii</i> 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 <i>Eucalyptus amygdalina</i> forest with sparse shrubs on gently undulating terrain.	The project area supports limited potential habitat and the survey of such habitat coincided with the post-fertilisation detection period (Wapstra 2018). The species was not detected.
<i>Corunastylis nuda</i> tiny midge-orchid	r -	<i>Corunastylis nuda</i> occurs in a wide range of habitats from near sea level to 1,000 m a.s.l., on a range of different soil types and geologies. Vegetation types include scrub, subalpine grassland, open rock plates, heathy open forest, shrubby dry sclerophyll forest and wet sclerophyll forest.	As above.
<i>Cotula vulgaris</i> var. <i>australasica</i> slender buttons	r -	<i>Cotula vulgaris</i> var. <i>australasica</i> habitat includes saline herbfields, rocky coastal outcrops, and wet or brackish swamps.	Potential habitat absent.
<i>Cyphanthera tasmanica</i> tasmanian rayflower	r -	<i>Cyphanthera tasmanica</i> is confined to gullies and on hillsides on the east coast of Tasmania, often associated with granite and dolerite slopes and ridges (extending to inland areas around Avoca) and dry forests on sandstone in the Buckland/Bluff River Gorge area.	Potential habitat present (although now long unburnt and disturbed and species generally only proliferates after such events). Species not detected (no seasonal restrictions on survey).

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on project area and database records
<i>Cyrtostylis robusta</i> large gnat-orchid	r -	<i>Cyrtostylis robusta</i> is known from coastal or near-coastal sites in forest and heathland on well-drained soils. There is sometimes a strong correlation with <i>Allocasuarina verticillata</i> (drooping sheoak) on coastal dolerite cliffs.	This species is known from two sites on Freycinet Peninsula: one at Cooks Beach and the other more recently from the Freycinet Lodge area (M. Wapstra pers. obs.). Potential habitat is limited within the project area and the survey coincided with the start of the flowering period (Wapstra 2018) and the distinctive leaves are detectable for long periods before this. The species was not detected.
<i>Epacris barbata</i> bearded heath	e EN	<i>Epacris barbata</i> is found only on Freycinet Peninsula and Schouten Island. It occurs exclusively on granite-based siliceous soils, growing in open heath and heathy woodland/forest in hilly and low-lying terrain from 30-500 m a.s.l.	Species detected. Refer to FINDINGS <i>Plant species Threatened flora species recorded from the project area</i> for more details.
<i>Euphrasia collina</i> subsp. <i>deflexifolia</i> eastern eyebright	r -	<i>Euphrasia collina</i> subsp. <i>deflexifolia</i> occurs in open woodland or heath (sometimes extending to forest), often associated with road edges, tracks and depressions near the headwaters of creeks. Its habitat is associated with the availability of open patches of ground maintained by fire or other disturbance, the proximity of low vegetation and relatively high soil moisture in spring.	Potential habitat present. Species not detected (detectable any time but easier when in flower in spring-summer).
<i>Gyrostemon thesioides</i> broom wheelfruit	r -	<i>Gyrostemon thesioides</i> occurs predominately on dolerite or granite in <i>Allocasuarina</i> (sheoak) forest in the <b>State's east and northeast</b> , including the Furneaux Group.	Potential habitat present. Species not detected (no restriction on survey period for this distinctive shrub).
<i>Hypotrachyna immaculata</i> lichen	r -	<i>Hypotrachyna immaculata</i> is known from a single collection from granite outcrops in coastal heathland on the Freycinet Peninsula and at one inland site at Mayfield on dolerite.	Potential habitat poorly understood but appears to be absent based on the current descriptions.
<i>Lepidium hyssopifolium</i> soft peppergrass	e EN # only	The native habitat of <i>Lepidium hyssopifolium</i> 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). <i>Lepidium hyssopifolium</i> 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 metres 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. It can also occur on frequently slashed grassy/weedy roadside verges where shade trees are absent.	Potential habitat absent.

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on project area and database records
<i>Lepidosperma forsythii</i> stout rapiersedge	r -	<i>Lepidosperma forsythii</i> occurs in wet heathland and sedgeland.	Potential habitat absent.
<i>Lepidosperma tortuosum</i> twisting rapiersedge	r -	<i>Lepidosperma tortuosum</i> 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 present. This distinctive perennial sedge was not detected.
<i>Lepidosperma viscidum</i> sticky swordedge	r -	<i>Lepidosperma viscidum</i> occurs in a range of heathland to heathy/shrubby woodland habitats often dominated by species of <i>Allocasuarina</i> (sheoak) on a range of substrates.	As above.
<i>Lobelia rhombifolia</i> tufted lobelia	r -	<i>Lobelia rhombifolia</i> occurs in dry sclerophyll forests dominated by <i>Eucalyptus amygdalina</i> , mainly on granite-derived sands in northeast Tasmania. Clarification between records of <i>Lobelia dentata</i> (only recently recognised as occurring in Tasmania) and <i>Lobelia rhombifolia</i> is needed.	Note that DPIPWE (2019) also lists records of the closely related <i>Lobelia dentata</i> , based on the recent recognition of this species from the Cusicks Hill area (de Salas & Wapstra 2014). Potential habitat of both species within the project area considered marginal (highly atypical of known sites).
<i>Melaleuca pustulata</i> warty paperbark	r -	<i>Melaleuca pustulata</i> occurs in a range of habitats including dry open woodland (often on dolerite in forests dominated by <i>Eucalyptus pulchella</i> ), grassland and scrub, riparian zones and stable dunes in sparse coastal shrubbery. It is <b>restricted to the State's Central East coast</b> .	Potential habitat absent.
<i>Orthoceras strictum</i> horned orchid	r -	<i>Orthoceras strictum</i> occurs in a wide range of habitat types including buttongrass moorland, sedgy and scrubby heathland, sedgy eucalypt shrubland and open forest, usually on poorly- to moderately-drained peaty, sandy and clay soils that are at least seasonally moist. It can also occur on thin mossy soils at soaks on and below rock faces. The species has a wide elevation range from sea level to 1000 m a.s.l.	Potential habitat effectively absent.
<i>Philothea freyciana</i> freycinet waxflower	e EN #	<i>Philothea freyciana</i> is restricted to the Freycinet Peninsula (predominantly on The Hazards), occurring from just above sea level to 440 m a.s.l. The species occurs exclusively on granite, growing in cracks and runnels within massive granite rocks. The surrounding vegetation is generally a dry open scrub.	Potential habitat present and it is known from records on the western (informal) lookout upslope of the main saddle. The species was not detected (no constraint on detection and identification).
<i>Pimelea flava</i> subsp. <i>flava</i> yellow riceflower	r -	<i>Pimelea flava</i> subsp. <i>flava</i> occurs in wet and dry sclerophyll forest and woodland, and extends into hardwood and softwood plantations. It often occurs abundantly on disturbed sites such as in logged forest, firebreaks, powerline easements and road batters.	Potential habitat marginally present. Species not detected (no restriction on survey period for this distinctive shrub).

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on project area and database records
<i>Polyscias</i> sp. Douglas-Denison fern panax	e -	<i>Polyscias</i> sp. Douglas-Denison is <b>restricted to Tasmania's central east</b> coast region between Coles Bay and the Douglas River where it grows in damp shrubby sclerophyll forest with a high dolerite or granite rock cover on steep-sided gullies to more gentle slopes.	Potential habitat marginally present. Species not detected (no restriction on survey period for this distinctive shrub).
<i>Pomaderris intermedia</i> lemon dogwood	r -	<i>Pomaderris intermedia</i> occurs in heathland and heathy woodland on eastern Bass Strait islands but extends to mainly dry sclerophyll forest on mainland Tasmania, most often associated with rock outcrops (dolerite), riparian areas and open forest.	Potential habitat present. Species not detected (no restriction on survey period for this distinctive shrub).
<i>Pterostylis grandiflora</i> superb greenhood	r -	<i>Pterostylis grandiflora</i> occurs mostly in heathy and shrubby open eucalypt forests and in grassy coastal <i>Allocasuarina</i> (sheoak) woodland on moderately to well-drained sandy and loamy soils. It prefers to grow amongst undergrowth on lightly shaded sites. A recent population has been detected in wet sclerophyll forests.	Species detected from just outside project area. Refer to <a href="#">FINDINGS Plant species Threatened flora species recorded from the project area</a> for more details.
<i>Pterostylis squamata</i> ruddy greenhood	v -	<i>Pterostylis squamata</i> occurs in heathy and grassy open eucalypt forest, woodland and heathland on well-drained sandy and clay loams.	Potential habitat marginally present. The survey was just outside the peak flowering period of the species, (Wapstra 2018). The species was not detected (from post-fertilised flowers). A follow-up targeted survey is not recommended because the likelihood of coincidence of a population within the project area is statistically very low.
<i>Pterostylis ziegeleri</i> grassland greenhood	v VU # only	<i>Pterostylis ziegeleri</i> <b>occurs in the State's</b> 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.	This species is only known on the Freycinet Peninsula from the Moulting Lagoon-Swanwick area. Potential habitat absent from the project area.
<i>Rytidosperma indutum</i> tall wallabygrass	r -	<i>Rytidosperma indutum</i> is relatively widespread on mudstone and dolerite in dry sclerophyll woodlands and associated lowland grasslands in drier parts of the State.	Potential habitat marginally present, although the species is almost always associated with dolerite or mudstone, with very few sites on granite. This perennial grass was not detected.
<i>Spyridium vexilliferum</i> var. <i>vexilliferum</i> helicopter bush	r -	<i>Spyridium vexilliferum</i> occurs in a range of vegetation types, including sandy heaths, rock plates and dry sclerophyll forest and woodland (mainly dominated by <i>Eucalyptus amygdalina</i> ). It is found on a range of substrates (e.g. mudstone, granite, laterite gravels) from near-coastal areas in the east, north and west of the State, to the Midlands and lower Derwent Valley. It is most abundant in open or disturbed areas, as it can proliferate from soil-stored seed after disturbance.	Potential habitat present. Species not detected (no restriction on survey period for this distinctive sedge).

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on project area and database records
<i>Stenanthemum pimeleoides</i> propeller plant	v VU #	<i>Stenanthemum pimeleoides</i> is restricted to <b>Tasmania's central East Coast and the Northern Midlands</b> , where it occurs in dry sclerophyll forest or woodland with an open heathy or shrubby understorey. The topography tends to be flat to gently sloping. The species occurs in the drier parts of the State with rainfall between 500-800 mm per year, and usually at elevations below 100 m.	Potential habitat absent. This distinctive shrub was not detected.
<i>Thelymitra antennifera</i> rabbit ears	v -	<i>Thelymitra antennifera</i> is known from several locations along the north and northeast coast, occurring in heathland on poorly- to moderately-drained peaty and sandy soils, sometimes in mossy skeletal soils on granite bedrock.	Potential habitat marginally present. The survey was outside the peak flowering period (Wapstra 2018). A follow-up targeted survey is not recommended because the likelihood of coincidence of a population within the project area is statistically very low and because the habitat within the project area is atypical of known sites (including the site reported from the verge of the original Wineglass Bay Track, which was on mossy skeletal soils on granite bedrock).
<i>Thelymitra atronitida</i> blackhood sun-orchid	e -	<i>Thelymitra atronitida</i> has been recorded from near-coastal heathland, sedgeland and open heathy/sedgy eucalypt woodland on relatively poorly-drained sandy loams. The altitude range of known sites is 10-120 m a.s.l.	Potential habitat absent.
<i>Thelymitra holmesii</i> bluestar sun-orchid	r -	<i>Thelymitra holmesii</i> occurs in moist areas of grassland, heathy open forest and heathland in water-retentive soils such as clay loam and peaty loam, in soaks, beside streams and around swamp margins, usually below about 200 m a.s.l.	Potential habitat absent.
<i>Thelymitra jonesii</i> skyblue sun-orchid	e EN # only	<i>Thelymitra jonesii</i> occurs in moist coastal heath on sandy to peaty soils and in <i>Eucalyptus obliqua</i> forest in deep loam soil over dolerite.	Potential habitat absent.
<i>Thelymitra malvina</i> mauve tuft sun-orchid	e -	<i>Thelymitra malvina</i> has been recorded from coastal heath and sedgeland on sandy loams or clay loams at low elevations.	Potential habitat absent.
<i>Thryptomene micrantha</i> ribbed heathmyrtle	v -	<i>Thryptomene micrantha</i> is restricted to near-coastal areas between Bicheno and the southern tip of the Freycinet Peninsula. It may form locally dense thickets on sands derived from Devonian granite, typically in coastal heathland or <i>Eucalyptus amygdalina</i> heathy woodland or forest on gently undulating lower slopes or flats.	Potential habitat present. Species not detected (no restriction on survey period for this distinctive sedge).
<i>Tricostularia pauciflora</i> needle bogsedge	r -	<i>Tricostularia pauciflora</i> is found in sandy heaths, dunes and heath on clay soils around coastal areas.	Potential habitat absent.

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on project area and database records
<i>Trithuria submersa</i> submerged watertuft	r -	<i>Trithuria submersa</i> occurs in the Northern Midlands, near-coastal areas in the east and northeast, King Island, Flinders Island and Cape Barren Island, with an isolated record from the Central Highlands. Habitat includes areas subject to flooding, such as the margins of wetlands, small watercourses, shallow temporary depressions and wet heathlands.	Potential habitat absent.
<i>Velleia paradoxa</i> spur velleia	v -	<i>Velleia paradoxa</i> is known from the Hobart and Launceston areas, and the Midlands and the Derwent Valley, where it occurs in grassy woodlands or grasslands on dry sites. It has been recorded up to 550 m a.s.l. at sites with an annual rainfall range of 450-750 mm.	Potential habitat absent. The record from Coles Bay is possibly erroneous.
<i>Xanthorrhoea arenaria</i> sand grasstree	v VU #	<i>Xanthorrhoea arenaria</i> is restricted to coastal areas from Bridport in the northeast to Coles Bay on the East Coast, where it occurs in coastal sandy heathland, extending into heathy woodland and forest, mainly dominated by <i>Eucalyptus amygdalina</i> .	Potential habitat absent. DPIPWE (2019) also lists 7 records of <i>Xanthorrhoea</i> aff. <i>arenaria</i> , which are considered to refer to <i>Xanthorrhoea arenaria</i> .
<i>Xerochrysum palustre</i> swamp everlasting	v VU #	<i>Xerochrysum palustre</i> 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 <i>Eucalyptus ovata</i> woodlands. Sites are usually inundated for part of the year.	Potential habitat absent.
<i>Zieria littoralis</i> downy zieria	r -	<i>Zieria littoralis</i> mainly occurs on coastal rocks, extending to inland areas on low hills and ridges above the coastline. A small number of sites occur in forested habitats, where the species occurs on rock outcrops. All sites are on granite.	Potential habitat essentially absent (usually restricted to coastal rocks). This distinctive shrub was not detected.
<i>Zieria veronicea</i> subsp. <i>veronicea</i> pink zieria	e -	<i>Zieria veronicea</i> subsp. <i>veronicea</i> has been recorded from near-coastal areas from Coles Bay to Mt William, growing on well-drained sandy soils in heath or heathy woodland dominated by <i>Eucalyptus amygdalina</i> .	Potential habitat absent.

APPENDIX D. Analysis of database records of threatened fauna

Table D1 provides a listing of threatened fauna from within 5,000 m of the project 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 project 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 DPIPWE's *Natural Values Atlas* (DPIPWE 2019), Bryant & Jackson (1999) and FPA (2019); marine, wholly pelagic and littoral species such as marine mammals, fish and offshore seabirds are excluded. Species marked with # are listed in CoFA (2019).

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on project area and database records
<i>Accipiter novaehollandiae</i> grey goshawk	e -	Potential habitat is native forest with mature elements below 600 m altitude, particularly along watercourses. 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 absent (project area is dry open woodland and scrub).
<i>Alcedo azurea</i> subsp. <i>diemenensis</i> Tasmanian azure kingfisher	e EN # only	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. Potential breeding habitat is usually steep banks of large rivers (a breeding site is a hole (burrow) drilled in the bank).	Not listed in FPA (2019) or DPIPWE (2019). No database records within 5,000 m. Potential habitat absent (no permanent creeks within or adjacent to the project area). Note that CoFA (2017) lists the species as <i>Ceyx azureus</i> subsp. <i>diemenensis</i> .
<i>Antipodia chaostola</i> subsp. <i>leucophaea</i> chaostola skipper	e EN #	Potential habitat is dry forest and woodland supporting <i>Gahnia radula</i> (usually on sandstone and other sedimentary rock types) or <i>Gahnia microstachya</i> (usually on granite based substrates).	Potential habitat present. Refer to FINDINGS <i>Fauna species Threatened fauna species known from the project area</i> for more details.
<i>Aquila audax</i> subsp. <i>fleayi</i> Tasmanian wedge-tailed eagle	e EN #	Potential habitat comprises potential nesting habitat and potential foraging habitat. Potential foraging habitat is a wide variety of forest (including areas subject to native forest silviculture) and non-forest habitats. 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 of the tree usually lower than the ground	No known nests within 500 m or 1 km line-of-sight of proposed track route. Additional potential nesting habitat absent from project area and surrounds (regrowth low woodland).

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on project area and database records
		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. More than one nest may occur within a territory but only one is used for breeding in any one year. Breeding failure often promotes a change of nest in the next year.	
<i>Botaurus poiciloptilus</i> Australasian bittern	- EN # only	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 (e.g. <i>Phragmites</i> , <i>Cyperus</i> , <i>Eleocharis</i> , <i>Juncus</i> , <i>Typha</i> , <i>Baumea</i> , <i>Bolboschoenus</i> ) or cutting grass ( <i>Gahnia</i> ) growing over a muddy or peaty substrate (TSSC 2011).	Potential habitat absent (project area does not include wetlands).
<i>Dasyurus maculatus</i> subsp. <i>maculatus</i> spotted-tailed quoll	r VU #	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. Significant habitat is all potential denning habitat within the core range of the species. Potential denning habitat 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 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.	Potential habitat present. Refer to FINDINGS <i>Fauna species Threatened fauna species known from the project area</i> for more details.
<i>Dasyurus viverrinus</i> eastern quoll	- EN #	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.	As above.
<i>Galaxias fontanus</i> Swan galaxias	e EN	Potential habitat is slow to moderately fast-flowing streams containing permanent water (even when not flowing), which have good instream cover from overhanging banks and/or logs, and shade from overhanging vegetation. A population can only be maintained where barriers have prevented establishment of trout and	The Freycinet Peninsula does not support any known sites and is outside the catchment of known sites.

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on project area and database records
		redfin perch. The nature of these barriers is variable and can include permanent natural structures such as waterfalls and chutes and also low flow-dependent features such as marshes, ephemeral water-losing and remnant channels, braided channel floodplain features.	
<i>Haliaeetus leucogaster</i> white-bellied sea-eagle	v - #	Potential habitat comprises potential nesting habitat and potential foraging habitat. Potential foraging habitat is any large waterbody (including sea coasts, estuaries, wide rivers, lakes, impoundments and even large farm dams) supporting prey items (fish). 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.	No known nests within 500 m or 1 km line-of-sight of project area. Additional potential nesting habitat absent from project area and surrounds (regrowth low woodland).
<i>Lathamus discolor</i> swift parrot	e CR #	Potential habitat comprises potential foraging habitat and potential nesting habitat. Potential foraging habitat comprises <i>Eucalyptus globulus</i> (blue gum) or <i>Eucalyptus ovata</i> (black gum) trees that are old enough to flower. For management purposes, potential nesting habitat is considered to comprise eucalypt forests that contain hollow-bearing trees.	Potential habitat absent. Hollow-bearing trees and <i>E. ovata</i> and <i>E. globulus</i> are absent.
<i>Litoria raniformis</i> green and golden frog	v VU #	Potential habitat is permanent and temporary waterbodies, usually with vegetation in or around them, including features such as natural lagoons, 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.	Potential habitat absent.
<i>Myiagra cyanoleuca</i> satin flycatcher	Migratory Terrestrial Species # only	Potential habitat is any forest or woodland.	Potential habitat present. The installation of the viewing platforms and loop track will not require the substantial alteration of native vegetation such there will be no deleterious impact on potential habitat.
<i>Pardalotus quadragintus</i> forty-spotted pardalote	e EN	Potential habitat is any forest and woodland supporting <i>Eucalyptus viminalis</i> (white gum) where the canopy cover of <i>E. viminalis</i> is greater than or equal to 10% or where <i>E. viminalis</i> occurs as a localised canopy dominant or codominant in patches exceeding 0.25 ha.	Potential habitat absent ( <i>Eucalyptus viminalis</i> is absent from the project area).
<i>Perameles gunnii</i> subsp. <i>gunnii</i> eastern barred bandicoot	- VU # only	Potential habitat is open vegetation types including woodlands and open forests with a grassy understorey, native and exotic grasslands,	This species is absent from the Freycinet Peninsula.

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on project area and database records
		particularly in landscapes with a mosaic of agricultural land and remnant bushland. 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.	
<i>Prototroctes maraena</i> Australian grayling	v VU #	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 potential habitat.	Potential habitat absent (no permanent creeks within or adjacent to the project area).
<i>Pseudemoia pagenstecheri</i> tussock skink	v -	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 (project area does not support native grassland).
<i>Pseudemoia rawlinsoni</i> glossy grass skink	r -	Potential habitat is wetlands and swampy sites, including grassy wetlands, teatree swamps and grassy sedgeland, and margins of such habitat.	Potential habitat absent (no poorly-drained habitats present within project area).
<i>Pseudomys novaehollandiae</i> New Holland mouse	e VU #	Potential habitat is heathlands (mainly dry heathlands but also where dry heathlands form a mosaic with other heathland, moorland and scrub complexes), heathy woodlands (i.e. eucalypt canopy cover 5-20%), <i>Allocasuarina</i> -dominated forests on sandy substrates (not dolerite or basalt), and vegetated sand dunes. Key indicator plant species include (but are not restricted to) <i>Aotus ericoides</i> , <i>Lepidosperma concavum</i> , <i>Hypolaena fastigiata</i> and <i>Xanthorrhoea</i> spp.	Potential habitat absent (project area is mainly on exposed granite bedrock).
<i>Sarcophilus harrisi</i> Tasmanian devil	e EN #	Potential habitat is 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 <sup>2</sup> ). 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. Potential denning habitat is areas of burrowable, well-drained soil, log piles or sheltered overhangs such as cliffs, rocky outcrops, knolls, caves	Potential habitat present. Refer to FINDINGS <i>Fauna species Threatened fauna species known from the project area</i> for more details.

Scientific name Common name	Status TSPA EPBCA	Tasmanian habitat description (and distribution)	Comments on project area and database records
		and earth banks, free from risk of inundation and with at least one entrance through which a devil could pass.	
<i>Theclinesstes serpentata</i> chequered blue	r -	Potential habitat is saltmarshes, and beach and coastal habitats, supporting food plants including <i>Rhagodia candolleana</i> (coastal saltbush) and species of <i>Atriplex</i> .	Potential habitat absent (saltbush vegetation not present).
<i>Thylacinus cynocephalus</i> thylacine	x EX	Not defined.	While there is one record within 5 km of the project area, it is reasonable for the purposes of this project to consider the species to be extinct.
<i>Tyto novaehollandiae</i> subsp. <i>castanops</i> Tasmanian masked owl	e VU #	Potential habitat is all areas with trees <b>with large hollows (≥15 cm entrance diameter)</b> . In terms of using mapping layers, potential habitat is considered to be all areas with at least 20% mature eucalypt crown cover (PI type mature density class 'a', 'b', or 'c'). Remnants and paddock trees (in any dry or wet forest type) in agricultural areas may constitute potential habitat. Significant habitat for the masked owl is any areas within the core range of native dry forest with trees over 100 <b>cm dbh with large hollows (≥15 cm entrance diameter)</b> .	Potential habitat (as described) is absent. There are no large trees bearing large hollows within the project area. The species may utilise the greater area for foraging and temporary roosting but the installation and use of the proposed elevated viewing platforms and loop track will not deleteriously impact on this aspect of the life history of the species.

APPENDIX E. DPI PWE's *Natural Values Atlas* report for project area

Appended as pdf file.

APPENDIX F. Forest Practices Authority's *Biodiversity Values Atlas* report for project area

Appended as pdf file.

APPENDIX G. **CofA's** *Protected Matters* report for project area

Appended as pdf file.

ATTACHMENT

- .shp .& xls files of point locations of threatened flora

# Natural Values Atlas Report

*Authoritative, comprehensive information on Tasmania's natural values.*

Reference: ECOtas\_PWS\_WineglassBayLookout

Requested For: Mwapstra

Report Type: Summary Report

Timestamp: 04:38:20 PM Thursday 16 May 2019

Threatened Flora: buffers Min: 500m Max: 5000m

Threatened Fauna: buffers Min: 500m Max: 5000m

Raptors: buffers Min: 500m Max: 5000m

Tasmanian Weed Management Act Weeds: buffers Min: 500m Max: 5000m

Priority Weeds: buffers Min: 500m Max: 5000m

Geoconservation: buffer 1000m

Acid Sulfate Soils: buffer 1000m

TASVEG: buffer 1000m

Threatened Communities: buffer 1000m

Fire History: buffer 1000m

Tasmanian Reserve Estate: buffer 1000m

Biosecurity Risks: buffer 1000m

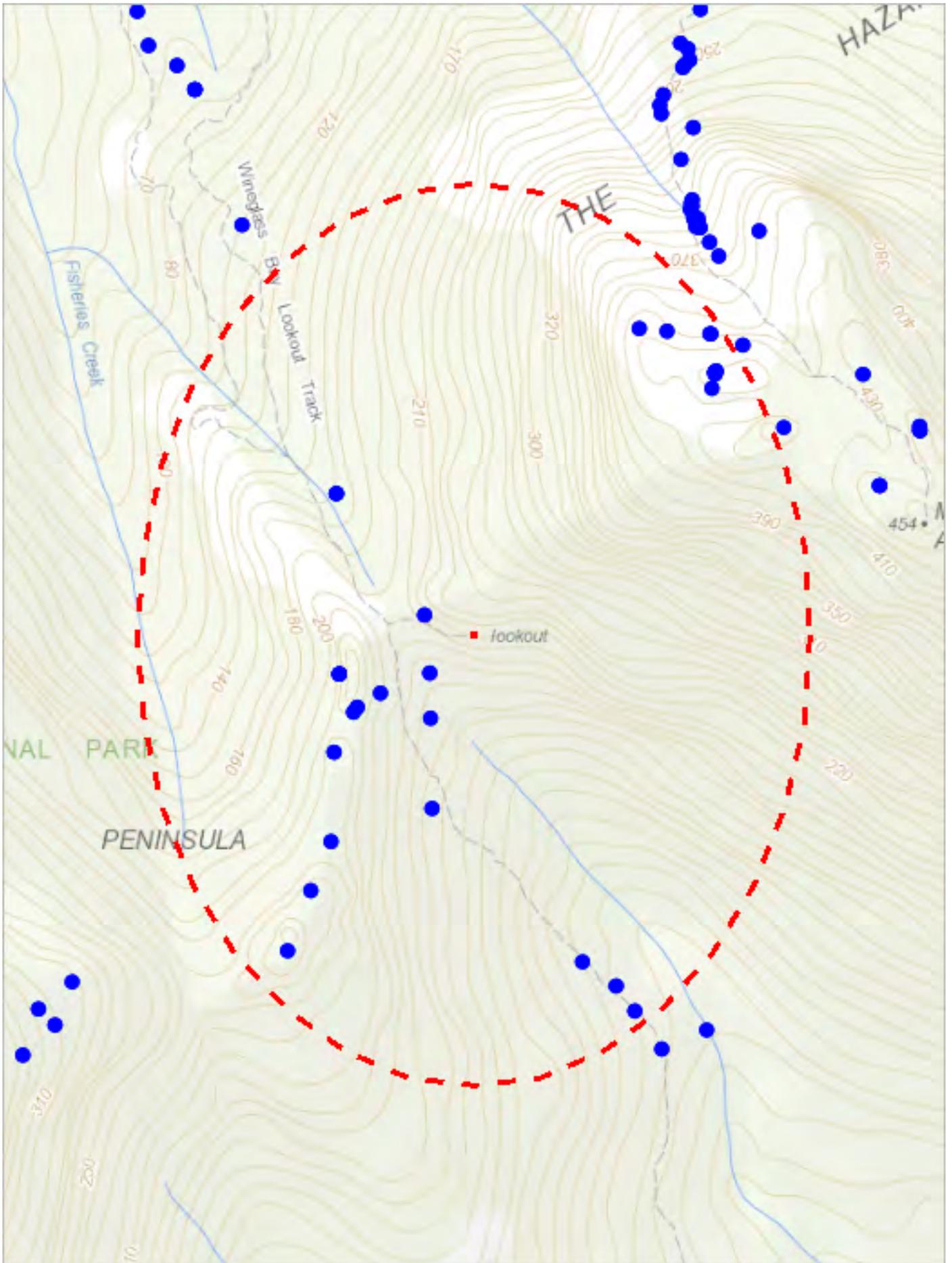


The centroid for this query GDA94: 606861.0, 5332224.0 falls within:

Property: 0

# Threatened flora within 500 metres

607393, 5332932



606330, 5331517

Please note that some layers may not display at all requested map scales

# Threatened flora within 500 metres

Legend: Verified and Unverified observations

● Point Verified

● Point Unverified

— Line Verified

— Line Unverified

□ Polygon Verified

□ Polygon Unverified

Legend: Cadastral Parcels



# Threatened flora within 500 metres

## Verified Records

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
<i>Brachyloma depressum</i>	spreading heath	r		n	1	07-Nov-1981
<i>Caustis pentandra</i>	thick twistsedge	r		n	2	14-Sep-2008
<i>Conospermum hookeri</i>	tasmanian smokebush	v	VU	e	1	11-Oct-1981
<i>Epacris barbata</i>	bearded heath	e	EN	e	12	02-Aug-2001
<i>Euphrasia collina</i> subsp. <i>deflexifolia</i>	eastern eyebright	r		e	3	11-Oct-1981
<i>Lepidosperma tortuosum</i>	twisting rapiersedge	r		n	1	08-Sep-2017
<i>Philotheca freyciana</i>	freycinet waxflower	e	EN	e	13	10-Oct-2016
<i>Pterostylis grandiflora</i>	superb greenhood	r		n	1	10-Jul-2013
<i>Stenanthemum pimeleoides</i>	propeller plant	v	VU	e	1	19-Apr-1930

## Unverified Records

No unverified records were found!

For more information about threatened species, please contact Threatened Species Enquiries.

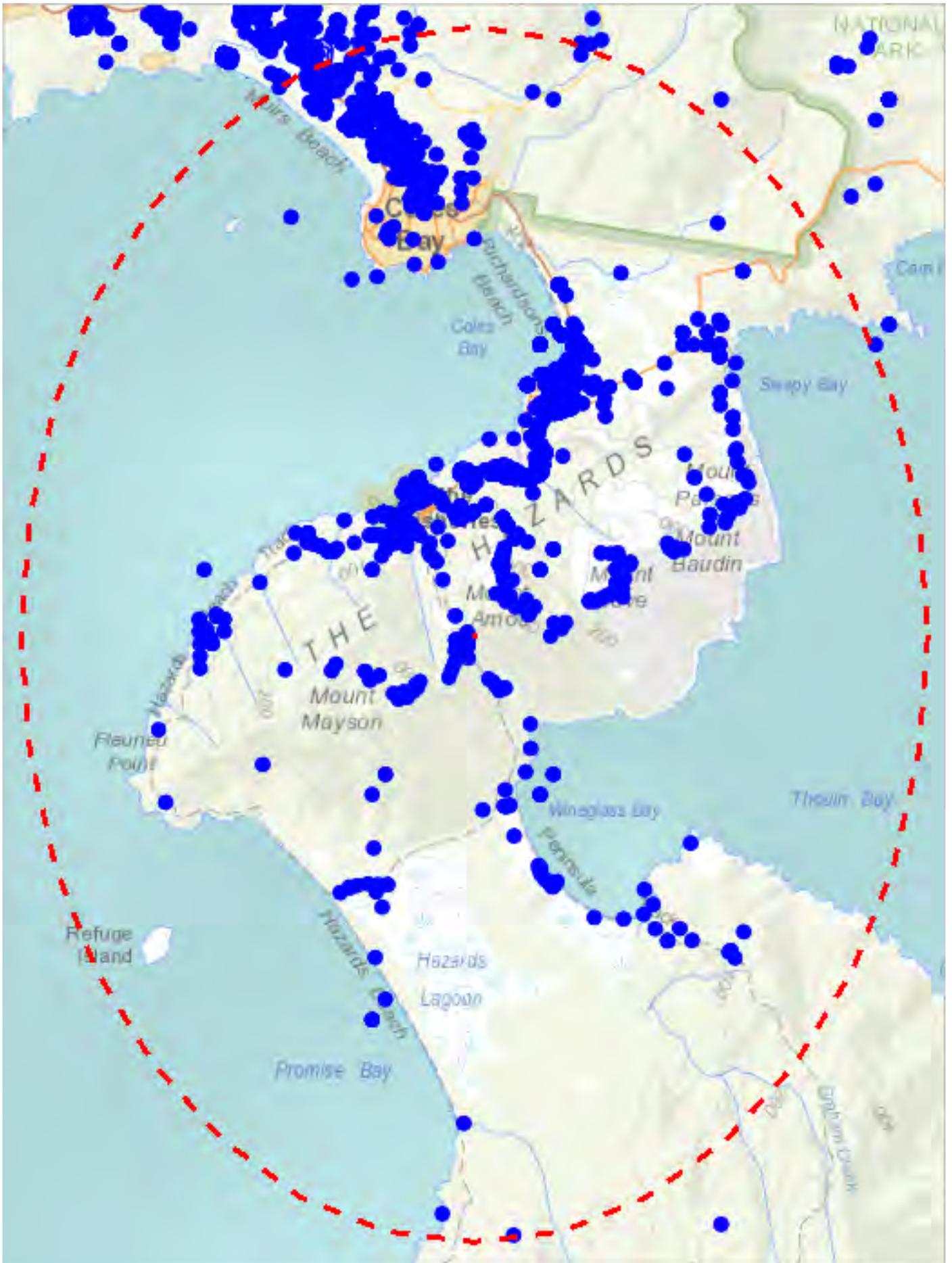
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Email: [ThreatenedSpecies.Enquiries@dpiwve.tas.gov.au](mailto:ThreatenedSpecies.Enquiries@dpiwve.tas.gov.au)

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

# Threatened flora within 5000 metres

610811, 5337480



602918, 5326967

Please note that some layers may not display at all requested map scales

# Threatened flora within 5000 metres

Legend: Verified and Unverified observations

● Point Verified

● Point Unverified

— Line Verified

— Line Unverified

□ Polygon Verified

□ Polygon Unverified

Legend: Cadastral Parcels



# Threatened flora within 5000 metres

## Verified Records

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
<i>Acacia ulicifolia</i>	juniper wattle	r		n	49	22-Jan-2019
<i>Brachyloma depressum</i>	spreading heath	r		n	32	31-Oct-2016
<i>Caladenia caudata</i>	tailed spider-orchid	v	VU	e	6	23-Sep-1996
<i>Caladenia filamentosa</i>	daddy longlegs	r		n	4	28-Oct-1988
<i>Caustis pentandra</i>	thick twistsedge	r		n	426	22-Jan-2019
<i>Conospermum hookeri</i>	tasmanian smokebush	v	VU	e	1148	22-Jan-2019
<i>Corunastylis firthii</i>	firths midge-orchid	e	CR	e	2	22-Mar-2017
<i>Corunastylis morrisii</i>	bearded midge-orchid	e		n	35	20-Apr-2013
<i>Corunastylis nuda</i>	tiny midge-orchid	r		n	1	01-Jan-1980
<i>Cotula vulgaris</i> var. <i>australasica</i>	slender buttons	r		n	2	04-Nov-2004
<i>Cyphanthera tasmanica</i>	tasmanian rayflower	r		e	10	01-Jan-1990
<i>Cyrtostylis robusta</i>	large gnat-orchid	r		n	1	25-Jul-2016
<i>Epacris barbata</i>	bearded heath	e	EN	e	113	22-Nov-2016
<i>Euphrasia collina</i> subsp. <i>deflexifolia</i>	eastern eyebright	r		e	62	22-Jan-2019
<i>Gyrostemon thesioides</i>	broom wheelfruit	r		n	1	06-Jan-1982
<i>Hypotrachyna immaculata</i>		r			1	28-Jul-1991
<i>Lepidosperma forsythii</i>	stout rapiersedge	r		n	4	22-Nov-2016
<i>Lepidosperma tortuosum</i>	twisting rapiersedge	r		n	14	08-Sep-2017
<i>Lepidosperma viscidum</i>	sticky swordsedge	r		n	4	02-Feb-1995
<i>Lobelia dentata</i>	toothed lobelia	pr		n	2	30-Dec-1981
<i>Lobelia rhombifolia</i>	tufted lobelia	r		n	4	09-Nov-2014
<i>Melaleuca pustulata</i>	warty paperbark	r		e	15	08-Sep-2017
<i>Orthoceras strictum</i>	horned orchid	r		n	14	15-Mar-2015
<i>Philotheca freyciana</i>	freycinet waxflower	e	EN	e	43	10-Oct-2016
<i>Pimelea flava</i> subsp. <i>flava</i>	yellow riceflower	r		n	18	07-Nov-2018
<i>Polyscias</i> sp. <i>Douglas-Denison</i>	ferny panax	e		n	4	09-Nov-2014
<i>Pomaderris intermedia</i>	lemon dogwood	r		n	11	04-Apr-2019
<i>Pterostylis grandiflora</i>	superb greenhood	r		n	25	10-Jul-2013
<i>Pterostylis squamata</i>	ruddy greenhood	v		n	13	26-Dec-1992
<i>Rytidosperma indutum</i>	tall wallabygrass	r?		n	1	06-Nov-2003
<i>Spyridium vexilliferum</i> var. <i>vexilliferum</i>	helicopter bush	r		n	232	09-Nov-2018
<i>Stenanthemum pimeleoides</i>	propeller plant	v	VU	e	14	09-Nov-2018
<i>Thelymitra antennifera</i>	rabbit ears	e		n	2	25-Dec-1992
<i>Thelymitra atronitida</i>	blackhood sun-orchid	e		n	144	06-Nov-2018
<i>Thelymitra holmesii</i>	bluestar sun-orchid	r		n	16	09-Nov-2015
<i>Thelymitra malvina</i>	mauvetuft sun-orchid	e		n	24	08-Nov-2018
<i>Thryptomene micrantha</i>	ribbed heathmyrtle	v		n	2169	04-Apr-2019
<i>Tricostularia pauciflora</i>	needle bogsedge	r		n	7	07-Nov-2018
<i>Trithuria submersa</i>	submerged watertuft	r		n	1	07-Nov-2016
<i>Velleia paradoxa</i>	spur velleia	v		n	1	01-Nov-1932
<i>Xanthorrhoea</i> aff. <i>arenaria</i>		pv	PVU	e	3	06-Nov-2018
<i>Xanthorrhoea arenaria</i>	sand grasstree	v	VU	e	7	08-Nov-2018
<i>Xerochrysum palustre</i>	swamp paperdaisy	v	VU	n	1	20-Jan-2005
<i>Zieria littoralis</i>	downy zieria	r		n	56	25-Jul-2016
<i>Zieria veronicea</i> subsp. <i>veronicea</i>	pink zieria	e		n	4	18-Oct-1975

## Unverified Records

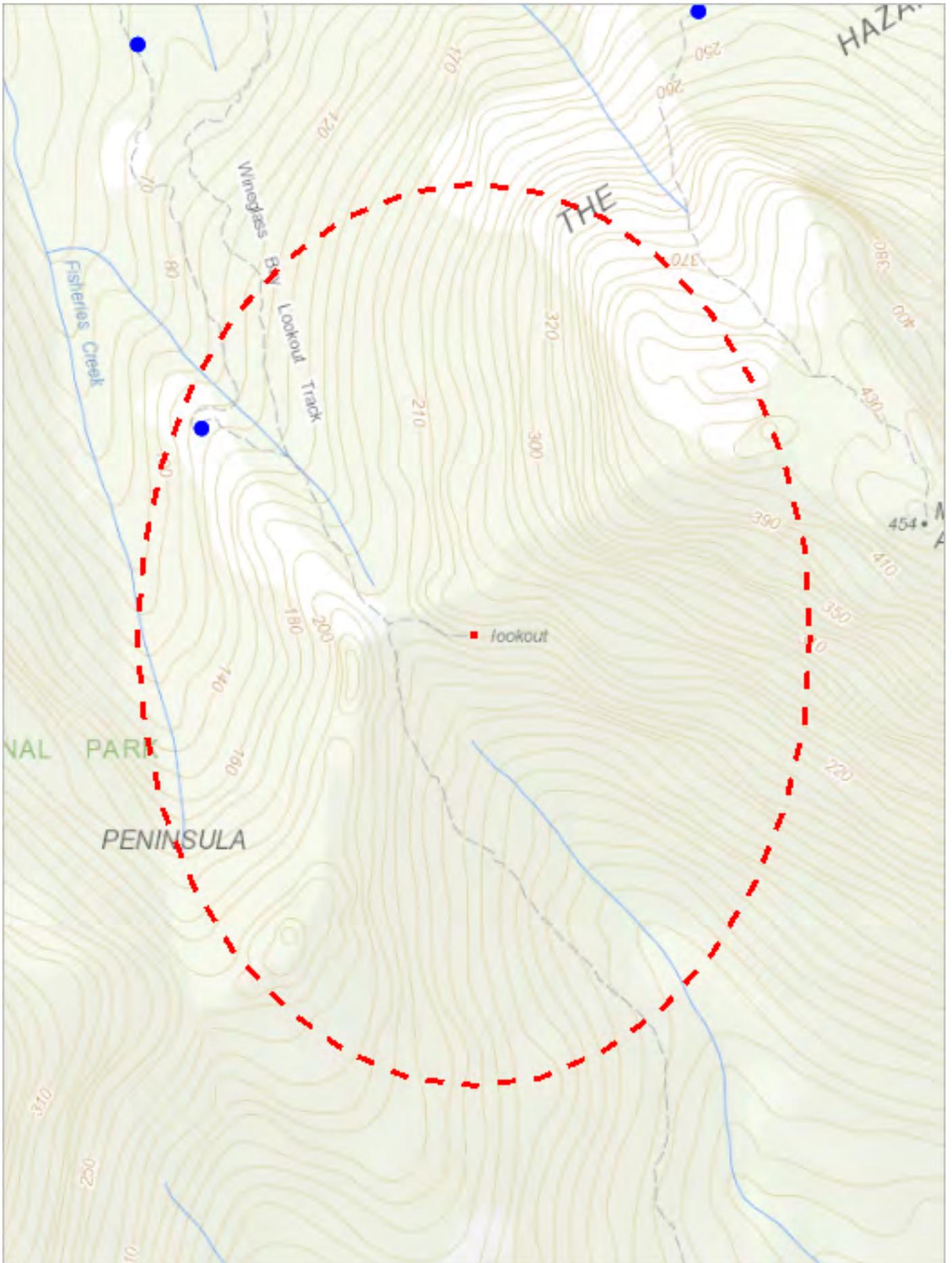
No unverified records were found!

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606330, 5331517

Please note that some layers may not display at all requested map scales

# Threatened fauna within 500 metres

Legend: Verified and Unverified observations

● Point Verified

● Point Unverified

— Line Verified

— Line Unverified

□ Polygon Verified

□ Polygon Unverified

Legend: Cadastral Parcels



# Threatened fauna within 500 metres

## Verified Records

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
<i>Antipodia chaostola</i> subsp. <i>leucophaea</i>	chaostola skipper	e	EN		1	27-Apr-2012

## Unverified Records

No unverified records were found!

## Threatened fauna within 500 metres (based on Range Boundaries)

Species	Common Name	SS	NS	BO	Potential	Known	Core
<i>Litoria raniformis</i>	green and gold frog	v	VU	n	1	0	1
<i>Pseudomys novaehollandiae</i>	new holland mouse	e	VU	n	1	0	0
<i>Pseudemoia pagenstecheri</i>	tussock skink	v		n	1	0	0
<i>Aquila audax</i> subsp. <i>fleayi</i>	tasmanian wedge-tailed eagle	e	EN	e	1	0	0
<i>Pardalotus quadragintus</i>	forty-spotted pardalote	e	EN	e	1	0	0
<i>Antipodia chaostola</i>	chaostola skipper	e	EN		1	0	1
<i>Tyto novaehollandiae</i> subsp. <i>castanops</i>	masked owl (tasmanian)	e	VU	e	1	0	1
<i>Galaxias fontanus</i>	swan galaxias	e	EN	e	1	0	0
<i>Dasyurus maculatus</i> subsp. <i>maculatus</i>	spotted-tail quoll	r	VU	n	1	0	0
<i>Dasyurus viverrinus</i>	eastern quoll		EN	n	0	0	1
<i>Lathamus discolor</i>	swift parrot	e	CR	mbe	1	0	1
<i>Sarcophilus harrisi</i>	tasmanian devil	e	EN	e	1	0	0
<i>Accipiter novaehollandiae</i>	grey goshawk	e		n	1	0	0
<i>Haliaeetus leucogaster</i>	white-bellied sea-eagle	v		n	2	0	0

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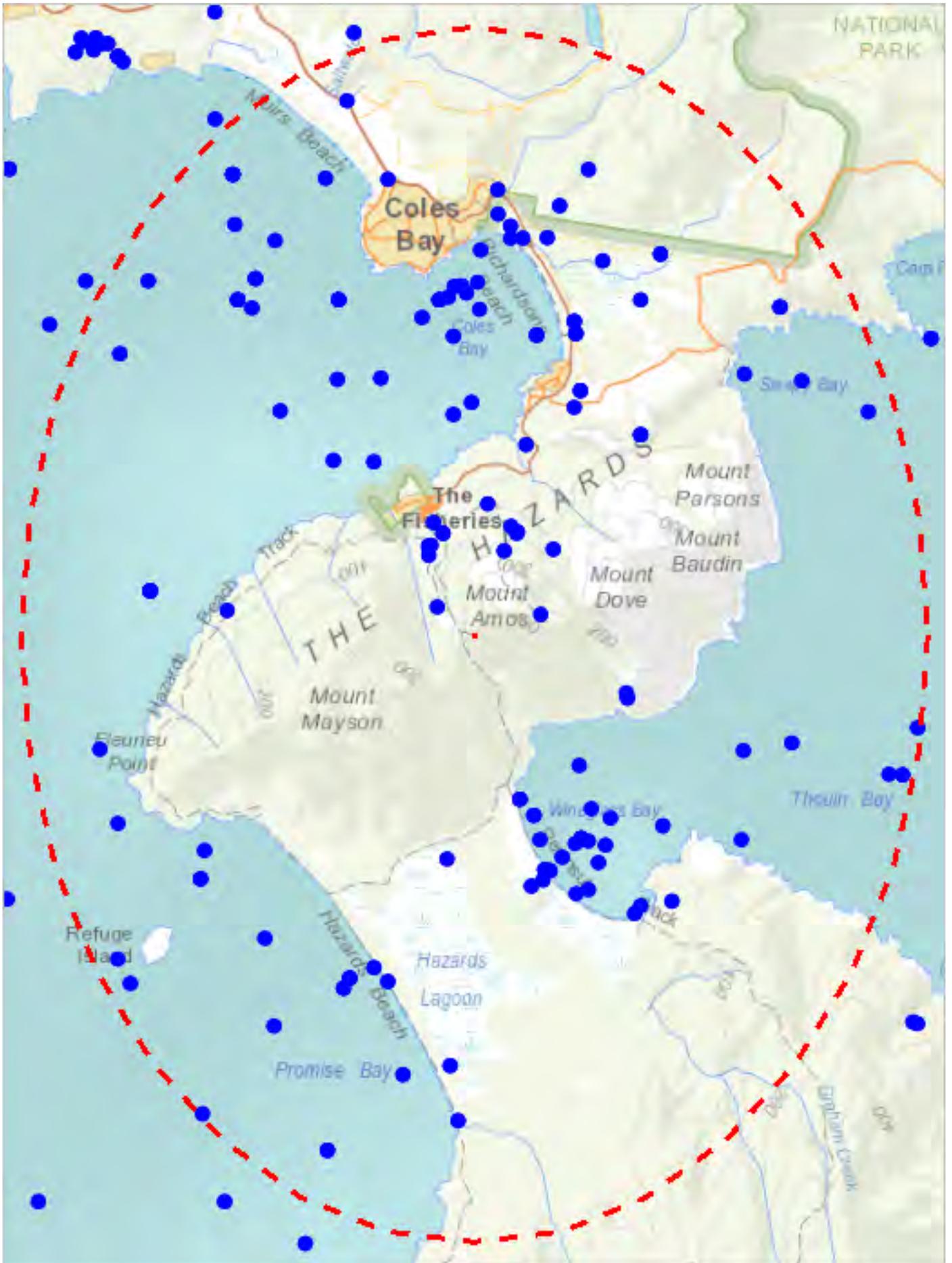
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# Threatened fauna within 5000 metres

610811, 5337480



602918, 5326967

Please note that some layers may not display at all requested map scales

# Threatened fauna within 5000 metres

Legend: Verified and Unverified observations

● Point Verified

● Point Unverified

— Line Verified

— Line Unverified

□ Polygon Verified

□ Polygon Unverified

Legend: Cadastral Parcels



# Threatened fauna within 5000 metres

## Verified Records

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
<i>Antipodia chaostola</i>	chaostola skipper	e	EN		8	01-Oct-2014
<i>Antipodia chaostola</i> subsp. <i>leucophaea</i>	chaostola skipper	e	EN		7	25-Jul-2016
<i>Arctocephalus forsteri</i>	new zealand fur seal	r		n	1	11-Feb-2016
<i>Dasyurus maculatus</i>	spotted-tail quoll	r	VU	n	2	10-Oct-2012
<i>Dasyurus maculatus</i> subsp. <i>maculatus</i>	spotted-tail quoll	r	VU	n	2	01-Jan-1996
<i>Dasyurus viverrinus</i>	eastern quoll		EN	n	7	10-Oct-2012
<i>Dermochelys coriacea</i>	leatherback turtle	v	VU	n	2	08-Mar-2015
<i>Eubalaena australis</i>	southern right whale	e	EN	m	45	03-Oct-2011
<i>Gazameda gunnii</i>	Gunn's screw shell	v			2	12-Jun-2004
<i>Haliaeetus leucogaster</i>	white-bellied sea-eagle	v		n	11	11-Feb-2016
<i>Lathamus discolor</i>	swift parrot	e	CR	mbe	1	14-Nov-1971
<i>Litoria raniformis</i>	green and gold frog	v	VU	n	7	22-Nov-2016
<i>Megaptera novaeangliae</i>	humpback whale	e	VU	m	39	10-Jun-2012
<i>Mirounga leonina</i> subsp. <i>macquariensis</i>	southern elephant seal	pe	PVU	n	6	15-Sep-2008
<i>Pseudemoia rawlinsoni</i>	glossy grass skink	r		n	1	09-Jan-2008
<i>Sarcophilus harrisi</i>	tasmanian devil	e	EN	e	14	09-Nov-2018
<i>Sterna nereis</i> subsp. <i>nereis</i>	fairy tern	pv	PVU		1	01-Jan-0001
<i>Sternula nereis</i> subsp. <i>nereis</i>	fairy tern	v	VU	n	1	01-Jan-0001
<i>Theclinesthes serpentata</i>	chequered blue	pr			2	30-Mar-2014
<i>Thinornis rubricollis</i>	hooded plover		VU	n	6	12-Sep-2010
<i>Thylacinus cynocephalus</i>	thylacine	x	EX	ex	1	01-Jan-1965

## Unverified Records

No unverified records were found!

## Threatened fauna within 5000 metres

(based on Range Boundaries)

Species	Common Name	SS	NS	BO	Potential	Known	Core
<i>Litoria raniformis</i>	green and gold frog	v	VU	n	1	0	1
<i>Pseudomys novaehollandiae</i>	new holland mouse	e	VU	n	2	0	1
<i>Pseudemoia pagenstecheri</i>	tussock skink	v		n	1	0	0
<i>Pardalotus quadragintus</i>	forty-spotted pardalote	e	EN	e	6	0	0
<i>Aquila audax</i> subsp. <i>fleayi</i>	tasmanian wedge-tailed eagle	e	EN	e	1	0	0
<i>Antipodia chaostola</i>	chaostola skipper	e	EN		11	0	1
<i>Tyto novaehollandiae</i> subsp. <i>castanops</i>	masked owl (tasmanian)	e	VU	e	1	0	1
<i>Galaxias fontanus</i>	swan galaxias	e	EN	e	33	0	0
<i>Dasyurus maculatus</i> subsp. <i>maculatus</i>	spotted-tail quoll	r	VU	n	1	0	0
<i>Dasyurus viverrinus</i>	eastern quoll		EN	n	0	0	1
<i>Pseudemoia rawlinsoni</i>	glossy grass skink	r		n	0	0	1
<i>Lathamus discolor</i>	swift parrot	e	CR	mbe	1	0	1
<i>Prototroctes maraena</i>	australian grayling	v	VU	ae	9	0	0
<i>Sarcophilus harrisi</i>	tasmanian devil	e	EN	e	1	0	0
<i>Accipiter novaehollandiae</i>	grey goshawk	e		n	1	0	0
<i>Brachiopsilus ziebelli</i>	Ziebell's Handfish	e	VU	e	1	0	0
<i>Haliaeetus leucogaster</i>	white-bellied sea-eagle	v		n	3	0	0

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\*\*\* No Raptor nests or sightings found within 500 metres. \*\*\*

# Raptor nests and sightings within 5000 metres

610811, 5337480



602918, 5326967

Please note that some layers may not display at all requested map scales

# Raptor nests and sightings within 5000 metres

Legend: Verified and Unverified observations

● Point Verified

● Point Unverified

— Line Verified

— Line Unverified

□ Polygon Verified

□ Polygon Unverified

Legend: Cadastral Parcels



# Raptor nests and sightings within 5000 metres

## Verified Records

Nest Id/Location Foreign Id	Species	Common Name	Obs Type	Observation Count	Last Recorded
1399	Falco peregrinus	peregrine falcon	Nest	1	08-Sep-2005
1437	Haliaeetus leucogaster	white-bellied sea-eagle	Nest	1	01-Jan-2006
1929	Haliaeetus leucogaster	white-bellied sea-eagle	Nest	1	11-Nov-2010
319	Haliaeetus leucogaster	white-bellied sea-eagle	Nest	1	01-Jan-1985
320	Falco peregrinus	peregrine falcon	Nest	1	01-Jan-1985
321	Haliaeetus leucogaster	white-bellied sea-eagle	Nest	1	01-Jan-1985
322	Haliaeetus leucogaster	white-bellied sea-eagle	Nest	1	01-Jan-1985
889	Haliaeetus leucogaster	white-bellied sea-eagle	Nest	1	18-Jan-2008
	Haliaeetus leucogaster	white-bellied sea-eagle	Sighting	5	11-Feb-2016

## Unverified Records

No unverified records were found!

## Raptor nests and sightings within 5000 metres (based on Range Boundaries)

Species	Common Name	SS	NS	Potential	Known	Core
Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	e	EN	1	0	0
Haliaeetus leucogaster	white-bellied sea-eagle	v		3	0	0
Accipiter novaehollandiae	grey goshawk	e		1	0	0

For more information about raptor nests, please contact Threatened Species Enquiries.

Telephone: 1300 368 550

Email: [ThreatenedSpecies.Enquiries@dpiwve.tas.gov.au](mailto:ThreatenedSpecies.Enquiries@dpiwve.tas.gov.au)

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

\*\*\* No Tas Management Act Weeds found within 500 metres \*\*\*



602918, 5326967

Please note that some layers may not display at all requested map scales

# Tas Management Act Weeds within 5000 m

Legend: Verified and Unverified observations

● Point Verified

● Point Unverified

▬ Line Verified

▬ Line Unverified

□ Polygon Verified

□ Polygon Unverified

Legend: Cadastral Parcels



# Tas Management Act Weeds within 5000 m

## Verified Records

Species	Common Name	Observation Count	Last Recorded
Asparagus asparagoides	bridal creeper	12	11-Jul-2009
Carduus tenuiflorus	winged thistle	1	08-Jan-1982
Ulex europaeus	gorse	1	08-Jan-1995

## Unverified Records

For more information about introduced weed species, please visit the following URL for contact details in your area:

<http://dpiwae.tas.gov.au/invasive-species/weeds>

\*\*\* No Priority Weeds found within 500 metres \*\*\*



602918, 5326967

Please note that some layers may not display at all requested map scales

# Priority Weeds within 5000 m

Legend: Verified and Unverified observations

● Point Verified

● Point Unverified

▬ Line Verified

▬ Line Unverified

▭ Polygon Verified

▭ Polygon Unverified

Legend: Cadastral Parcels



# Priority Weeds within 5000 m

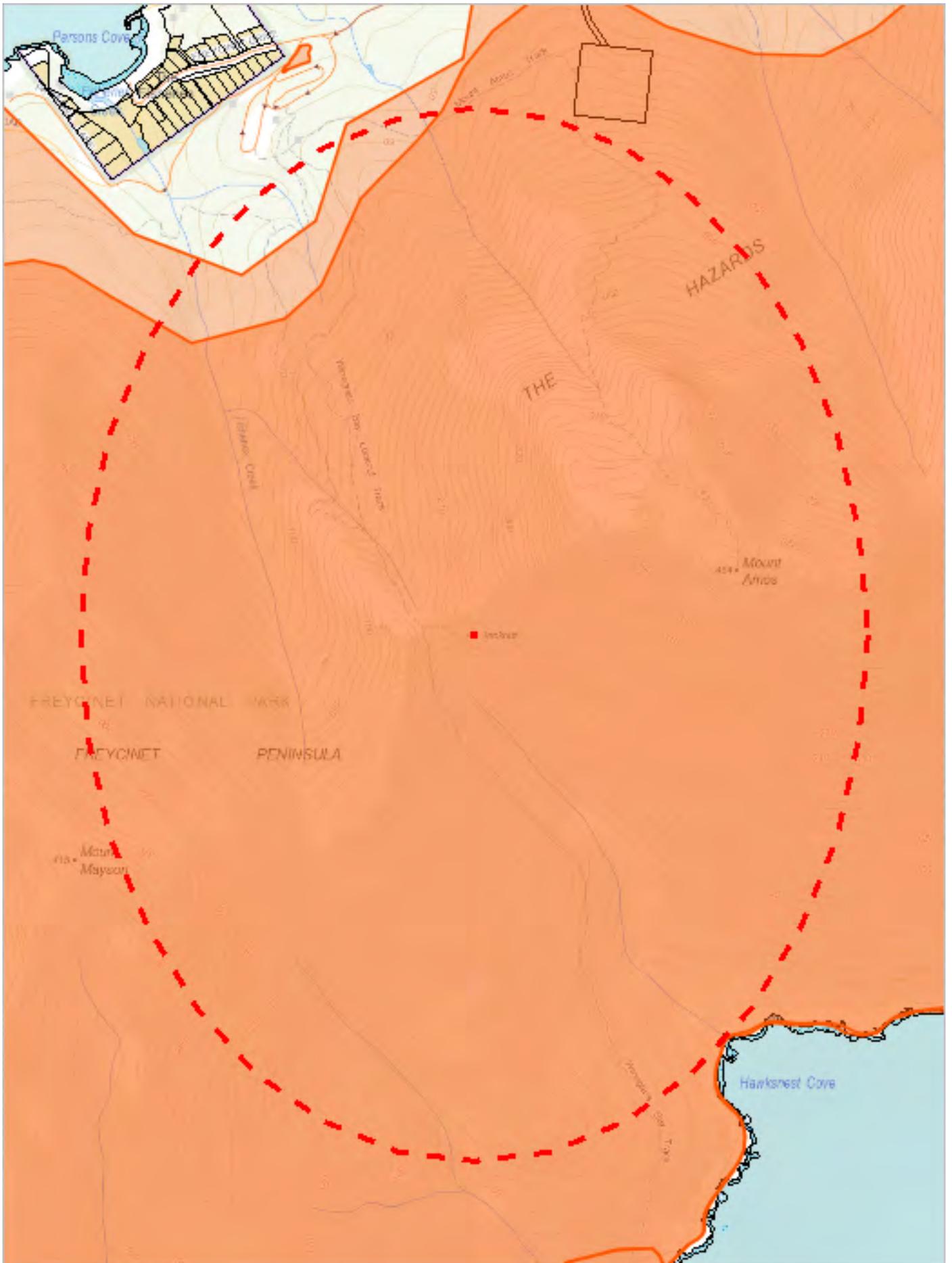
## Verified Records

Species	Common Name	Observation Count	Last Recorded
<i>Billardiera heterophylla</i>	bluebell creeper	5	09-Nov-2018
<i>Pittosporum undulatum</i>	sweet pittosporum	6	08-Nov-2018
<i>Tradescantia fluminensis</i>	wandering creeper	1	25-Dec-2004

## Unverified Records

For more information about introduced weed species, please visit the following URL for contact details in your area:

<http://dpiwwe.tas.gov.au/invasive-species/weeds>



605951, 5331011

Please note that some layers may not display at all requested map scales

# Geoconservation sites within 1000 metres

Legend: Geoconservation (NVA)



Legend: Cadastral Parcels



## Geoconservation sites within 1000 metres

Id	Name	Statement of Significance	Significance Level	Status
2414	Freycinet Peninsula Soils	Notable example of type.	State	Listed
2407	The Hazards Landforms	Notable example of type.	State	Listed

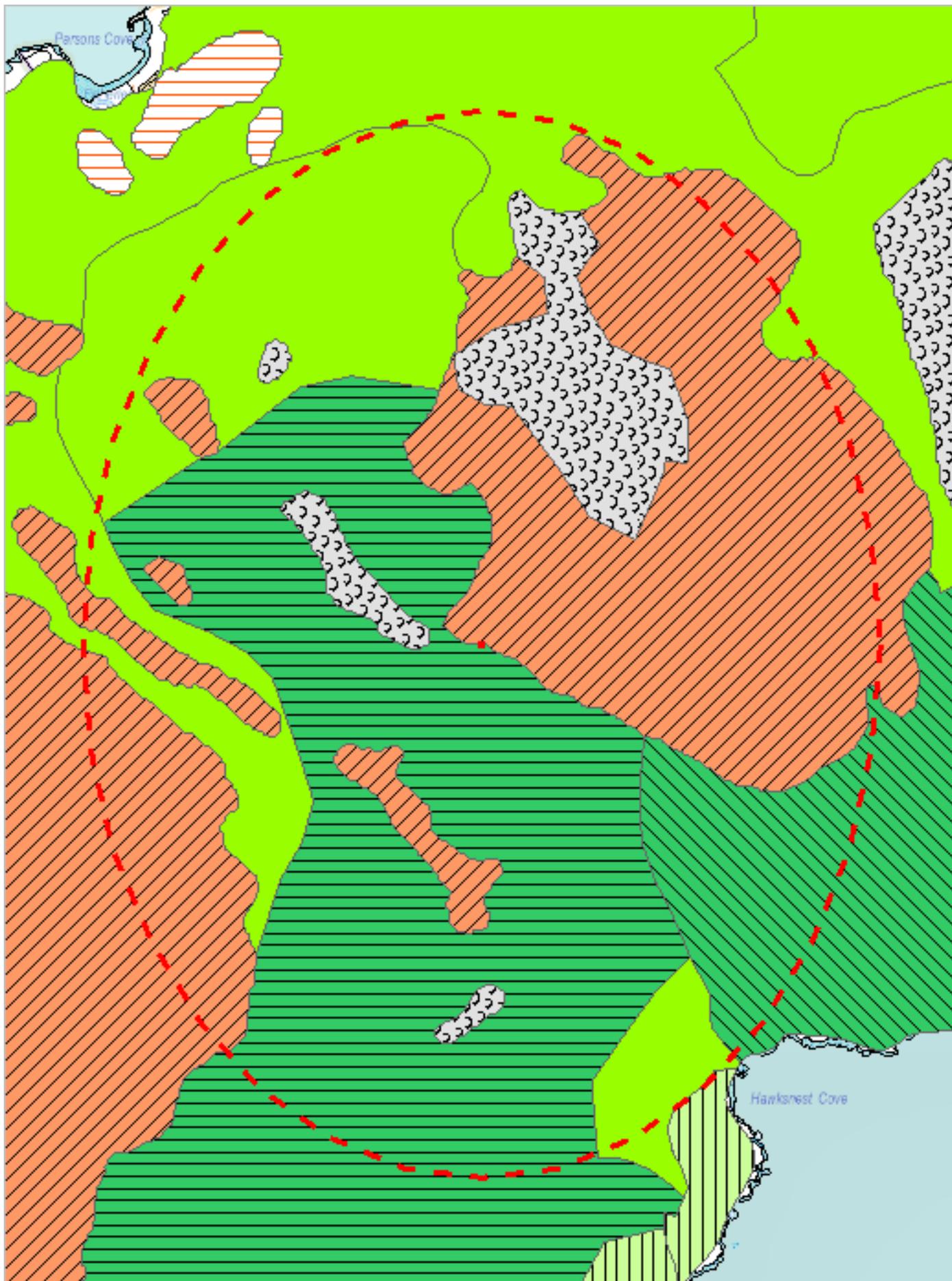
For more information about the Geoconservation Database, please visit the website: <http://dpiwve.tas.gov.au/conservation/geoconservation> or contact the Geoconservation Officer:

Telephone: (03) 6165 4401

Email: [Geoconservation.Enquiries@dpiwve.tas.gov.au](mailto:Geoconservation.Enquiries@dpiwve.tas.gov.au)

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

\*\*\* No Acid Sulfate Soils found within 1000 metres \*\*\*



605951, 5331011

Please note that some layers may not display at all requested map scales

# TASVEG 3.0 Communities within 1000 metres

## Legend: TASVEG 3.0

	DAC - Eucalyptus amygdalina coastal forest and woodland
	DAD - Eucalyptus amygdalina forest and woodland on dolerite
	DAS - Eucalyptus amygdalina forest and woodland on sandstone
	DAM - Eucalyptus amygdalina forest on mudstone
	DAZ - Eucalyptus amygdalina inland forest and woodland on Cainozoic deposits
	DSC - Eucalyptus amygdalina - Eucalyptus obliqua damp sclerophyll forest
	DBA - Eucalyptus barberi forest and woodland
	DCO - Eucalyptus coccifera forest and woodland
	DCR - Eucalyptus cordata forest
	DDP - Eucalyptus dalrympleana - Eucalyptus pauciflora forest and woodland
	DDE - Eucalyptus delegatensis dry forest and woodland
	DGL - Eucalyptus globulus dry forest and woodland
	DGW - Eucalyptus gunnii woodland
	DMO - Eucalyptus morrisbyi forest and woodland
	DNI - Eucalyptus nitida dry forest and woodland
	DNF - Eucalyptus nitida Furneaux forest
	DOB - Eucalyptus obliqua dry forest
	DOV - Eucalyptus ovata forest and woodland
	DOW - Eucalyptus ovata heathy woodland
	DPO - Eucalyptus pauciflora forest and woodland not on dolerite
	DPD - Eucalyptus pauciflora forest and woodland on dolerite
	DPE - Eucalyptus perriniana forest and woodland
	DPU - Eucalyptus pulchella forest and woodland
	DRI - Eucalyptus risdonii forest and woodland
	DRO - Eucalyptus rodwayi forest and woodland
	DSO - Eucalyptus sieberi forest and woodland not on granite
	DSG - Eucalyptus sieberi forest and woodland on granite
	DTD - Eucalyptus tenuiramis forest and woodland on dolerite
	DTG - Eucalyptus tenuiramis forest and woodland on granite
	DTO - Eucalyptus tenuiramis forest and woodland on sediments
	DVF - Eucalyptus viminalis Furneaux forest and woodland
	DVG - Eucalyptus viminalis grassy forest and woodland
	DVC - Eucalyptus viminalis - Eucalyptus globulus coastal forest and woodland
	DKW - King Island Eucalypt woodland
	DMW - Midlands woodland complex
	WBR - Eucalyptus brookeriana wet forest
	WDA - Eucalyptus dalrympleana forest
	WDL - Eucalyptus delegatensis forest over Leptospermum
	WDR - Eucalyptus delegatensis forest over rainforest
	WDB - Eucalyptus delegatensis forest with broad-leaf shrubs
	WDU - Eucalyptus delegatensis wet forest (undifferentiated)
	WGK - Eucalyptus globulus King Island forest
	WGL - Eucalyptus globulus wet forest
	WNL - Eucalyptus nitida forest over Leptospermum
	WNR - Eucalyptus nitida forest over rainforest
	WNU - Eucalyptus nitida wet forest (undifferentiated)
	WOL - Eucalyptus obliqua forest over Leptospermum
	WOR - Eucalyptus obliqua forest over rainforest
	WOB - Eucalyptus obliqua forest with broad-leaf shrubs
	WOU - Eucalyptus obliqua wet forest (undifferentiated)
	WRE - Eucalyptus regnans forest
	WSU - Eucalyptus subcrenulata forest and woodland
	WVI - Eucalyptus viminalis wet forest
	RPF - Athrotaxis cupressoides - Nothofagus gunnii short rainforest
	RPW - Athrotaxis cupressoides open woodland
	RPP - Athrotaxis cupressoides rainforest
	RKF - Athrotaxis selaginoides - Nothofagus gunnii short rainforest
	RKP - Athrotaxis selaginoides rainforest
	RKS - Athrotaxis selaginoides subalpine scrub

# TASVEG 3.0 Communities within 1000 metres

	RCO - Coastal rainforest
	RSH - Highland low rainforest and scrub
	RKX - Highland rainforest scrub with dead Athrotaxis selaginoides
	RHP - Lagarostrobos franklinii rainforest and scrub
	RMT - Nothofagus - Atherosperma rainforest
	RML - Nothofagus - Leptospermum short rainforest
	RMS - Nothofagus - Phyllocladus short rainforest
	RFS - Nothofagus gunnii rainforest and scrub
	RMU - Nothofagus rainforest (undifferentiated)
	RFE - Rainforest fernland
	NAD - Acacia dealbata forest
	NAR - Acacia melanoxylon forest on rises
	NAF - Acacia melanoxylon swamp forest
	NAL - Allocasuarina littoralis forest
	NAV - Allocasuarina verticillata forest
	NBS - Banksia serrata woodland
	NBA - Bursaria - Acacia woodland and scrub
	NCR - Callitris rhomboidea forest
	NLE - Leptospermum forest
	NLM - Leptospermum lanigerum - Melaleuca squarrosa swamp forest
	NLA - Leptospermum scoparium - Acacia mucronata forest
	NME - Melaleuca ericifolia swamp forest
	NLN - Subalpine Leptospermum nitidum woodland
	AHF - Fresh water aquatic herbland
	ASF - Freshwater aquatic sedgeland and rushland
	AHL - Lacustrine herbland
	AHS - Saline aquatic herbland
	ARS - Saline sedgeland/rushland
	AUS - Saltmarsh (undifferentiated)
	ASS - Succulent saline herbland
	AWU - Wetland (undifferentiated)
	SAL - Acacia longifolia coastal scrub
	SBM - Banksia marginata wet scrub
	SBR - Broad-leaf scrub
	SCH - Coastal heathland
	SSC - Coastal scrub
	SCA - Coastal scrub on alkaline sands
	SRE - Eastern riparian scrub
	SED - Eastern scrub on dolerite
	SCL - Heathland on calcareous substrates
	SKA - Kunzea ambigua regrowth scrub
	SLG - Leptospermum glaucescens heathland and scrub
	SLL - Leptospermum lanigerum scrub
	SLS - Leptospermum scoparium heathland and scrub
	SLW - Leptospermum scrub
	SRF - Leptospermum with rainforest scrub
	SMP - Melaleuca pustulata scrub
	SMM - Melaleuca squamea heathland
	SMR - Melaleuca squarrosa scrub
	SRH - Rookery halophytic herbland
	SSK - Scrub complex on King Island
	SSZ - Spray zone coastal complex
	SHS - Subalpine heathland
	SWR - Western regrowth complex
	SSW - Western subalpine scrub
	SWW - Western wet scrub
	SHW - Wet heathland
	HCH - Alpine coniferous heathland
	HCM - Cushion moorland
	HHE - Eastern alpine heathland
	HSE - Eastern alpine sedgeland

# TASVEG 3.0 Communities within 1000 metres

-  HUE - Eastern alpine vegetation (undifferentiated)
-  HHW - Western alpine heathland
-  HSW - Western alpine sedgeland/herbland
-  MAP - Alkaline pans
-  MBU - Buttongrass moorland (undifferentiated)
-  MBS - Buttongrass moorland with emergent shrubs
-  MBE - Eastern buttongrass moorland
-  MGH - Highland grassy sedgeland
-  MBP - Pure buttongrass moorland
-  MRR - Restionaceae rushland
-  MBR - Sparse buttongrass moorland on slopes
-  MSP - Sphagnum peatland
-  MDS - Subalpine Diplarrena latifolia rushland
-  MBW - Western buttongrass moorland
-  MSW - Western lowland sedgeland
-  GHC - Coastal grass and herbfield
-  GPH - Highland Poa grassland
-  GCL - Lowland grassland complex
-  GSL - Lowland grassy sedgeland
-  GPL - Lowland Poa labillardierei grassland
-  GTL - Lowland Themeda triandra grassland
-  GRP - Rockplate grassland
-  FAG - Agricultural land
-  FUM - Extra-urban miscellaneous
-  FMG - Marram grassland
-  FPE - Permanent easements
-  FPL - Plantations for silviculture
-  FPF - Pteridium esculentum fernland
-  FRG - Regenerating cleared land
-  FSM - Spartina marshland
-  FPU - Unverified plantations for silviculture
-  FUR - Urban areas
-  FWU - Weed infestation
-  QCS - Coastal slope complex
-  QCT - Coastal terrace mosaic
-  QKB - Kelp beds
-  QAM - Macquarie alpine mosaic
-  QMI - Mire
-  QST - Short tussock grassland/rushland with herbs
-  QTT - Tall tussock grassland with megaherbs
-  ORO - Lichen lithosere
-  OSM - Sand, mud
-  OAQ - Water, sea

Legend: Cadastral Parcels



## TASVEG 3.0 Communities within 1000 metres

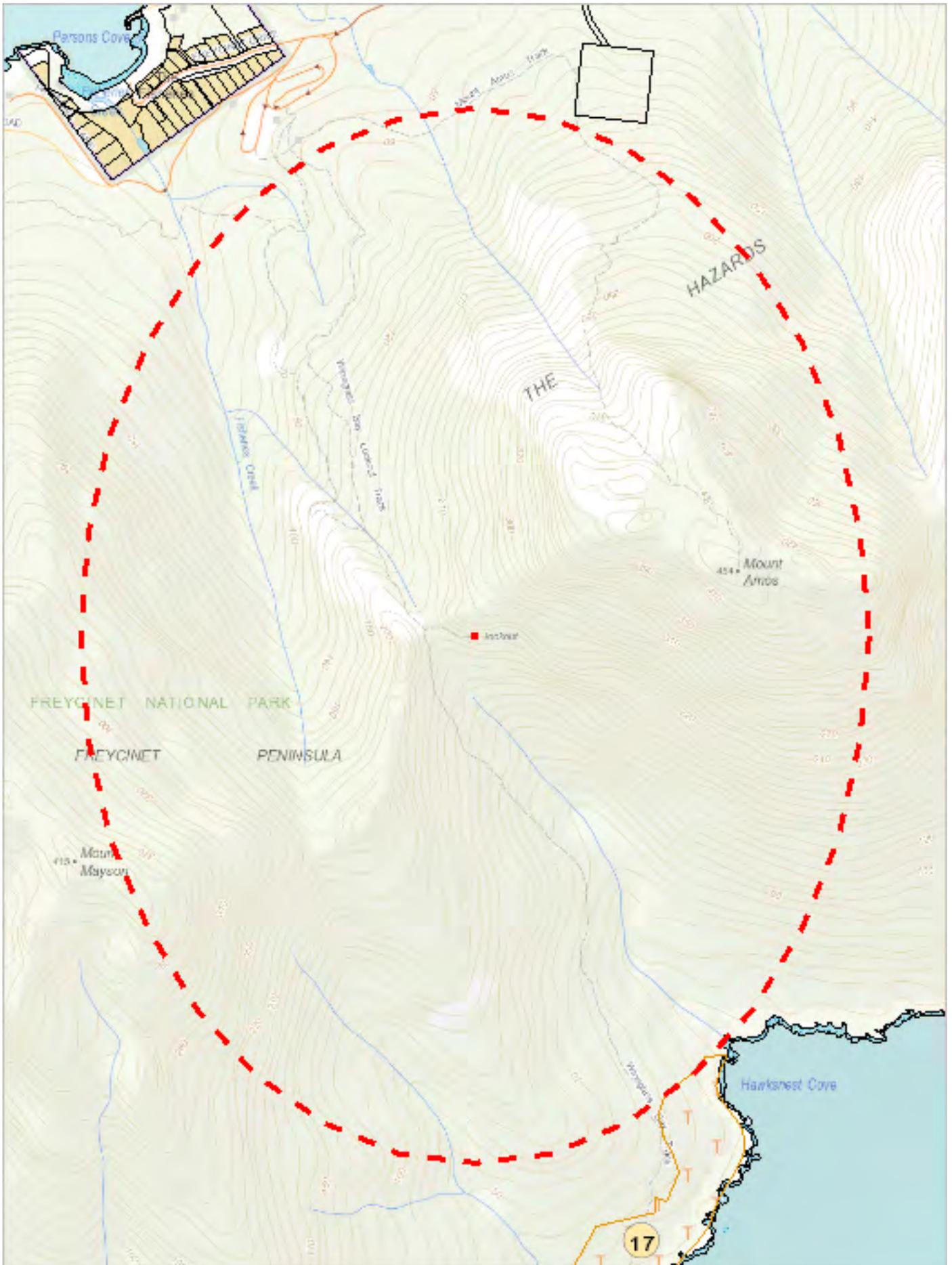
Code	Community	Emergent Species
DAC	(DAC) Eucalyptus amygdalina coastal forest and woodland	
DGL	(DGL) Eucalyptus globulus dry forest and woodland	
DTG	(DTG) Eucalyptus tenuiramis forest and woodland on granite	
DVG	(DVG) Eucalyptus viminalis grassy forest and woodland	
ORO	(ORO) Lichen lithosere	
SLG	(SLG) Leptospermum glaucescens heathland and scrub	

For more information contact: Coordinator, Tasmanian Vegetation Monitoring and Mapping Program.

Telephone: (03) 6165 4320

Email: [TVMMPsupport@dipwe.tas.gov.au](mailto:TVMMPsupport@dipwe.tas.gov.au)

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000



605951, 5331011

Please note that some layers may not display at all requested map scales

# Threatened Communities (TNVC 2014) within 1000 metres

## Legend: Threatened Communities

- 1 - Alkaline pans
- 2 - Allocasuarina littoralis forest
- 3 - Athrotaxis cupressoides/Nothofagus gunnii short rainforest
- 4 - Athrotaxis cupressoides open woodland
- 5 - Athrotaxis cupressoides rainforest
- 6 - Athrotaxis selaginoides/Nothofagus gunni short rainforest
- 7 - Athrotaxis selaginoides rainforest
- 8 - Athrotaxis selaginoides subalpine scrub
- 9 - Banksia marginata wet scrub
- 10 - Banksia serrata woodland
- 11 - Callitris rhomboidea forest
- 13 - Cushion moorland
- 14 - Eucalyptus amygdalina forest and woodland on sandstone
- 15 - Eucalyptus amygdalina inland forest and woodland on cainozoic deposits
- 16 - Eucalyptus brookeriana wet forest
- 17 - Eucalyptus globulus dry forest and woodland
- 18 - Eucalyptus globulus King Island forest
- 19 - Eucalyptus morrisbyi forest and woodland
- 20 - Eucalyptus ovata forest and woodland
- 21 - Eucalyptus risdonii forest and woodland
- 22 - Eucalyptus tenuiramis forest and woodland on sediments
- 23 - Eucalyptus viminalis - Eucalyptus globulus coastal forest and woodland
- 24 - Eucalyptus viminalis Furneaux forest and woodland
- 25 - Eucalyptus viminalis wet forest
- 26 - Heathland on calcareous substrates
- 27 - Heathland scrub complex at Wingaroo
- 28 - Highland grassy sedge land
- 29 - Highland Poa grassland
- 30 - Melaleuca ericifolia swamp forest
- 31 - Melaleuca pustulata scrub
- 32 - Notelaea - Pomaderris - Beyeria forest
- 33 - Rainforest fernland
- 34 - Riparian scrub
- 35 - Seabird rookery complex
- 36 - Sphagnum peatland
- 36A - Spray zone coastal complex
- 37 - Subalpine Diplarrena latifolia rushland
- 38 - Subalpine Leptospermum nitidum woodland
- 39 - Wetlands

## Legend: Cadastral Parcels



## Threatened Communities (TNVC 2014) within 1000 metres

Scheduled Community Id	Scheduled Community Name
17	Eucalyptus globulus dry forest and woodland

For more information contact: Coordinator, Tasmanian Vegetation Monitoring and Mapping Program.

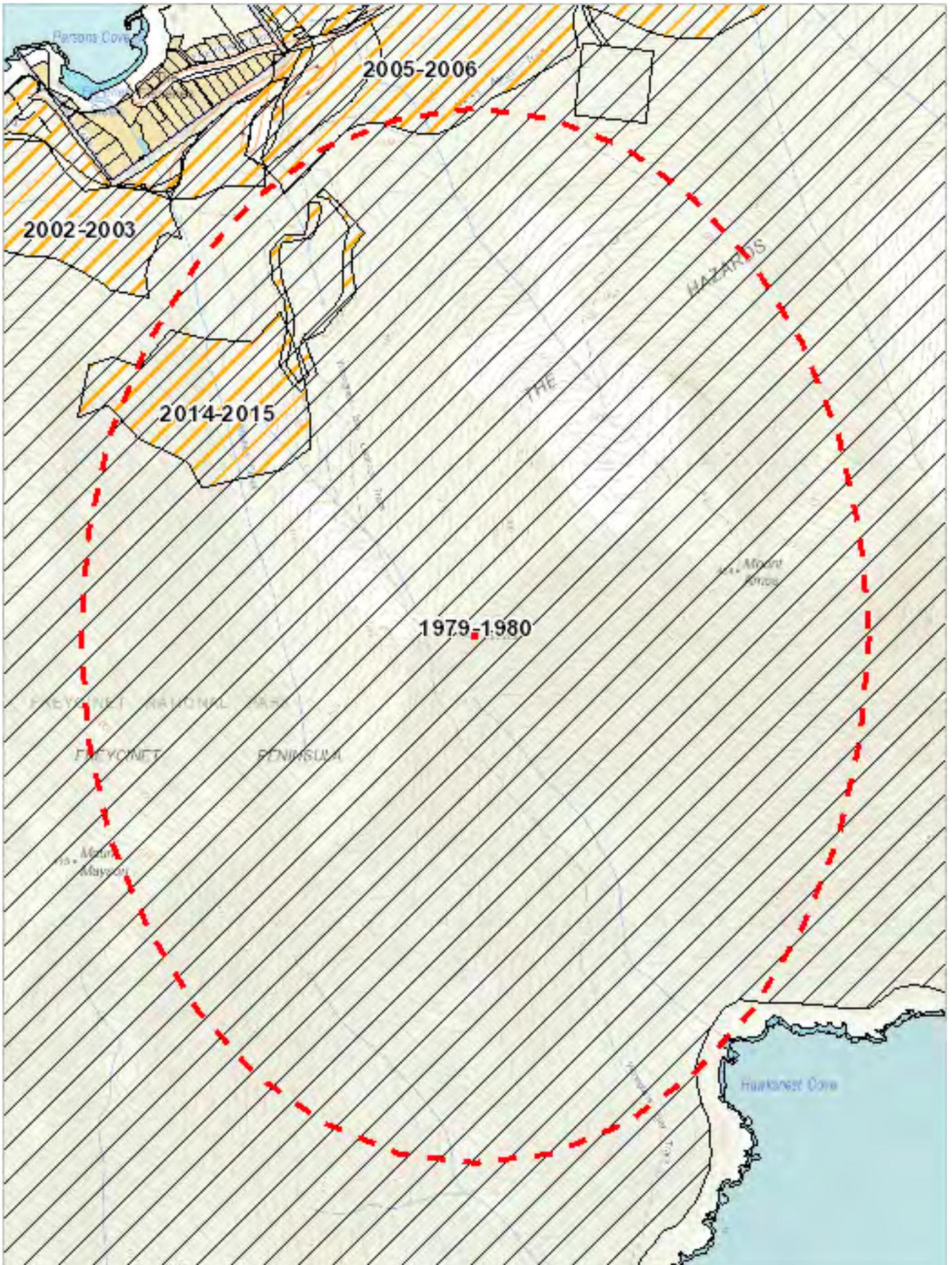
Telephone: (03) 6165 4320

Email: [TVMMPsupport@dipwe.tas.gov.au](mailto:TVMMPsupport@dipwe.tas.gov.au)

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

# Fire History (All) within 1000 metres

607772, 5333437



605951, 5331011

Please note that some layers may not display at all requested map scales

# Fire History (All) within 1000 metres

Legend: Fire History All

-  Bushfire-Unknown Category
-  Completed Planned Burn

 Bushfire

Legend: Cadastral Parcels



## Fire History (All) within 1000 metres

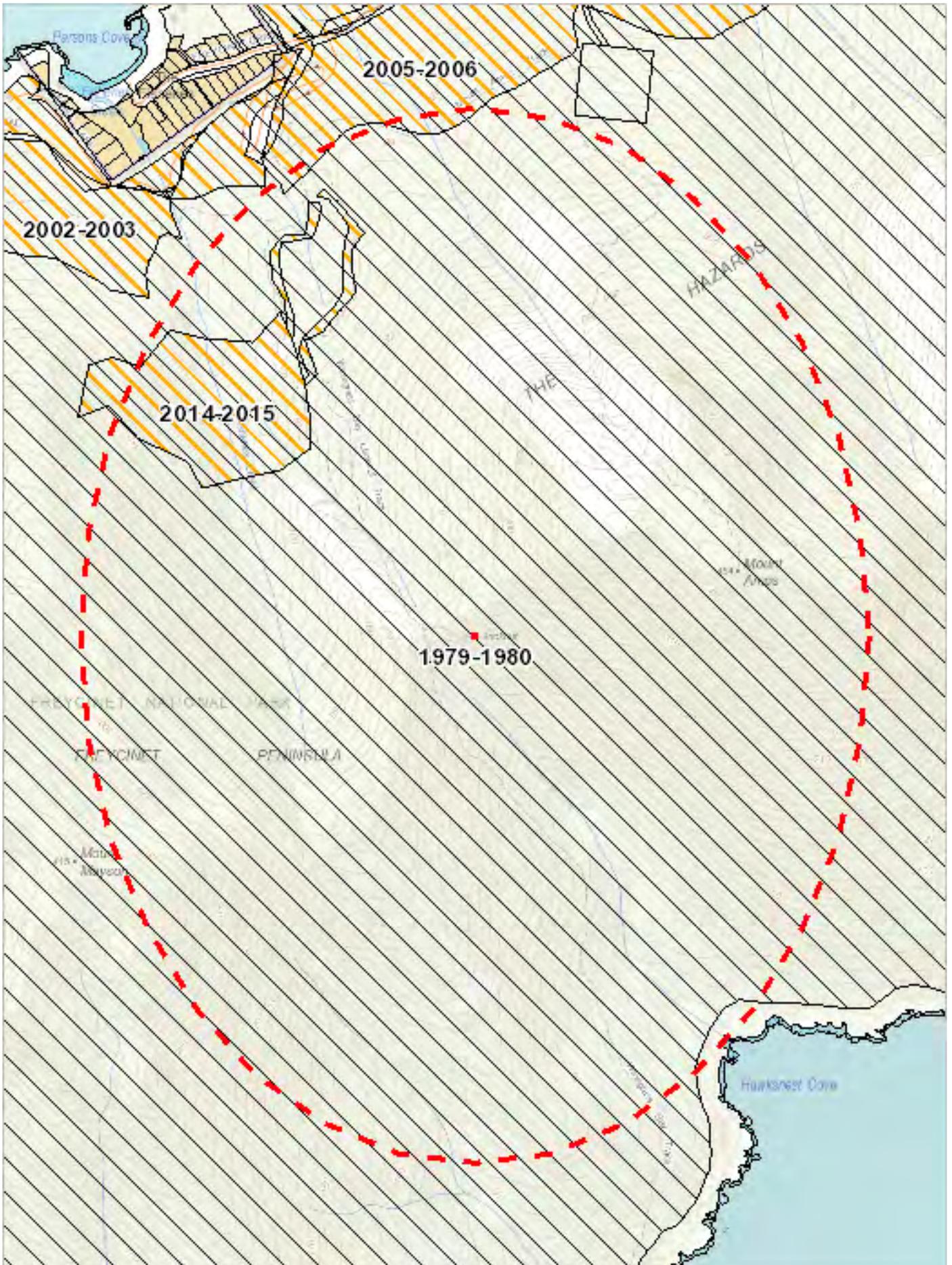
Incident Number	Fire Name	Ignition Date	Fire Type	Ignition Cause	Fire Area (HA)
FRENP010AP	Wineglass Walking Track FREN010AP	30-Apr-2012	Planned Burn	Planned Burn	1.27631862
FRENP015AP	Winglass Bay Walking Track	25-May-2015	Planned Burn	Planned Burn	8.82604499
	Hazards	03-Feb-1980	Bushfire	Accidental	1185.8095725
	Mt Amos B35	17-May-2006	Planned Burn	Planned Burn	17.27215159

For more information about Fire History, please contact the Manager Community Protection Planning, Tasmania Fire Service.

Telephone: 1800 000 699

Email: [planning@fire.tas.gov.au](mailto:planning@fire.tas.gov.au)

Address: cnr Argyle and Melville Streets, Hobart, Tasmania, Australia, 7000



605951, 5331011

Please note that some layers may not display at all requested map scales

# Fire History (Last Burnt) within 1000 metres

Legend: Fire History Last

 Bushfire-Unknown category

 Completed Planned Burn

 Bushfire

Legend: Cadastral Parcels



## Fire History (Last Burnt) within 1000 metres

Incident Number	Fire Name	Ignition Date	Fire Type	Ignition Cause	Fire Area (HA)
FREN010AP	Wineglass Walking Track FREN010AP	30-Apr-2012	Planned Burn	Planned Burn	1.27631862
FREN015AP	Winglass Bay Walking Track	25-May-2015	Planned Burn	Planned Burn	8.82604499
	Hazards	03-Feb-1980	Bushfire	Accidental	1185.8095725
	Mt Amos B35	17-May-2006	Planned Burn	Planned Burn	17.27215159

For more information about Fire History, please contact the Manager Community Protection Planning, Tasmania Fire Service.

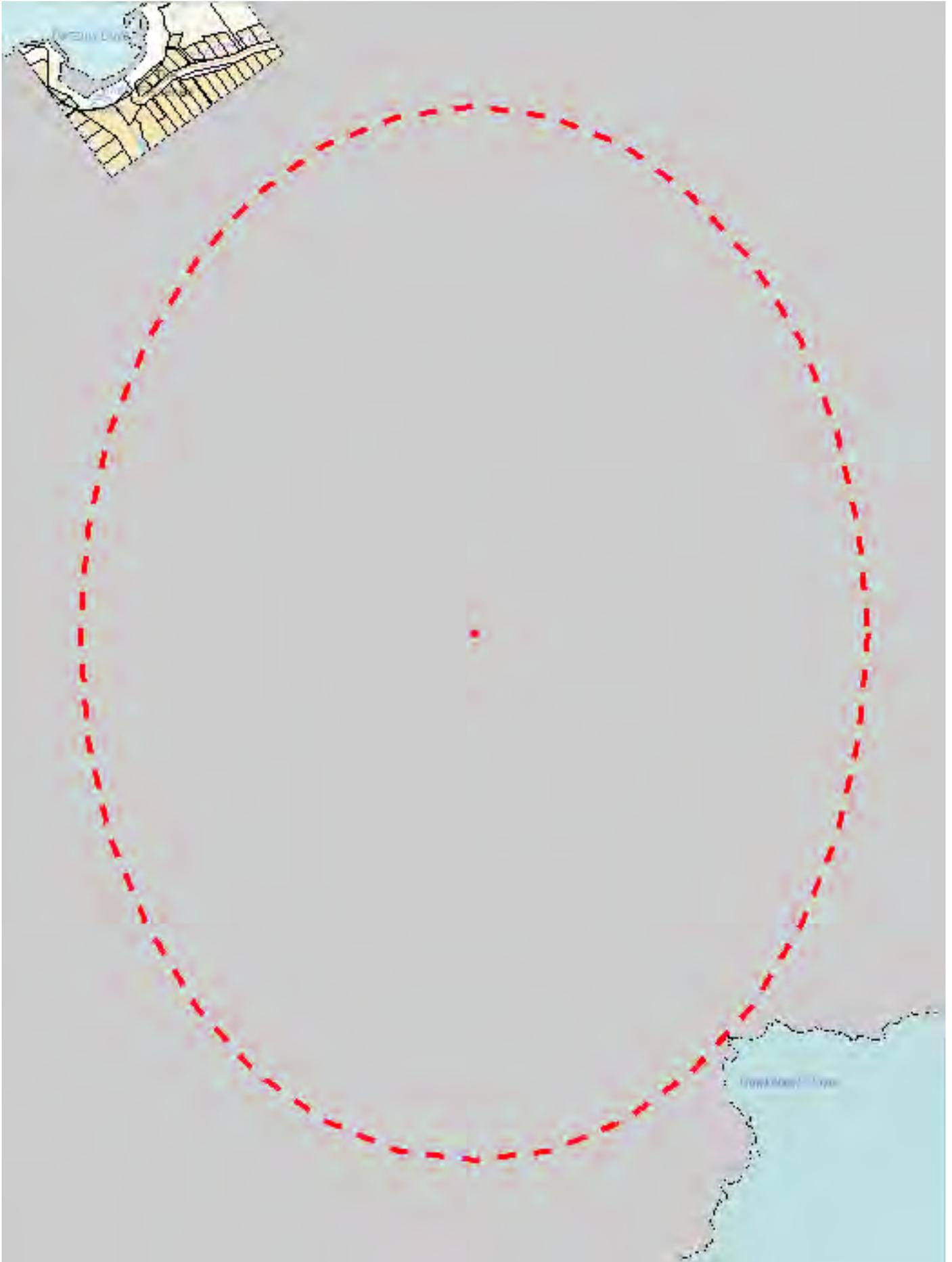
Telephone: 1800 000 699

Email: [planning@fire.tas.gov.au](mailto:planning@fire.tas.gov.au)

Address: cnr Argyle and Melville Streets, Hobart, Tasmania, Australia, 7000

# Reserves within 1000 metres

607772, 5333437



605951, 5331011

Please note that some layers may not display at all requested map scales

# Reserves within 1000 metres

## Legend: Tasmanian Reserve Estate

-  Conservation Area
-  Conservation Area and Conservation Covenant (NCA)
-  Game Reserve
-  Historic Site
-  Indigenous Protected Area
-  National Park
-  Nature Reserve
-  Nature Recreation Area
-  Regional Reserve
-  State Reserve
-  Wellington Park
-  Public authority land within WHA
-  Future Potential Production Forest
-  Informal Reserve on Permanent Timber Production Zone Land or STT managed land
-  Informal Reserve on other public land
-  Conservation Covenant (NCA)
-  Private Nature Reserve and Conservation Covenant (NCA)
-  Private Sanctuary and Conservation Covenant (NCA)
-  Private Sanctuary
-  Private land within WHA
-  Management Agreement
-  Management Agreement and Stewardship Agreement
-  Stewardship Agreement
-  Part 5 Agreement (Meander Dam Offset)
-  Other Private Reserve

## Legend: Cadastral Parcels



## Reserves within 1000 metres

Name	Classification	Status	Area (HA)
Freycinet National Park	National Park	Dedicated Formal Reserve	7.930739999 999999
Freycinet National Park	National Park	Dedicated Formal Reserve	7130.41

For more information about the Tasmanian Reserve Estate, please contact the Sustainable Land Use and Information Management Branch.

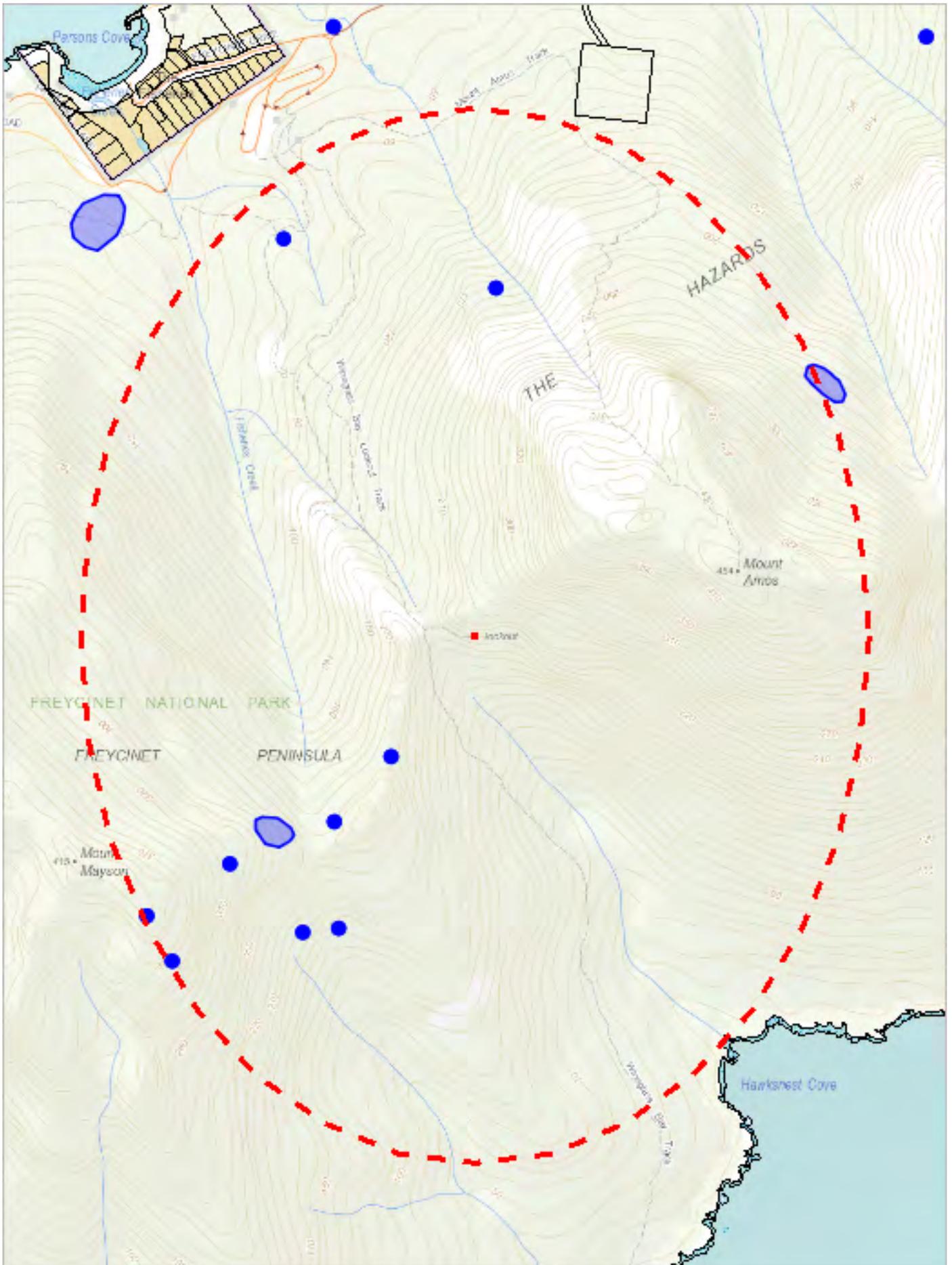
Telephone: (03) 6777 2224

Email: [LandManagement.Enquiries@dpiwve.tas.gov.au](mailto:LandManagement.Enquiries@dpiwve.tas.gov.au)

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

# Known biosecurity risks within 1000 meters

607772, 5333437



605951, 5331011

Please note that some layers may not display at all requested map scales

# Known biosecurity risks within 1000 meters

## Legend: Biosecurity Risk Species

- Point Verified
- Point Unverified
- Polygon Verified
- Polygon Unverified
- Line Verified
- Line Unverified

## Legend: Hygiene infrastructure

- Location Point Verified
- Location Point Unverified
- Location Line Unverified
- Location Line Verified
- Location Polygon Verified
- Location Polygon Unverified

## Legend: Cadastral Parcels



# Known biosecurity risks within 1000 meters

## Verified Species of biosecurity risk

Species Name	Common Name	Prescription	Observation Count	Last Recorded
Phytophthora cinnamomi	water mould or root rot		4	01-Aug-2001
Phytophthora cinnamomi - symptoms	water mould or root rot		6	01-Aug-2001
Rattus rattus	black rat		1	10-Jan-1990

## Unverified Species of biosecurity risk

No unverified species of biosecurity risk found within 1000 metres

## Generic Biosecurity Guidelines

The level and type of hygiene protocols required will vary depending on the tenure, activity and land use of the area. In all cases adhere to the land manager's biosecurity (hygiene) protocols. As a minimum always Check / Clean / Dry (Disinfect) clothing and equipment before trips and between sites within a trip as needed <http://dipw.tas.gov.au/invasive-species/weeds/weed-hygiene/keeping-it-clean-a-tasmanian-field-hygiene-manual>

On Reserved land, the more remote, infrequently visited and undisturbed areas require tighter biosecurity measures.

In addition, where susceptible species and communities are known to occur, tighter biosecurity measures are required.

Apply controls relevant to the area / activity:

- Don't access sites infested with pathogen or weed species unless absolutely necessary. If it is necessary to visit, adopt high level hygiene protocols.
- Consider not accessing non-infested sites containing known susceptible species / communities. If it is necessary to visit, adopt high level hygiene protocols.
- Don't undertake activities that might spread pest / pathogen / weed species such as deliberately moving soil or water between areas.
- Modify / restrict activities to reduce the chance of spreading pest / pathogen / weed species e.g. avoid periods when weeds are seeding, avoid clothing/equipment that excessively collects soil and plant material e.g. Velcro, excessive tread on boots.
- Plan routes to visit clean (uninfested) sites prior to dirty (infested) sites. Do not travel through infested areas when moving between sites.
- Minimise the movement of soil, water, plant material and hitchhiking wildlife between areas by using the Check / Clean / Dry (Disinfect when drying is not possible) procedure for all clothing, footwear, equipment, hand tools and vehicles <http://dipw.tas.gov.au/invasive-species/weeds/weed-hygiene>
- Neoprene and netting can take 48 hours to dry, use non-porous gear wherever possible.
- Use walking track boot wash stations where available.
- Keep a hygiene kit in the vehicle that includes a scrubbing brush, boot pick, and disinfectant <http://dipw.tas.gov.au/invasive-species/weeds/weed-hygiene/keeping-it-clean-a-tasmanian-field-hygiene-manual>
- Dispose of all freshwater away from natural water bodies e.g. do not empty water into streams or ponds.
- Dispose of used disinfectant ideally in town through a treatment or septic system. Always keep disinfectant well away from natural water systems.
- Securely contain any high risk pest / pathogen / weed species that must be collected and moved e.g. biological samples.

## Hygiene Infrastructure

No known hygiene infrastructure found within 1000 metres

# Natural Values Atlas Report

*Authoritative, comprehensive information on Tasmania's natural values.*

Reference: ECOtas\_PWS\_WineglassBayLookout

Requested For: Mwapstra

Report Type: Summary Report

Timestamp: 04:38:20 PM Thursday 16 May 2019

Threatened Flora: buffers Min: 500m Max: 5000m

Threatened Fauna: buffers Min: 500m Max: 5000m

Raptors: buffers Min: 500m Max: 5000m

Tasmanian Weed Management Act Weeds: buffers Min: 500m Max: 5000m

Priority Weeds: buffers Min: 500m Max: 5000m

Geoconservation: buffer 1000m

Acid Sulfate Soils: buffer 1000m

TASVEG: buffer 1000m

Threatened Communities: buffer 1000m

Fire History: buffer 1000m

Tasmanian Reserve Estate: buffer 1000m

Biosecurity Risks: buffer 1000m

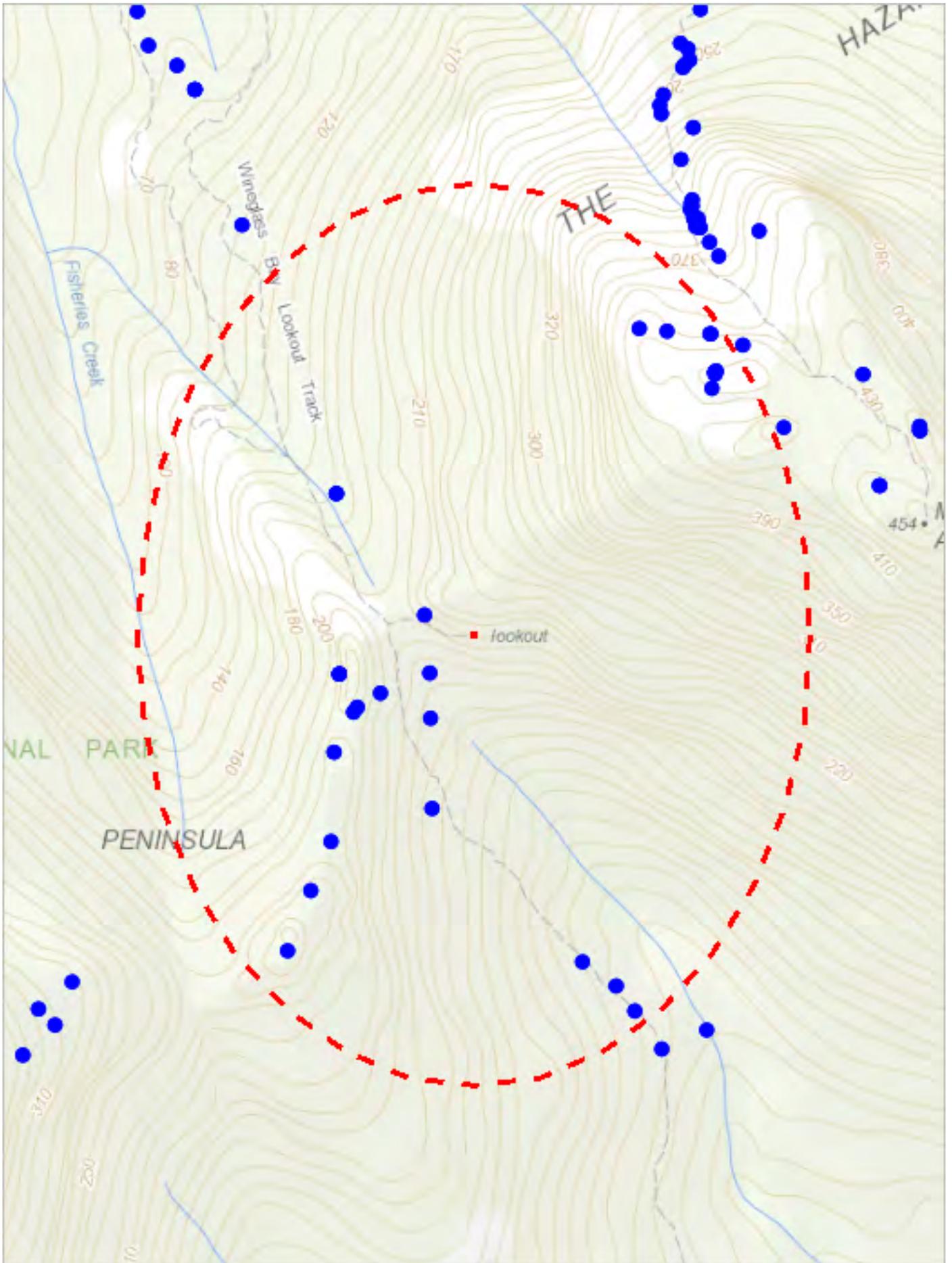


The centroid for this query GDA94: 606861.0, 5332224.0 falls within:

Property: 0

# Threatened flora within 500 metres

607393, 5332932



606330, 5331517

Please note that some layers may not display at all requested map scales

# Threatened flora within 500 metres

Legend: Verified and Unverified observations

● Point Verified

● Point Unverified

— Line Verified

— Line Unverified

□ Polygon Verified

□ Polygon Unverified

Legend: Cadastral Parcels



# Threatened flora within 500 metres

## Verified Records

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
<i>Brachyloma depressum</i>	spreading heath	r		n	1	07-Nov-1981
<i>Caustis pentandra</i>	thick twistsedge	r		n	2	14-Sep-2008
<i>Conospermum hookeri</i>	tasmanian smokebush	v	VU	e	1	11-Oct-1981
<i>Epacris barbata</i>	bearded heath	e	EN	e	12	02-Aug-2001
<i>Euphrasia collina</i> subsp. <i>deflexifolia</i>	eastern eyebright	r		e	3	11-Oct-1981
<i>Lepidosperma tortuosum</i>	twisting rapiersedge	r		n	1	08-Sep-2017
<i>Philotheca freyciana</i>	freycinet waxflower	e	EN	e	13	10-Oct-2016
<i>Pterostylis grandiflora</i>	superb greenhood	r		n	1	10-Jul-2013
<i>Stenanthemum pimeleoides</i>	propeller plant	v	VU	e	1	19-Apr-1930

## Unverified Records

No unverified records were found!

For more information about threatened species, please contact Threatened Species Enquiries.

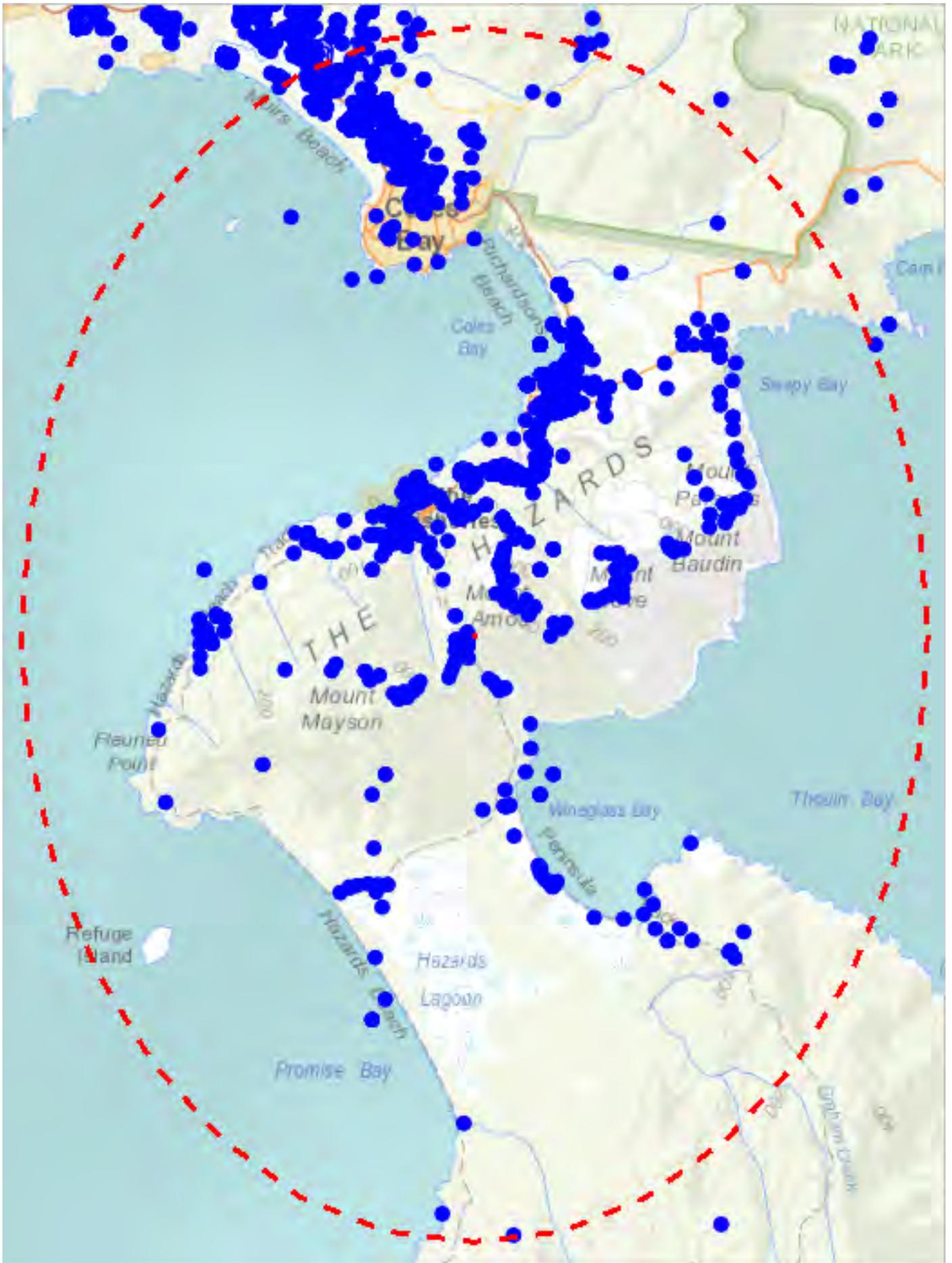
Telephone: 1300 368 550

Email: [ThreatenedSpecies.Enquiries@dpiwve.tas.gov.au](mailto:ThreatenedSpecies.Enquiries@dpiwve.tas.gov.au)

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

# Threatened flora within 5000 metres

610811, 5337480



602918, 5326967

Please note that some layers may not display at all requested map scales

# Threatened flora within 5000 metres

Legend: Verified and Unverified observations

● Point Verified

● Point Unverified

— Line Verified

— Line Unverified

□ Polygon Verified

□ Polygon Unverified

Legend: Cadastral Parcels



# Threatened flora within 5000 metres

## Verified Records

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
<i>Acacia ulicifolia</i>	juniper wattle	r		n	49	22-Jan-2019
<i>Brachyloma depressum</i>	spreading heath	r		n	32	31-Oct-2016
<i>Caladenia caudata</i>	tailed spider-orchid	v	VU	e	6	23-Sep-1996
<i>Caladenia filamentosa</i>	daddy longlegs	r		n	4	28-Oct-1988
<i>Caustis pentandra</i>	thick twistsedge	r		n	426	22-Jan-2019
<i>Conospermum hookeri</i>	tasmanian smokebush	v	VU	e	1148	22-Jan-2019
<i>Corunastylis firthii</i>	firths midge-orchid	e	CR	e	2	22-Mar-2017
<i>Corunastylis morrisii</i>	bearded midge-orchid	e		n	35	20-Apr-2013
<i>Corunastylis nuda</i>	tiny midge-orchid	r		n	1	01-Jan-1980
<i>Cotula vulgaris</i> var. <i>australasica</i>	slender buttons	r		n	2	04-Nov-2004
<i>Cyphanthera tasmanica</i>	tasmanian rayflower	r		e	10	01-Jan-1990
<i>Cyrtostylis robusta</i>	large gnat-orchid	r		n	1	25-Jul-2016
<i>Epacris barbata</i>	bearded heath	e	EN	e	113	22-Nov-2016
<i>Euphrasia collina</i> subsp. <i>deflexifolia</i>	eastern eyebright	r		e	62	22-Jan-2019
<i>Gyrostemon thesioides</i>	broom wheelfruit	r		n	1	06-Jan-1982
<i>Hypotrachyna immaculata</i>		r			1	28-Jul-1991
<i>Lepidosperma forsythii</i>	stout rapiersedge	r		n	4	22-Nov-2016
<i>Lepidosperma tortuosum</i>	twisting rapiersedge	r		n	14	08-Sep-2017
<i>Lepidosperma viscidum</i>	sticky swordsedge	r		n	4	02-Feb-1995
<i>Lobelia dentata</i>	toothed lobelia	pr		n	2	30-Dec-1981
<i>Lobelia rhombifolia</i>	tufted lobelia	r		n	4	09-Nov-2014
<i>Melaleuca pustulata</i>	warty paperbark	r		e	15	08-Sep-2017
<i>Orthoceras strictum</i>	horned orchid	r		n	14	15-Mar-2015
<i>Philotheca freyciana</i>	freycinet waxflower	e	EN	e	43	10-Oct-2016
<i>Pimelea flava</i> subsp. <i>flava</i>	yellow riceflower	r		n	18	07-Nov-2018
<i>Polyscias</i> sp. <i>Douglas-Denison</i>	ferny panax	e		n	4	09-Nov-2014
<i>Pomaderris intermedia</i>	lemon dogwood	r		n	11	04-Apr-2019
<i>Pterostylis grandiflora</i>	superb greenhood	r		n	25	10-Jul-2013
<i>Pterostylis squamata</i>	ruddy greenhood	v		n	13	26-Dec-1992
<i>Rytidosperma indutum</i>	tall wallabygrass	r?		n	1	06-Nov-2003
<i>Spyridium vexilliferum</i> var. <i>vexilliferum</i>	helicopter bush	r		n	232	09-Nov-2018
<i>Stenanthemum pimeleoides</i>	propeller plant	v	VU	e	14	09-Nov-2018
<i>Thelymitra antennifera</i>	rabbit ears	e		n	2	25-Dec-1992
<i>Thelymitra atronitida</i>	blackhood sun-orchid	e		n	144	06-Nov-2018
<i>Thelymitra holmesii</i>	bluestar sun-orchid	r		n	16	09-Nov-2015
<i>Thelymitra malvina</i>	mauvetuft sun-orchid	e		n	24	08-Nov-2018
<i>Thryptomene micrantha</i>	ribbed heathmyrtle	v		n	2169	04-Apr-2019
<i>Tricostularia pauciflora</i>	needle bogsedge	r		n	7	07-Nov-2018
<i>Trithuria submersa</i>	submerged watertuft	r		n	1	07-Nov-2016
<i>Velleia paradoxa</i>	spur velleia	v		n	1	01-Nov-1932
<i>Xanthorrhoea</i> aff. <i>arenaria</i>		pv	PVU	e	3	06-Nov-2018
<i>Xanthorrhoea arenaria</i>	sand grasstree	v	VU	e	7	08-Nov-2018
<i>Xerochrysum palustre</i>	swamp paperdaisy	v	VU	n	1	20-Jan-2005
<i>Zieria littoralis</i>	downy zieria	r		n	56	25-Jul-2016
<i>Zieria veronicea</i> subsp. <i>veronicea</i>	pink zieria	e		n	4	18-Oct-1975

## Unverified Records

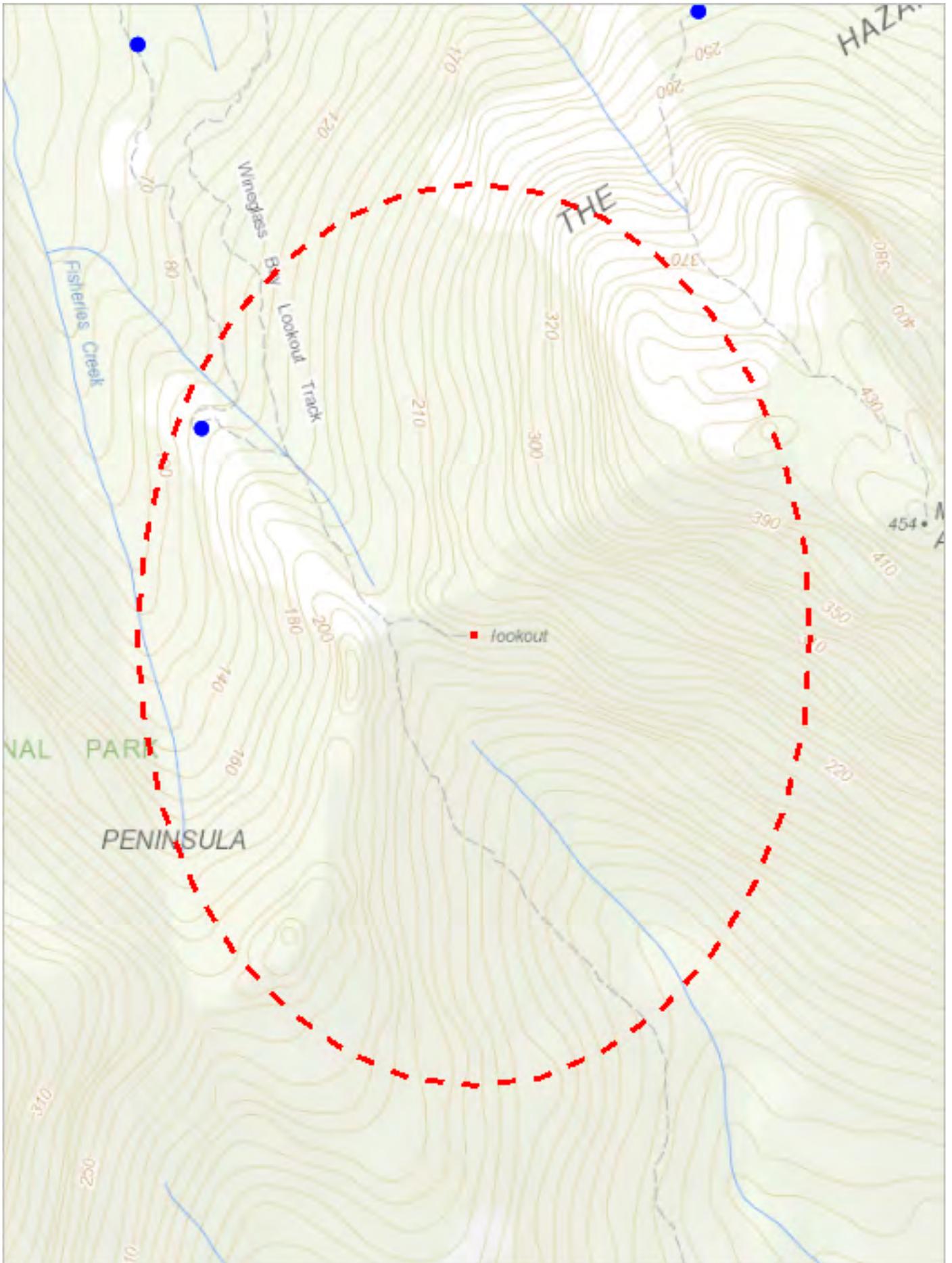
No unverified records were found!

For more information about threatened species, please contact Threatened Species Enquiries.

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Email: [ThreatenedSpecies.Enquiries@dpiwve.tas.gov.au](mailto:ThreatenedSpecies.Enquiries@dpiwve.tas.gov.au)

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000



606330, 5331517

Please note that some layers may not display at all requested map scales

# Threatened fauna within 500 metres

Legend: Verified and Unverified observations

● Point Verified

● Point Unverified

— Line Verified

— Line Unverified

□ Polygon Verified

□ Polygon Unverified

Legend: Cadastral Parcels



# Threatened fauna within 500 metres

## Verified Records

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
<i>Antipodia chaostola</i> subsp. <i>leucophaea</i>	chaostola skipper	e	EN		1	27-Apr-2012

## Unverified Records

No unverified records were found!

## Threatened fauna within 500 metres (based on Range Boundaries)

Species	Common Name	SS	NS	BO	Potential	Known	Core
<i>Litoria raniformis</i>	green and gold frog	v	VU	n	1	0	1
<i>Pseudomys novaehollandiae</i>	new holland mouse	e	VU	n	1	0	0
<i>Pseudemoia pagenstecheri</i>	tussock skink	v		n	1	0	0
<i>Aquila audax</i> subsp. <i>fleayi</i>	tasmanian wedge-tailed eagle	e	EN	e	1	0	0
<i>Pardalotus quadragintus</i>	forty-spotted pardalote	e	EN	e	1	0	0
<i>Antipodia chaostola</i>	chaostola skipper	e	EN		1	0	1
<i>Tyto novaehollandiae</i> subsp. <i>castanops</i>	masked owl (tasmanian)	e	VU	e	1	0	1
<i>Galaxias fontanus</i>	swan galaxias	e	EN	e	1	0	0
<i>Dasyurus maculatus</i> subsp. <i>maculatus</i>	spotted-tail quoll	r	VU	n	1	0	0
<i>Dasyurus viverrinus</i>	eastern quoll		EN	n	0	0	1
<i>Lathamus discolor</i>	swift parrot	e	CR	mbe	1	0	1
<i>Sarcophilus harrisi</i>	tasmanian devil	e	EN	e	1	0	0
<i>Accipiter novaehollandiae</i>	grey goshawk	e		n	1	0	0
<i>Haliaeetus leucogaster</i>	white-bellied sea-eagle	v		n	2	0	0

For more information about threatened species, please contact Threatened Species Enquiries.

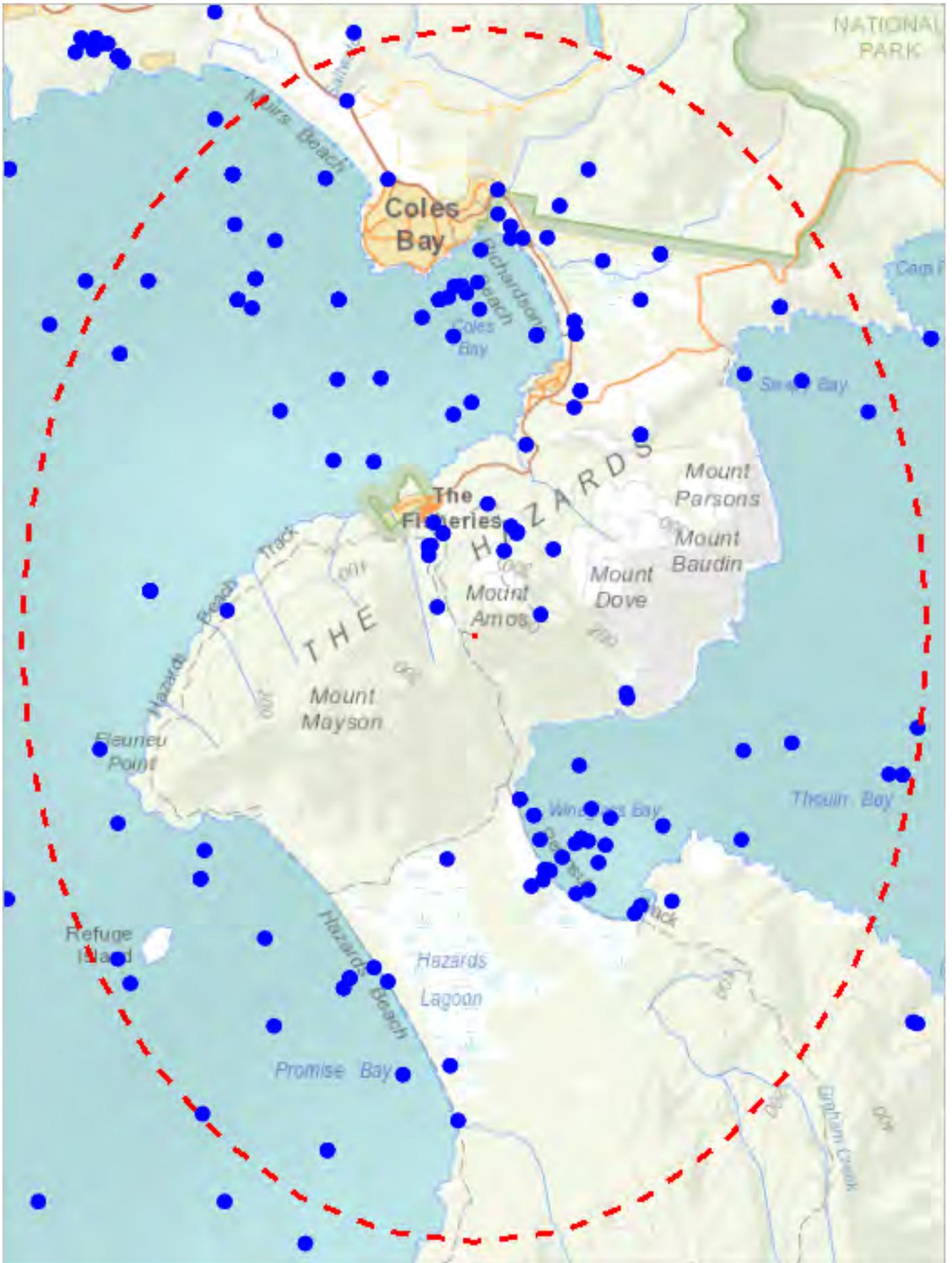
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# Threatened fauna within 5000 metres

610811, 5337480



602918, 5326967

Please note that some layers may not display at all requested map scales

# Threatened fauna within 5000 metres

Legend: Verified and Unverified observations

● Point Verified

● Point Unverified

— Line Verified

— Line Unverified

□ Polygon Verified

□ Polygon Unverified

Legend: Cadastral Parcels



# Threatened fauna within 5000 metres

## Verified Records

Species	Common Name	SS	NS	Bio	Observation Count	Last Recorded
<i>Antipodia chaostola</i>	chaostola skipper	e	EN		8	01-Oct-2014
<i>Antipodia chaostola</i> subsp. <i>leucophaea</i>	chaostola skipper	e	EN		7	25-Jul-2016
<i>Arctocephalus forsteri</i>	new zealand fur seal	r		n	1	11-Feb-2016
<i>Dasyurus maculatus</i>	spotted-tail quoll	r	VU	n	2	10-Oct-2012
<i>Dasyurus maculatus</i> subsp. <i>maculatus</i>	spotted-tail quoll	r	VU	n	2	01-Jan-1996
<i>Dasyurus viverrinus</i>	eastern quoll		EN	n	7	10-Oct-2012
<i>Dermochelys coriacea</i>	leatherback turtle	v	VU	n	2	08-Mar-2015
<i>Eubalaena australis</i>	southern right whale	e	EN	m	45	03-Oct-2011
<i>Gazameda gunnii</i>	Gunn's screw shell	v			2	12-Jun-2004
<i>Haliaeetus leucogaster</i>	white-bellied sea-eagle	v		n	11	11-Feb-2016
<i>Lathamus discolor</i>	swift parrot	e	CR	mbe	1	14-Nov-1971
<i>Litoria raniformis</i>	green and gold frog	v	VU	n	7	22-Nov-2016
<i>Megaptera novaeangliae</i>	humpback whale	e	VU	m	39	10-Jun-2012
<i>Mirounga leonina</i> subsp. <i>macquariensis</i>	southern elephant seal	pe	PVU	n	6	15-Sep-2008
<i>Pseudemoia rawlinsoni</i>	glossy grass skink	r		n	1	09-Jan-2008
<i>Sarcophilus harrisi</i>	tasmanian devil	e	EN	e	14	09-Nov-2018
<i>Sterna nereis</i> subsp. <i>nereis</i>	fairy tern	pv	PVU		1	01-Jan-0001
<i>Sternula nereis</i> subsp. <i>nereis</i>	fairy tern	v	VU	n	1	01-Jan-0001
<i>Theclinesthes serpentata</i>	chequered blue	pr			2	30-Mar-2014
<i>Thinornis rubricollis</i>	hooded plover		VU	n	6	12-Sep-2010
<i>Thylacinus cynocephalus</i>	thylacine	x	EX	ex	1	01-Jan-1965

## Unverified Records

No unverified records were found!

## Threatened fauna within 5000 metres

(based on Range Boundaries)

Species	Common Name	SS	NS	BO	Potential	Known	Core
<i>Litoria raniformis</i>	green and gold frog	v	VU	n	1	0	1
<i>Pseudomys novaehollandiae</i>	new holland mouse	e	VU	n	2	0	1
<i>Pseudemoia pagenstecheri</i>	tussock skink	v		n	1	0	0
<i>Pardalotus quadragintus</i>	forty-spotted pardalote	e	EN	e	6	0	0
<i>Aquila audax</i> subsp. <i>fleayi</i>	tasmanian wedge-tailed eagle	e	EN	e	1	0	0
<i>Antipodia chaostola</i>	chaostola skipper	e	EN		11	0	1
<i>Tyto novaehollandiae</i> subsp. <i>castanops</i>	masked owl (tasmanian)	e	VU	e	1	0	1
<i>Galaxias fontanus</i>	swan galaxias	e	EN	e	33	0	0
<i>Dasyurus maculatus</i> subsp. <i>maculatus</i>	spotted-tail quoll	r	VU	n	1	0	0
<i>Dasyurus viverrinus</i>	eastern quoll		EN	n	0	0	1
<i>Pseudemoia rawlinsoni</i>	glossy grass skink	r		n	0	0	1
<i>Lathamus discolor</i>	swift parrot	e	CR	mbe	1	0	1
<i>Prototroctes maraena</i>	australian grayling	v	VU	ae	9	0	0
<i>Sarcophilus harrisi</i>	tasmanian devil	e	EN	e	1	0	0
<i>Accipiter novaehollandiae</i>	grey goshawk	e		n	1	0	0
<i>Brachiopterus ziebelli</i>	Ziebell's Handfish	e	VU	e	1	0	0
<i>Haliaeetus leucogaster</i>	white-bellied sea-eagle	v		n	3	0	0

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Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

\*\*\* No Raptor nests or sightings found within 500 metres. \*\*\*

# Raptor nests and sightings within 5000 metres

610811, 5337480



602918, 5326967

Please note that some layers may not display at all requested map scales

# Raptor nests and sightings within 5000 metres

Legend: Verified and Unverified observations

● Point Verified

● Point Unverified

— Line Verified

— Line Unverified

□ Polygon Verified

□ Polygon Unverified

Legend: Cadastral Parcels



# Raptor nests and sightings within 5000 metres

## Verified Records

Nest Id/Location Foreign Id	Species	Common Name	Obs Type	Observation Count	Last Recorded
1399	Falco peregrinus	peregrine falcon	Nest	1	08-Sep-2005
1437	Haliaeetus leucogaster	white-bellied sea-eagle	Nest	1	01-Jan-2006
1929	Haliaeetus leucogaster	white-bellied sea-eagle	Nest	1	11-Nov-2010
319	Haliaeetus leucogaster	white-bellied sea-eagle	Nest	1	01-Jan-1985
320	Falco peregrinus	peregrine falcon	Nest	1	01-Jan-1985
321	Haliaeetus leucogaster	white-bellied sea-eagle	Nest	1	01-Jan-1985
322	Haliaeetus leucogaster	white-bellied sea-eagle	Nest	1	01-Jan-1985
889	Haliaeetus leucogaster	white-bellied sea-eagle	Nest	1	18-Jan-2008
	Haliaeetus leucogaster	white-bellied sea-eagle	Sighting	5	11-Feb-2016

## Unverified Records

No unverified records were found!

## Raptor nests and sightings within 5000 metres (based on Range Boundaries)

Species	Common Name	SS	NS	Potential	Known	Core
Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	e	EN	1	0	0
Haliaeetus leucogaster	white-bellied sea-eagle	v		3	0	0
Accipiter novaehollandiae	grey goshawk	e		1	0	0

For more information about raptor nests, please contact Threatened Species Enquiries.

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Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

\*\*\* No Tas Management Act Weeds found within 500 metres \*\*\*



602918, 5326967

Please note that some layers may not display at all requested map scales

# Tas Management Act Weeds within 5000 m

Legend: Verified and Unverified observations

● Point Verified

● Point Unverified

▬ Line Verified

▬ Line Unverified

□ Polygon Verified

□ Polygon Unverified

Legend: Cadastral Parcels



# Tas Management Act Weeds within 5000 m

## Verified Records

Species	Common Name	Observation Count	Last Recorded
<i>Asparagus asparagoides</i>	bridal creeper	12	11-Jul-2009
<i>Carduus tenuiflorus</i>	winged thistle	1	08-Jan-1982
<i>Ulex europaeus</i>	gorse	1	08-Jan-1995

## Unverified Records

For more information about introduced weed species, please visit the following URL for contact details in your area:

<http://dpiwwe.tas.gov.au/invasive-species/weeds>

\*\*\* No Priority Weeds found within 500 metres \*\*\*

# Priority Weeds within 5000 m

610811, 5337480



602918, 5326967

Please note that some layers may not display at all requested map scales

# Priority Weeds within 5000 m

Legend: Verified and Unverified observations

● Point Verified

● Point Unverified

▬ Line Verified

▬ Line Unverified

□ Polygon Verified

□ Polygon Unverified

Legend: Cadastral Parcels



# Priority Weeds within 5000 m

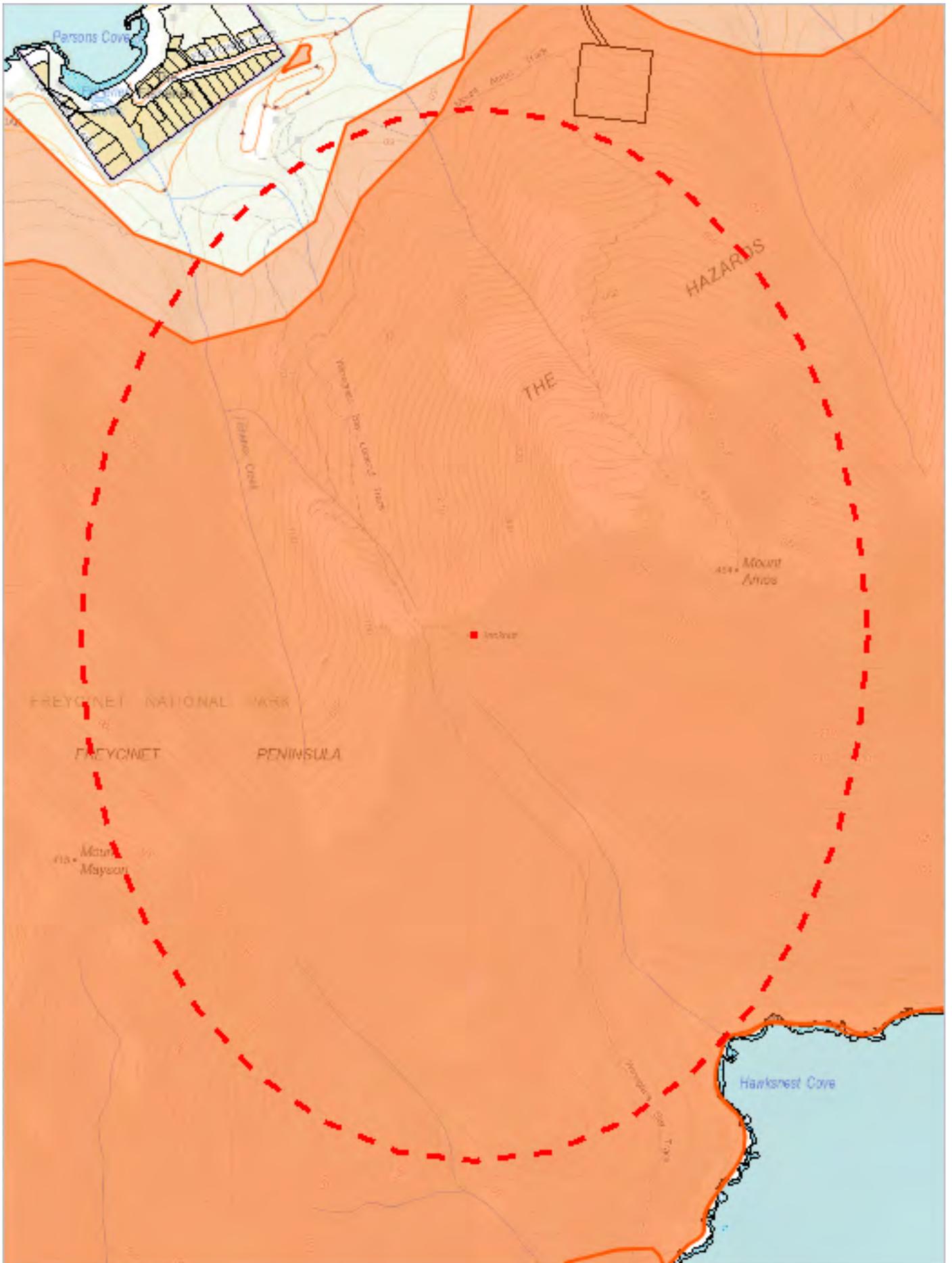
## Verified Records

Species	Common Name	Observation Count	Last Recorded
<i>Billardiera heterophylla</i>	bluebell creeper	5	09-Nov-2018
<i>Pittosporum undulatum</i>	sweet pittosporum	6	08-Nov-2018
<i>Tradescantia fluminensis</i>	wandering creeper	1	25-Dec-2004

## Unverified Records

For more information about introduced weed species, please visit the following URL for contact details in your area:

<http://dpiwwe.tas.gov.au/invasive-species/weeds>



605951, 5331011

Please note that some layers may not display at all requested map scales

# Geoconservation sites within 1000 metres

Legend: Geoconservation (NVA)



Legend: Cadastral Parcels



## Geoconservation sites within 1000 metres

Id	Name	Statement of Significance	Significance Level	Status
2414	Freycinet Peninsula Soils	Notable example of type.	State	Listed
2407	The Hazards Landforms	Notable example of type.	State	Listed

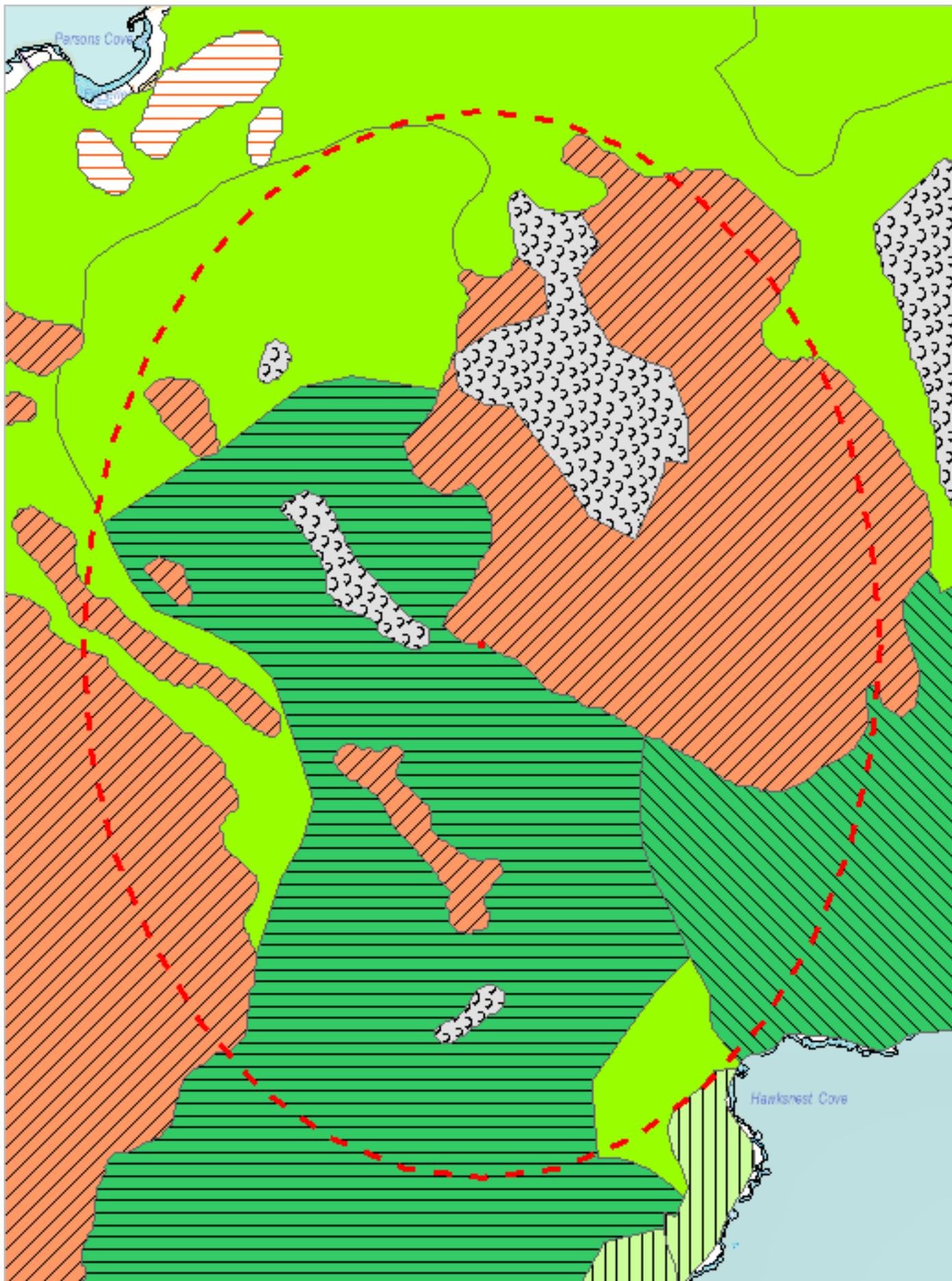
For more information about the Geoconservation Database, please visit the website: <http://dpiwwe.tas.gov.au/conservation/geoconservation> or contact the Geoconservation Officer:

Telephone: (03) 6165 4401

Email: [Geoconservation.Enquiries@dpiwwe.tas.gov.au](mailto:Geoconservation.Enquiries@dpiwwe.tas.gov.au)

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

\*\*\* No Acid Sulfate Soils found within 1000 metres \*\*\*



605951, 5331011

Please note that some layers may not display at all requested map scales

# TASVEG 3.0 Communities within 1000 metres

## Legend: TASVEG 3.0

	DAC - Eucalyptus amygdalina coastal forest and woodland
	DAD - Eucalyptus amygdalina forest and woodland on dolerite
	DAS - Eucalyptus amygdalina forest and woodland on sandstone
	DAM - Eucalyptus amygdalina forest on mudstone
	DAZ - Eucalyptus amygdalina inland forest and woodland on Cainozoic deposits
	DSC - Eucalyptus amygdalina - Eucalyptus obliqua damp sclerophyll forest
	DBA - Eucalyptus barberi forest and woodland
	DCO - Eucalyptus coccifera forest and woodland
	DCR - Eucalyptus cordata forest
	DDP - Eucalyptus dalrympleana - Eucalyptus pauciflora forest and woodland
	DDE - Eucalyptus delegatensis dry forest and woodland
	DGL - Eucalyptus globulus dry forest and woodland
	DGW - Eucalyptus gunnii woodland
	DMO - Eucalyptus morrisbyi forest and woodland
	DNI - Eucalyptus nitida dry forest and woodland
	DNF - Eucalyptus nitida Furneaux forest
	DOB - Eucalyptus obliqua dry forest
	DOV - Eucalyptus ovata forest and woodland
	DOW - Eucalyptus ovata heathy woodland
	DPO - Eucalyptus pauciflora forest and woodland not on dolerite
	DPD - Eucalyptus pauciflora forest and woodland on dolerite
	DPE - Eucalyptus perriniana forest and woodland
	DPU - Eucalyptus pulchella forest and woodland
	DRI - Eucalyptus risdonii forest and woodland
	DRO - Eucalyptus rodwayi forest and woodland
	DSO - Eucalyptus sieberi forest and woodland not on granite
	DSG - Eucalyptus sieberi forest and woodland on granite
	DTD - Eucalyptus tenuiramis forest and woodland on dolerite
	DTG - Eucalyptus tenuiramis forest and woodland on granite
	DTO - Eucalyptus tenuiramis forest and woodland on sediments
	DVF - Eucalyptus viminalis Furneaux forest and woodland
	DVG - Eucalyptus viminalis grassy forest and woodland
	DVC - Eucalyptus viminalis - Eucalyptus globulus coastal forest and woodland
	DKW - King Island Eucalypt woodland
	DMW - Midlands woodland complex
	WBR - Eucalyptus brookeriana wet forest
	WDA - Eucalyptus dalrympleana forest
	WDL - Eucalyptus delegatensis forest over Leptospermum
	WDR - Eucalyptus delegatensis forest over rainforest
	WDB - Eucalyptus delegatensis forest with broad-leaf shrubs
	WDU - Eucalyptus delegatensis wet forest (undifferentiated)
	WGK - Eucalyptus globulus King Island forest
	WGL - Eucalyptus globulus wet forest
	WNL - Eucalyptus nitida forest over Leptospermum
	WNR - Eucalyptus nitida forest over rainforest
	WNU - Eucalyptus nitida wet forest (undifferentiated)
	WOL - Eucalyptus obliqua forest over Leptospermum
	WOR - Eucalyptus obliqua forest over rainforest
	WOB - Eucalyptus obliqua forest with broad-leaf shrubs
	WOU - Eucalyptus obliqua wet forest (undifferentiated)
	WRE - Eucalyptus regnans forest
	WSU - Eucalyptus subcrenulata forest and woodland
	WVI - Eucalyptus viminalis wet forest
	RPF - Athrotaxis cupressoides - Nothofagus gunnii short rainforest
	RPW - Athrotaxis cupressoides open woodland
	RPP - Athrotaxis cupressoides rainforest
	RKF - Athrotaxis selaginoides - Nothofagus gunnii short rainforest
	RKP - Athrotaxis selaginoides rainforest
	RKS - Athrotaxis selaginoides subalpine scrub

# TASVEG 3.0 Communities within 1000 metres

	RCO - Coastal rainforest
	RSH - Highland low rainforest and scrub
	RKX - Highland rainforest scrub with dead Athrotaxis selaginoides
	RHP - Lagarostrobos franklinii rainforest and scrub
	RMT - Nothofagus - Atherosperma rainforest
	RML - Nothofagus - Leptospermum short rainforest
	RMS - Nothofagus - Phyllocladus short rainforest
	RFS - Nothofagus gunnii rainforest and scrub
	RMU - Nothofagus rainforest (undifferentiated)
	RFE - Rainforest fernland
	NAD - Acacia dealbata forest
	NAR - Acacia melanoxylon forest on rises
	NAF - Acacia melanoxylon swamp forest
	NAL - Allocasuarina littoralis forest
	NAV - Allocasuarina verticillata forest
	NBS - Banksia serrata woodland
	NBA - Bursaria - Acacia woodland and scrub
	NCR - Callitris rhomboidea forest
	NLE - Leptospermum forest
	NLM - Leptospermum lanigerum - Melaleuca squarrosa swamp forest
	NLA - Leptospermum scoparium - Acacia mucronata forest
	NME - Melaleuca ericifolia swamp forest
	NLN - Subalpine Leptospermum nitidum woodland
	AHF - Fresh water aquatic herbland
	ASF - Freshwater aquatic sedgeland and rushland
	AHL - Lacustrine herbland
	AHS - Saline aquatic herbland
	ARS - Saline sedgeland/rushland
	AUS - Saltmarsh (undifferentiated)
	ASS - Succulent saline herbland
	AWU - Wetland (undifferentiated)
	SAL - Acacia longifolia coastal scrub
	SBM - Banksia marginata wet scrub
	SBR - Broad-leaf scrub
	SCH - Coastal heathland
	SSC - Coastal scrub
	SCA - Coastal scrub on alkaline sands
	SRE - Eastern riparian scrub
	SED - Eastern scrub on dolerite
	SCL - Heathland on calcareous substrates
	SKA - Kunzea ambigua regrowth scrub
	SLG - Leptospermum glaucescens heathland and scrub
	SLL - Leptospermum lanigerum scrub
	SLS - Leptospermum scoparium heathland and scrub
	SLW - Leptospermum scrub
	SRF - Leptospermum with rainforest scrub
	SMP - Melaleuca pustulata scrub
	SMM - Melaleuca squamea heathland
	SMR - Melaleuca squarrosa scrub
	SRH - Rookery halophytic herbland
	SSK - Scrub complex on King Island
	SSZ - Spray zone coastal complex
	SHS - Subalpine heathland
	SWR - Western regrowth complex
	SSW - Western subalpine scrub
	SWW - Western wet scrub
	SHW - Wet heathland
	HCH - Alpine coniferous heathland
	HCM - Cushion moorland
	HHE - Eastern alpine heathland
	HSE - Eastern alpine sedgeland

# TASVEG 3.0 Communities within 1000 metres

-  HUE - Eastern alpine vegetation (undifferentiated)
-  HHW - Western alpine heathland
-  HSW - Western alpine sedgeland/herbland
-  MAP - Alkaline pans
-  MBU - Buttongrass moorland (undifferentiated)
-  MBS - Buttongrass moorland with emergent shrubs
-  MBE - Eastern buttongrass moorland
-  MGH - Highland grassy sedgeland
-  MBP - Pure buttongrass moorland
-  MRR - Restionaceae rushland
-  MBR - Sparse buttongrass moorland on slopes
-  MSP - Sphagnum peatland
-  MDS - Subalpine Diplarrena latifolia rushland
-  MBW - Western buttongrass moorland
-  MSW - Western lowland sedgeland
-  GHC - Coastal grass and herbfield
-  GPH - Highland Poa grassland
-  GCL - Lowland grassland complex
-  GSL - Lowland grassy sedgeland
-  GPL - Lowland Poa labillardierei grassland
-  GTL - Lowland Themeda triandra grassland
-  GRP - Rockplate grassland
-  FAG - Agricultural land
-  FUM - Extra-urban miscellaneous
-  FMG - Marram grassland
-  FPE - Permanent easements
-  FPL - Plantations for silviculture
-  FPF - Pteridium esculentum fernland
-  FRG - Regenerating cleared land
-  FSM - Spartina marshland
-  FPU - Unverified plantations for silviculture
-  FUR - Urban areas
-  FWU - Weed infestation
-  QCS - Coastal slope complex
-  QCT - Coastal terrace mosaic
-  QKB - Kelp beds
-  QAM - Macquarie alpine mosaic
-  QMI - Mire
-  QST - Short tussock grassland/rushland with herbs
-  QTT - Tall tussock grassland with megaherbs
-  ORO - Lichen lithosere
-  OSM - Sand, mud
-  OAQ - Water, sea

Legend: Cadastral Parcels



## TASVEG 3.0 Communities within 1000 metres

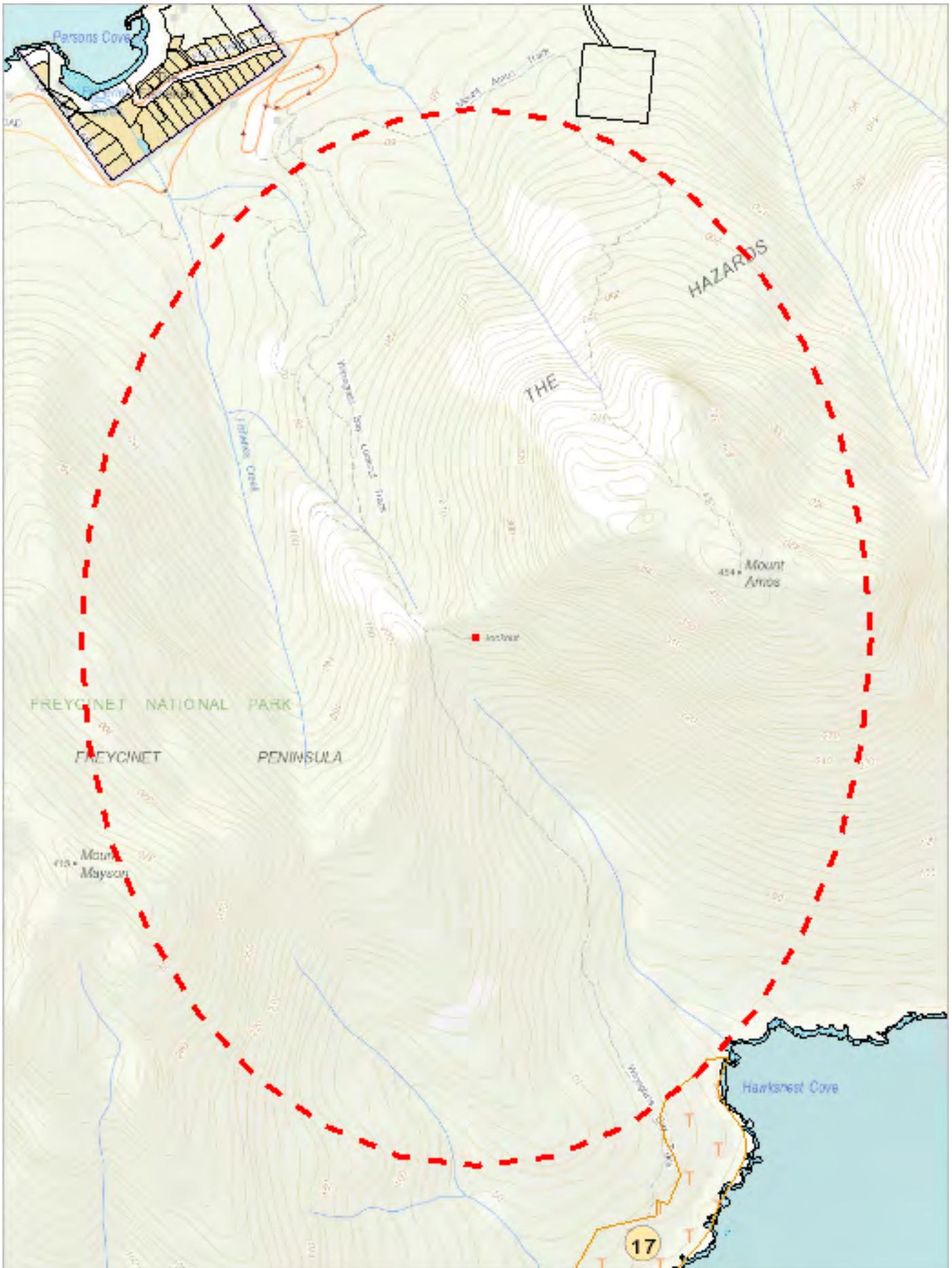
Code	Community	Emergent Species
DAC	(DAC) Eucalyptus amygdalina coastal forest and woodland	
DGL	(DGL) Eucalyptus globulus dry forest and woodland	
DTG	(DTG) Eucalyptus tenuiramis forest and woodland on granite	
DVG	(DVG) Eucalyptus viminalis grassy forest and woodland	
ORO	(ORO) Lichen lithosere	
SLG	(SLG) Leptospermum glaucescens heathland and scrub	

For more information contact: Coordinator, Tasmanian Vegetation Monitoring and Mapping Program.

Telephone: (03) 6165 4320

Email: [TVMMPsupport@dipwe.tas.gov.au](mailto:TVMMPsupport@dipwe.tas.gov.au)

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000



605951, 5331011

Please note that some layers may not display at all requested map scales

# Threatened Communities (TNVC 2014) within 1000 metres

## Legend: Threatened Communities

- 1 - Alkaline pans
- 2 - Allocasuarina littoralis forest
- 3 - Athrotaxis cupressoides/Nothofagus gunnii short rainforest
- 4 - Athrotaxis cupressoides open woodland
- 5 - Athrotaxis cupressoides rainforest
- 6 - Athrotaxis selaginoides/Nothofagus gunni short rainforest
- 7 - Athrotaxis selaginoides rainforest
- 8 - Athrotaxis selaginoides subalpine scrub
- 9 - Banksia marginata wet scrub
- 10 - Banksia serrata woodland
- 11 - Callitris rhomboidea forest
- 13 - Cushion moorland
- 14 - Eucalyptus amygdalina forest and woodland on sandstone
- 15 - Eucalyptus amygdalina inland forest and woodland on cainozoic deposits
- 16 - Eucalyptus brookeriana wet forest
- 17 - Eucalyptus globulus dry forest and woodland
- 18 - Eucalyptus globulus King Island forest
- 19 - Eucalyptus morrisbyi forest and woodland
- 20 - Eucalyptus ovata forest and woodland
- 21 - Eucalyptus risdonii forest and woodland
- 22 - Eucalyptus tenuiramis forest and woodland on sediments
- 23 - Eucalyptus viminalis - Eucalyptus globulus coastal forest and woodland
- 24 - Eucalyptus viminalis Furneaux forest and woodland
- 25 - Eucalyptus viminalis wet forest
- 26 - Heathland on calcareous substrates
- 27 - Heathland scrub complex at Wingaroo
- 28 - Highland grassy sedge land
- 29 - Highland Poa grassland
- 30 - Melaleuca ericifolia swamp forest
- 31 - Melaleuca pustulata scrub
- 32 - Notelaea - Pomaderris - Beyeria forest
- 33 - Rainforest fernland
- 34 - Riparian scrub
- 35 - Seabird rookery complex
- 36 - Sphagnum peatland
- 36A - Spray zone coastal complex
- 37 - Subalpine Diplarrena latifolia rushland
- 38 - Subalpine Leptospermum nitidum woodland
- 39 - Wetlands

## Legend: Cadastral Parcels



## Threatened Communities (TNVC 2014) within 1000 metres

Scheduled Community Id	Scheduled Community Name
17	Eucalyptus globulus dry forest and woodland

For more information contact: Coordinator, Tasmanian Vegetation Monitoring and Mapping Program.

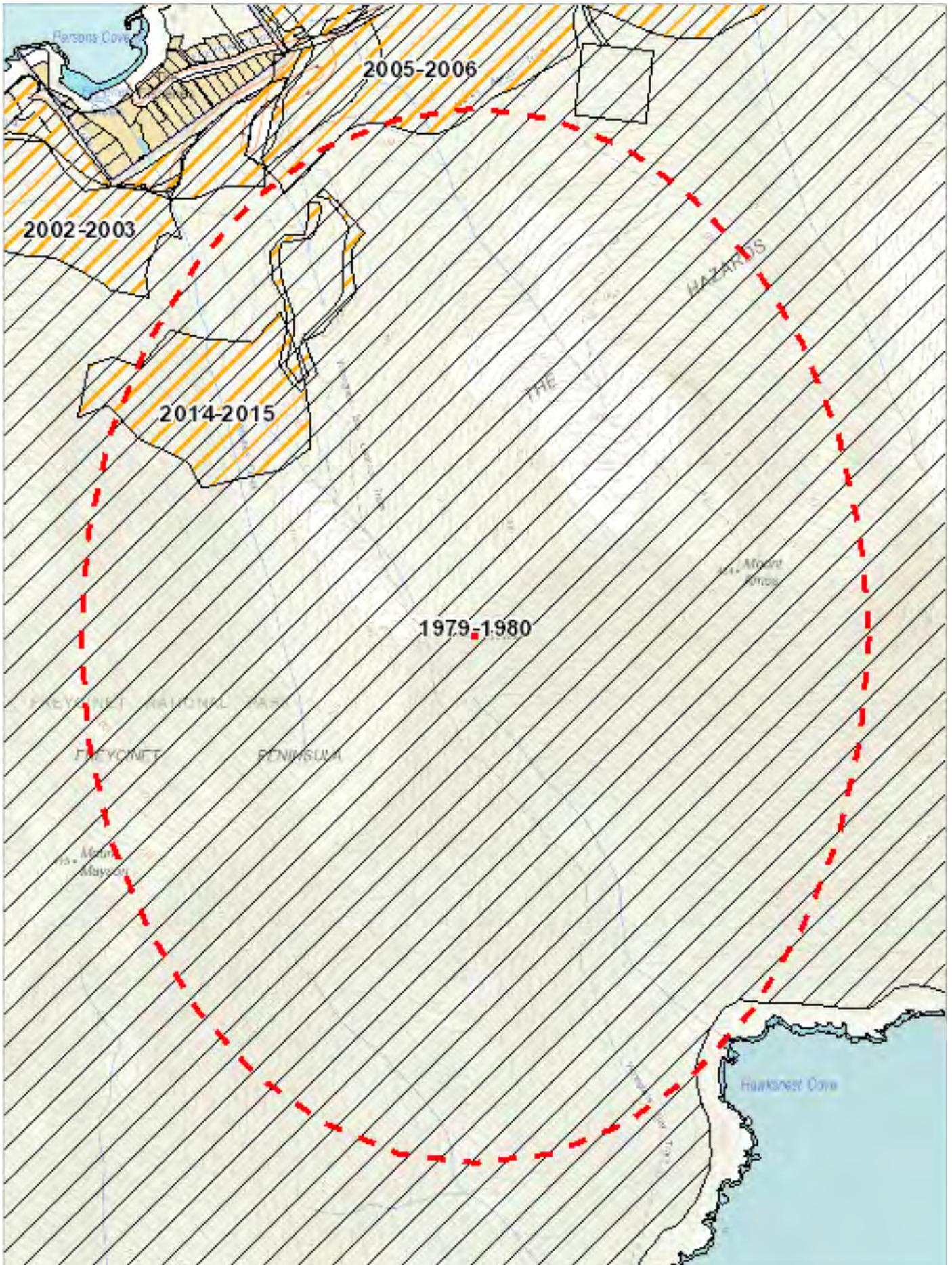
Telephone: (03) 6165 4320

Email: [TVMMPsupport@dipwe.tas.gov.au](mailto:TVMMPsupport@dipwe.tas.gov.au)

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

# Fire History (All) within 1000 metres

607772, 5333437



605951, 5331011

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# Fire History (All) within 1000 metres

Legend: Fire History All

-  Bushfire-Unknown Category
-  Completed Planned Burn

-  Bushfire

Legend: Cadastral Parcels



## Fire History (All) within 1000 metres

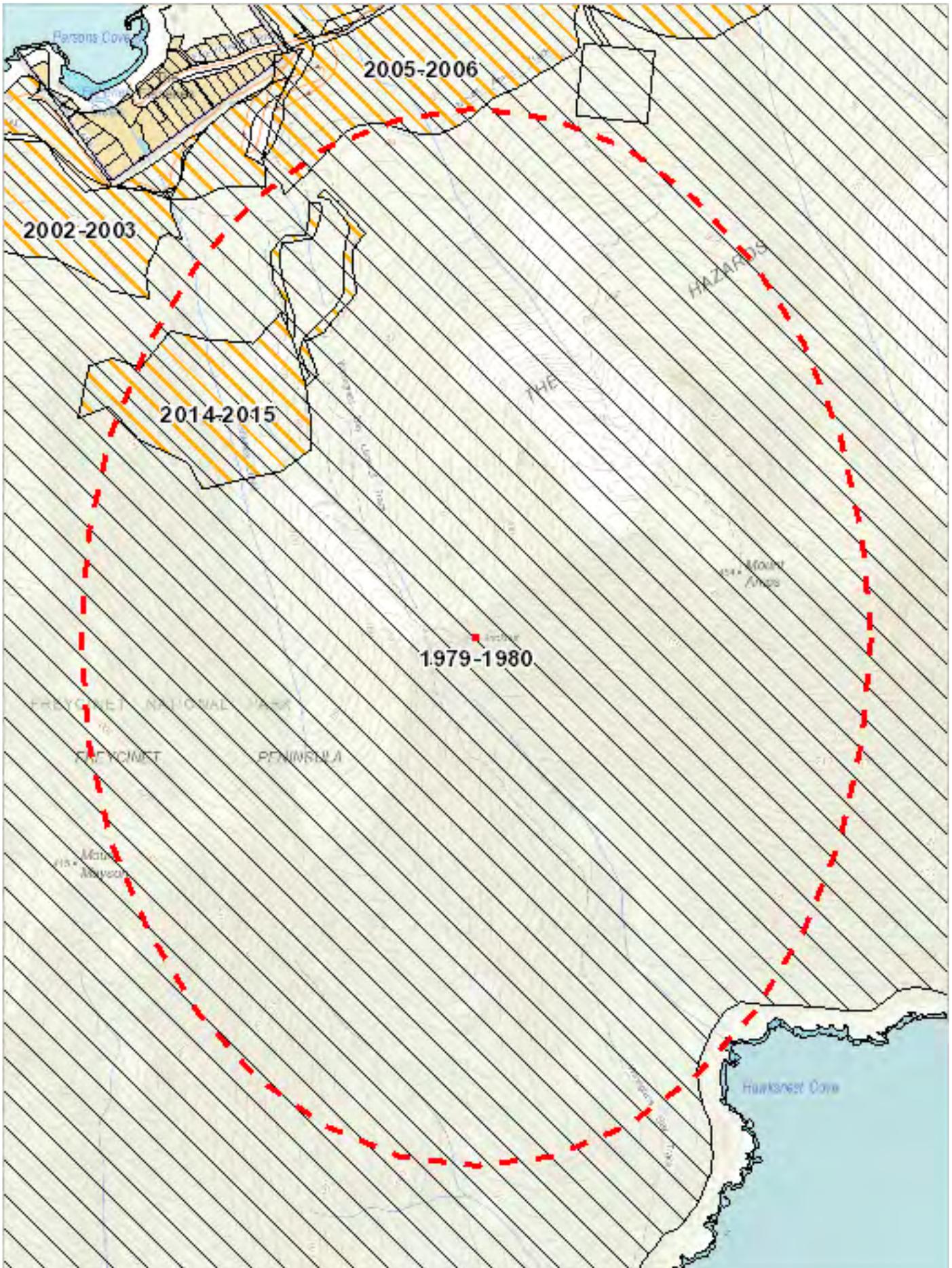
Incident Number	Fire Name	Ignition Date	Fire Type	Ignition Cause	Fire Area (HA)
FREN010AP	Wineglass Walking Track FREN010AP	30-Apr-2012	Planned Burn	Planned Burn	1.27631862
FREN015AP	Winglass Bay Walking Track	25-May-2015	Planned Burn	Planned Burn	8.82604499
	Hazards	03-Feb-1980	Bushfire	Accidental	1185.8095725
	Mt Amos B35	17-May-2006	Planned Burn	Planned Burn	17.27215159

For more information about Fire History, please contact the Manager Community Protection Planning, Tasmania Fire Service.

Telephone: 1800 000 699

Email: [planning@fire.tas.gov.au](mailto:planning@fire.tas.gov.au)

Address: cnr Argyle and Melville Streets, Hobart, Tasmania, Australia, 7000



605951, 5331011

Please note that some layers may not display at all requested map scales

# Fire History (Last Burnt) within 1000 metres

Legend: Fire History Last

 Bushfire-Unknown category

 Completed Planned Burn

 Bushfire

Legend: Cadastral Parcels



## Fire History (Last Burnt) within 1000 metres

Incident Number	Fire Name	Ignition Date	Fire Type	Ignition Cause	Fire Area (HA)
FREN010AP	Wineglass Walking Track FREN010AP	30-Apr-2012	Planned Burn	Planned Burn	1.27631862
FREN015AP	Winglass Bay Walking Track	25-May-2015	Planned Burn	Planned Burn	8.82604499
	Hazards	03-Feb-1980	Bushfire	Accidental	1185.8095725
	Mt Amos B35	17-May-2006	Planned Burn	Planned Burn	17.27215159

For more information about Fire History, please contact the Manager Community Protection Planning, Tasmania Fire Service.

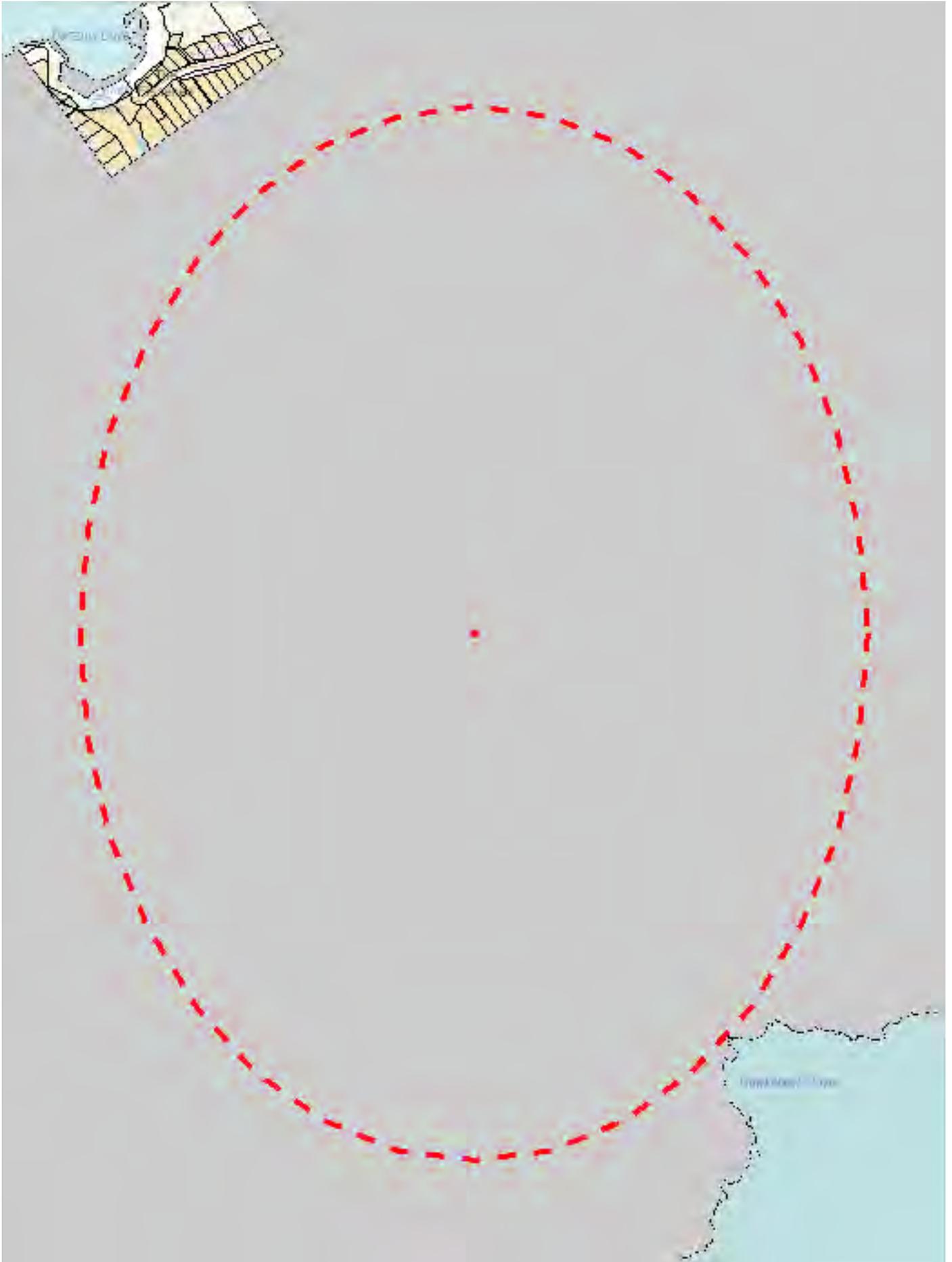
Telephone: 1800 000 699

Email: [planning@fire.tas.gov.au](mailto:planning@fire.tas.gov.au)

Address: cnr Argyle and Melville Streets, Hobart, Tasmania, Australia, 7000

# Reserves within 1000 metres

607772, 5333437



605951, 5331011

Please note that some layers may not display at all requested map scales

# Reserves within 1000 metres

## Legend: Tasmanian Reserve Estate

-  Conservation Area
-  Conservation Area and Conservation Covenant (NCA)
-  Game Reserve
-  Historic Site
-  Indigenous Protected Area
-  National Park
-  Nature Reserve
-  Nature Recreation Area
-  Regional Reserve
-  State Reserve
-  Wellington Park
-  Public authority land within WHA
-  Future Potential Production Forest
-  Informal Reserve on Permanent Timber Production Zone Land or STT managed land
-  Informal Reserve on other public land
-  Conservation Covenant (NCA)
-  Private Nature Reserve and Conservation Covenant (NCA)
-  Private Sanctuary and Conservation Covenant (NCA)
-  Private Sanctuary
-  Private land within WHA
-  Management Agreement
-  Management Agreement and Stewardship Agreement
-  Stewardship Agreement
-  Part 5 Agreement (Meander Dam Offset)
-  Other Private Reserve

## Legend: Cadastral Parcels



## Reserves within 1000 metres

Name	Classification	Status	Area (HA)
Freycinet National Park	National Park	Dedicated Formal Reserve	7.930739999 999999
Freycinet National Park	National Park	Dedicated Formal Reserve	7130.41

For more information about the Tasmanian Reserve Estate, please contact the Sustainable Land Use and Information Management Branch.

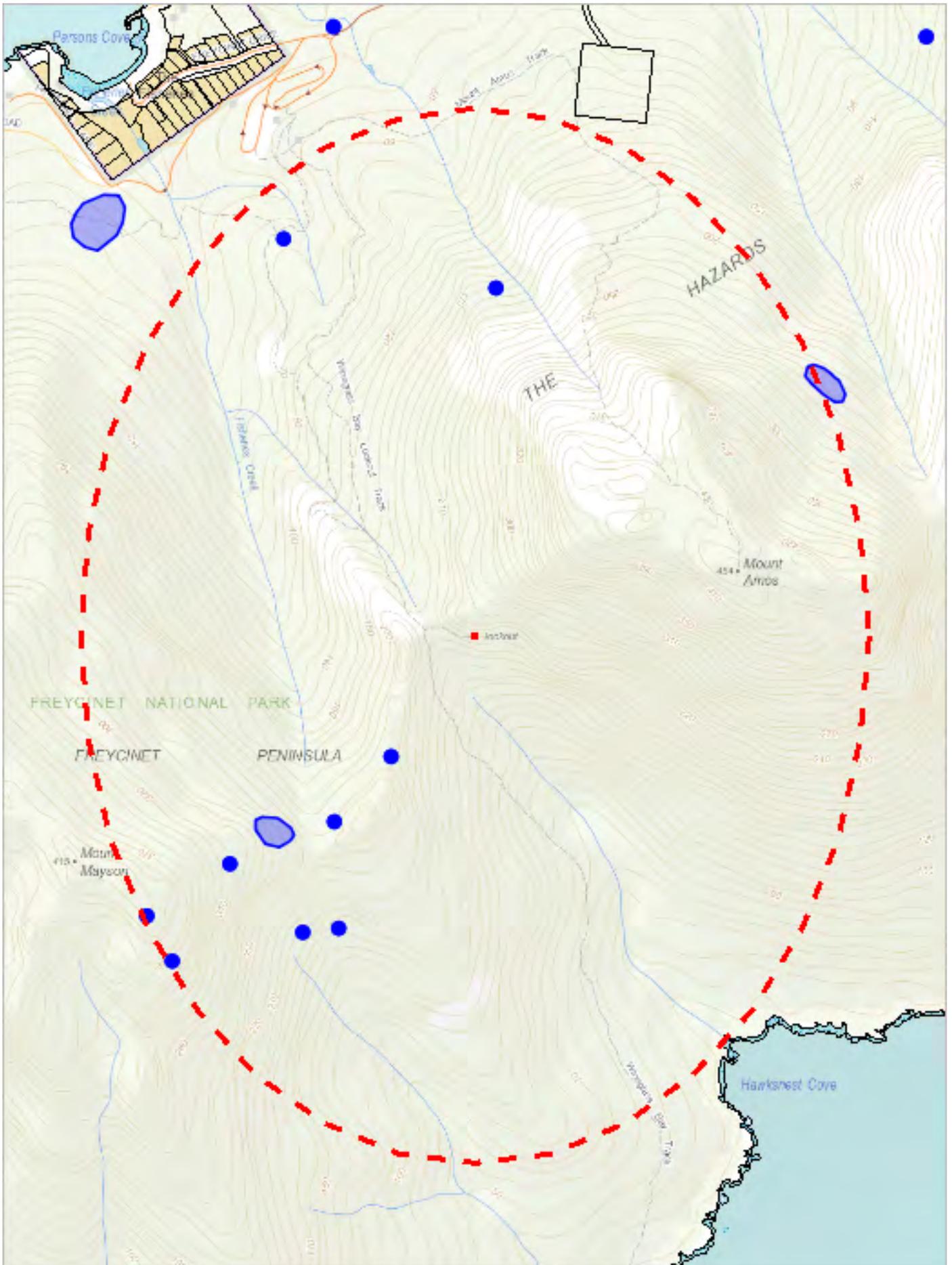
Telephone: (03) 6777 2224

Email: [LandManagement.Enquiries@dpiwve.tas.gov.au](mailto:LandManagement.Enquiries@dpiwve.tas.gov.au)

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

# Known biosecurity risks within 1000 meters

607772, 5333437



605951, 5331011

Please note that some layers may not display at all requested map scales

# Known biosecurity risks within 1000 meters

## Legend: Biosecurity Risk Species

- Point Verified
- Point Unverified
- Polygon Verified
- Polygon Unverified
- Line Verified
- Line Unverified

## Legend: Hygiene infrastructure

- Location Point Verified
- Location Point Unverified
- Location Line Unverified
- Location Line Verified
- Location Polygon Verified
- Location Polygon Unverified

## Legend: Cadastral Parcels



# Known biosecurity risks within 1000 meters

## Verified Species of biosecurity risk

Species Name	Common Name	Prescription	Observation Count	Last Recorded
Phytophthora cinnamomi	water mould or root rot		4	01-Aug-2001
Phytophthora cinnamomi - symptoms	water mould or root rot		6	01-Aug-2001
Rattus rattus	black rat		1	10-Jan-1990

## Unverified Species of biosecurity risk

No unverified species of biosecurity risk found within 1000 metres

## Generic Biosecurity Guidelines

The level and type of hygiene protocols required will vary depending on the tenure, activity and land use of the area. In all cases adhere to the land manager's biosecurity (hygiene) protocols. As a minimum always Check / Clean / Dry (Disinfect) clothing and equipment before trips and between sites within a trip as needed <http://dpiwwe.tas.gov.au/invasive-species/weeds/weed-hygiene/keeping-it-clean-a-tasmanian-field-hygiene-manual>

On Reserved land, the more remote, infrequently visited and undisturbed areas require tighter biosecurity measures.

In addition, where susceptible species and communities are known to occur, tighter biosecurity measures are required.

Apply controls relevant to the area / activity:

- Don't access sites infested with pathogen or weed species unless absolutely necessary. If it is necessary to visit, adopt high level hygiene protocols.
- Consider not accessing non-infested sites containing known susceptible species / communities. If it is necessary to visit, adopt high level hygiene protocols.
- Don't undertake activities that might spread pest / pathogen / weed species such as deliberately moving soil or water between areas.
- Modify / restrict activities to reduce the chance of spreading pest / pathogen / weed species e.g. avoid periods when weeds are seeding, avoid clothing/equipment that excessively collects soil and plant material e.g. Velcro, excessive tread on boots.
- Plan routes to visit clean (uninfested) sites prior to dirty (infested) sites. Do not travel through infested areas when moving between sites.
- Minimise the movement of soil, water, plant material and hitchhiking wildlife between areas by using the Check / Clean / Dry (Disinfect when drying is not possible) procedure for all clothing, footwear, equipment, hand tools and vehicles <http://dpiwwe.tas.gov.au/invasive-species/weeds/weed-hygiene>
- Neoprene and netting can take 48 hours to dry, use non-porous gear wherever possible.
- Use walking track boot wash stations where available.
- Keep a hygiene kit in the vehicle that includes a scrubbing brush, boot pick, and disinfectant <http://dpiwwe.tas.gov.au/invasive-species/weeds/weed-hygiene/keeping-it-clean-a-tasmanian-field-hygiene-manual>
- Dispose of all freshwater away from natural water bodies e.g. do not empty water into streams or ponds.
- Dispose of used disinfectant ideally in town through a treatment or septic system. Always keep disinfectant well away from natural water systems.
- Securely contain any high risk pest / pathogen / weed species that must be collected and moved e.g. biological samples.

## Hygiene Infrastructure

No known hygiene infrastructure found within 1000 metres



# EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 16/05/19 16:43:01

## [Summary](#)

### [Details](#)

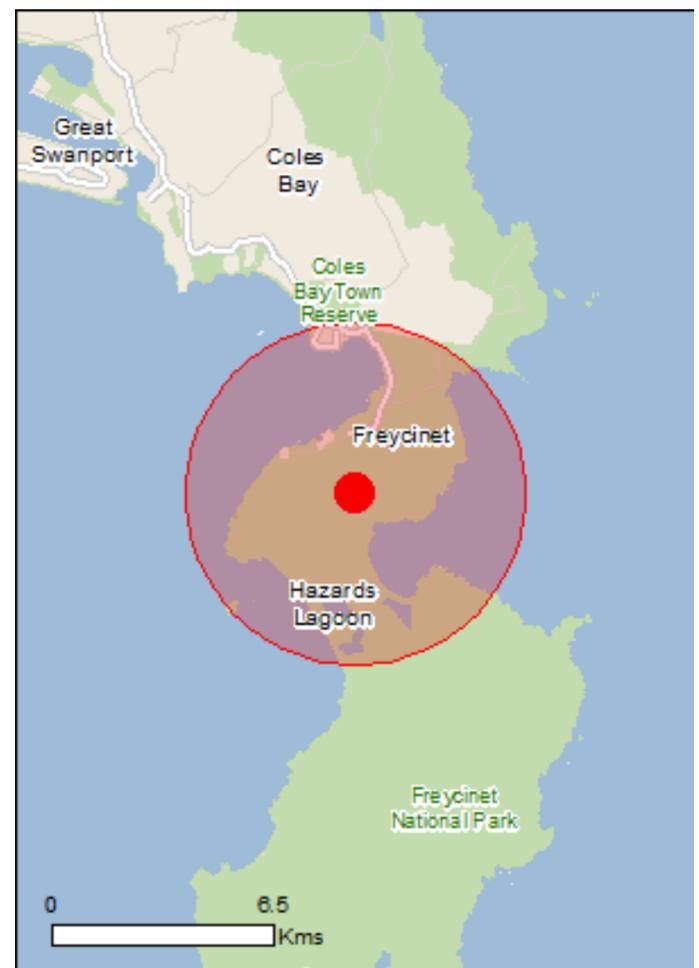
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

### [Caveat](#)

### [Acknowledgements](#)



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2010

[Coordinates](#)

Buffer: 5.0Km



# Summary

## Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

<a href="#">World Heritage Properties:</a>	None
<a href="#">National Heritage Places:</a>	None
<a href="#">Wetlands of International Importance:</a>	1
<a href="#">Great Barrier Reef Marine Park:</a>	None
<a href="#">Commonwealth Marine Area:</a>	None
<a href="#">Listed Threatened Ecological Communities:</a>	1
<a href="#">Listed Threatened Species:</a>	57
<a href="#">Listed Migratory Species:</a>	35

## Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

<a href="#">Commonwealth Land:</a>	None
<a href="#">Commonwealth Heritage Places:</a>	None
<a href="#">Listed Marine Species:</a>	62
<a href="#">Whales and Other Cetaceans:</a>	9
<a href="#">Critical Habitats:</a>	None
<a href="#">Commonwealth Reserves Terrestrial:</a>	None
<a href="#">Australian Marine Parks:</a>	None

## Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

<a href="#">State and Territory Reserves:</a>	2
<a href="#">Regional Forest Agreements:</a>	1
<a href="#">Invasive Species:</a>	24
<a href="#">Nationally Important Wetlands:</a>	None
<a href="#">Key Ecological Features (Marine)</a>	None

# Details

## Matters of National Environmental Significance

Wetlands of International Importance (Ramsar)	[ Resource Information ]
Name	Proximity
<a href="#">Moultin g lagoon</a>	Within 10km of Ramsar

## Listed Threatened Ecological Communities

[ Resource Information ]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
<a href="#">Giant Kelp Marine Forests of South East Australia</a>	Endangered	Community likely to occur within area

## Listed Threatened Species

[ Resource Information ]

Name	Status	Type of Presence
------	--------	------------------

### Birds

<a href="#">Aquila audax fleayi</a> Tasmanian Wedge-tailed Eagle, Wedge-tailed Eagle (Tasmanian) [64435]	Endangered	Breeding likely to occur within area
<a href="#">Botaurus poiciloptilus</a> Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area
<a href="#">Calidris canutus</a> Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Ceyx azureus diemenensis</a> Tasmanian Azure Kingfisher [25977]	Endangered	Species or species habitat may occur within area
<a href="#">Diomedea antipodensis</a> Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Diomedea antipodensis gibsoni</a> Gibson's Albatross [82270]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Diomedea epomophora</a> Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Diomedea exulans</a> Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Diomedea sanfordi</a> Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area

Name	Status	Type of Presence
<a href="#">Fregetta grallaria grallaria</a> White-bellied Storm-Petrel (Tasman Sea), White-bellied Storm-Petrel (Australasian) [64438]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Halobaena caerulea</a> Blue Petrel [1059]	Vulnerable	Species or species habitat may occur within area
<a href="#">Lathamus discolor</a> Swift Parrot [744]	Critically Endangered	Breeding known to occur within area
<a href="#">Limosa lapponica baueri</a> Bar-tailed Godwit (baueri), Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat may occur within area
<a href="#">Limosa lapponica menzbieri</a> Northern Siberian Bar-tailed Godwit, Bar-tailed Godwit (menzbieri) [86432]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Macronectes giganteus</a> Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Macronectes halli</a> Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Pachyptila turtur subantarctica</a> Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Pterodroma leucoptera leucoptera</a> Gould's Petrel, Australian Gould's Petrel [26033]	Endangered	Species or species habitat may occur within area
<a href="#">Sternula nereis nereis</a> Australian Fairy Tern [82950]	Vulnerable	Breeding likely to occur within area
<a href="#">Thalassarche bulleri</a> Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thalassarche bulleri platei</a> Northern Buller's Albatross, Pacific Albatross [82273]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thalassarche cauta cauta</a> Shy Albatross, Tasmanian Shy Albatross [82345]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thalassarche cauta steadi</a> White-capped Albatross [82344]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thalassarche chrysostoma</a> Grey-headed Albatross [66491]	Endangered	Species or species habitat may occur within area
<a href="#">Thalassarche eremita</a> Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thalassarche impavida</a> Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thalassarche melanophris</a> Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely

Name	Status	Type of Presence
		to occur within area
<a href="#">Thalassarche salvini</a> Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thinornis rubricollis rubricollis</a> Hooded Plover (eastern) [66726]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Tyto novaehollandiae castanops (Tasmanian population)</a> Masked Owl (Tasmanian) [67051]	Vulnerable	Species or species habitat known to occur within area
<b>Fish</b>		
<a href="#">Brachiopsilus ziebelli</a> Ziebell's Handfish, Waterfall Bay Handfish [83757]	Vulnerable	Species or species habitat may occur within area
<a href="#">Prototroctes maraena</a> Australian Grayling [26179]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Thymichthys politus</a> Red Handfish [83756]	Critically Endangered	Species or species habitat may occur within area
<b>Frogs</b>		
<a href="#">Litoria raniformis</a> Growling Grass Frog, Southern Bell Frog, Green and Golden Frog, Warty Swamp Frog [1828]	Vulnerable	Species or species habitat known to occur within area
<b>Insects</b>		
<a href="#">Antipodia chaostola leucophaea</a> Tasmanian Chaostola Skipper, Heath-sand Skipper [77672]	Endangered	Species or species habitat known to occur within area
<b>Mammals</b>		
<a href="#">Balaenoptera musculus</a> Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
<a href="#">Dasyurus maculatus maculatus (Tasmanian population)</a> Spotted-tail Quoll, Spot-tailed Quoll, Tiger Quoll (Tasmanian population) [75183]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Dasyurus viverrinus</a> Eastern Quoll, Luaner [333]	Endangered	Species or species habitat known to occur within area
<a href="#">Eubalaena australis</a> Southern Right Whale [40]	Endangered	Breeding likely to occur within area
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
<a href="#">Perameles gunnii gunnii</a> Eastern Barred Bandicoot (Tasmania) [66651]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Pseudomys novaehollandiae</a> New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Sarcophilus harrisii</a> Tasmanian Devil [299]	Endangered	Species or species habitat likely to occur within area
<b>Plants</b>		
<a href="#">Caladenia caudata</a> Tailed Spider-orchid [17067]	Vulnerable	Species or species habitat known to occur

Name	Status	Type of Presence within area
<a href="#">Conospermum hookeri</a> Variable Smoke-bush [68161]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Corunastylis firthii</a> Firth's Midge-orchid [76411]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Epacris barbata</a> Bearded Heath, Freycinet Heath [17625]	Endangered	Species or species habitat likely to occur within area
<a href="#">Lepidium hyssopifolium</a> Basalt Pepper-cress, Pepper-cress, Rubble Pepper-cress, Pepperweed [16542]	Endangered	Species or species habitat may occur within area
<a href="#">Philothea freyciana</a> Freycinet Waxflower [68227]	Endangered	Species or species habitat known to occur within area
<a href="#">Pterostylis ziegeleri</a> Grassland Greenhood, Cape Portland Greenhood [64971]	Vulnerable	Species or species habitat may occur within area
<a href="#">Stenanthemum pimeleoides</a> Spreading Stenanthemum, Propellor Plant [15450]	Vulnerable	Species or species habitat may occur within area
<a href="#">Thelymitra jonesii</a> Sky-blue Sun-orchid [76352]	Endangered	Species or species habitat may occur within area
<a href="#">Xanthorrhoea arenaria</a> Sand Gras-tree [21603]	Vulnerable	Species or species habitat may occur within area
<a href="#">Xerochrysum palustre</a> Swamp Everlasting, Swamp Paper Daisy [76215]	Vulnerable	Species or species habitat known to occur within area
<b>Sharks</b>		
<a href="#">Carcharodon carcharias</a> White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
<b>Listed Migratory Species</b>		<b>[ Resource Information ]</b>
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
<b>Migratory Marine Birds</b>		
<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat likely to occur within area
<a href="#">Ardenna carneipes</a> Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Foraging, feeding or related behaviour likely to occur within area
<a href="#">Diomedea antipodensis</a> Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Diomedea epomophora</a> Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Diomedea exulans</a> Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area

Name	Threatened	Type of Presence
<a href="#">Diomedea sanfordi</a> Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Macronectes giganteus</a> Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Macronectes halli</a> Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
<a href="#">Sternula albifrons</a> Little Tern [82849]		Species or species habitat may occur within area
<a href="#">Thalassarche bulleri</a> Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thalassarche cauta</a> Tasmanian Shy Albatross [89224]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thalassarche chrysostoma</a> Grey-headed Albatross [66491]	Endangered	Species or species habitat may occur within area
<a href="#">Thalassarche eremita</a> Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thalassarche impavida</a> Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thalassarche melanophris</a> Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thalassarche salvini</a> Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thalassarche steadi</a> White-capped Albatross [64462]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
<b>Migratory Marine Species</b>		
<a href="#">Balaena glacialis australis</a> Southern Right Whale [75529]	Endangered*	Breeding likely to occur within area
<a href="#">Balaenoptera musculus</a> Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
<a href="#">Caperea marginata</a> Pygmy Right Whale [39]		Foraging, feeding or related behaviour may occur within area
<a href="#">Carcharodon carcharias</a> White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Lagenorhynchus obscurus</a> Dusky Dolphin [43]		Species or species habitat may occur within area
<a href="#">Lamna nasus</a> Porbeagle, Mackerel Shark [83288]		Species or species habitat likely to occur within area

Name	Threatened	Type of Presence
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
<b>Migratory Terrestrial Species</b>		
<a href="#">Hirundapus caudacutus</a> White-throated Needletail [682]		Species or species habitat likely to occur within area
<a href="#">Myiagra cyanoleuca</a> Satin Flycatcher [612]		Species or species habitat likely to occur within area
<b>Migratory Wetlands Species</b>		
<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat may occur within area
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]		Species or species habitat likely to occur within area
<a href="#">Calidris canutus</a> Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat may occur within area
<a href="#">Gallinago hardwickii</a> Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
<a href="#">Limosa lapponica</a> Bar-tailed Godwit [844]		Species or species habitat known to occur within area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Tringa nebularia</a> Common Greenshank, Greenshank [832]		Species or species habitat may occur within area

## Other Matters Protected by the EPBC Act

Listed Marine Species		[ <a href="#">Resource Information</a> ]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
<b>Birds</b>		
<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat may occur within area
<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat likely to occur within area
<a href="#">Ardea alba</a> Great Egret, White Egret [59541]		Species or species habitat likely to occur

Name	Threatened	Type of Presence within area
<a href="#">Ardea ibis</a> Cattle Egret [59542]		Species or species habitat may occur within area
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]		Species or species habitat likely to occur within area
<a href="#">Calidris canutus</a> Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat may occur within area
<a href="#">Catharacta skua</a> Great Skua [59472]		Species or species habitat may occur within area
<a href="#">Diomedea antipodensis</a> Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Diomedea epomophora</a> Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Diomedea exulans</a> Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Diomedea gibsoni</a> Gibson's Albatross [64466]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Diomedea sanfordi</a> Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Gallinago hardwickii</a> Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
<a href="#">Haliaeetus leucogaster</a> White-bellied Sea-Eagle [943]		Breeding known to occur within area
<a href="#">Halobaena caerulea</a> Blue Petrel [1059]	Vulnerable	Species or species habitat may occur within area
<a href="#">Hirundapus caudacutus</a> White-throated Needletail [682]		Species or species habitat likely to occur within area
<a href="#">Lathamus discolor</a> Swift Parrot [744]	Critically Endangered	Breeding known to occur within area
<a href="#">Limosa lapponica</a> Bar-tailed Godwit [844]		Species or species habitat known to occur within area
<a href="#">Macronectes giganteus</a> Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Macronectes halli</a> Northern Giant Petrel [1061]	Vulnerable	Species or species

Name	Threatened	Type of Presence
<a href="#">Myiagra cyanoleuca</a> Satin Flycatcher [612]		habitat may occur within area  Species or species habitat likely to occur within area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Pachyptila turtur</a> Fairy Prion [1066]		Species or species habitat known to occur within area
<a href="#">Puffinus carneipes</a> Flesh-footed Shearwater, Fleshy-footed Shearwater [1043]		Foraging, feeding or related behaviour likely to occur within area
<a href="#">Sterna albifrons</a> Little Tern [813]		Species or species habitat may occur within area
<a href="#">Thalassarche bulleri</a> Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thalassarche cauta</a> Tasmanian Shy Albatross [89224]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thalassarche chrysostoma</a> Grey-headed Albatross [66491]	Endangered	Species or species habitat may occur within area
<a href="#">Thalassarche eremita</a> Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thalassarche impavida</a> Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thalassarche melanophris</a> Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thalassarche salvini</a> Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thalassarche sp. nov.</a> Pacific Albatross [66511]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thalassarche steadi</a> White-capped Albatross [64462]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thinornis rubricollis</a> Hooded Plover [59510]		Species or species habitat known to occur within area
<a href="#">Thinornis rubricollis rubricollis</a> Hooded Plover (eastern) [66726]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Tringa nebularia</a> Common Greenshank, Greenshank [832]		Species or species habitat may occur within area
<b>Fish</b> <a href="#">Hippocampus abdominalis</a> Big-belly Seahorse, Eastern Potbelly Seahorse,		Species or species

Name	Threatened	Type of Presence
New Zealand Potbelly Seahorse [66233]		habitat may occur within area
<a href="#">Hippocampus breviceps</a> Short-head Seahorse, Short-snouted Seahorse [66235]		Species or species habitat may occur within area
<a href="#">Histiogamphelus briggsii</a> Crested Pipefish, Briggs' Crested Pipefish, Briggs' Pipefish [66242]		Species or species habitat may occur within area
<a href="#">Hypsognathus rostratus</a> Knifesnout Pipefish, Knife-snouted Pipefish [66245]		Species or species habitat may occur within area
<a href="#">Kaupus costatus</a> Deepbody Pipefish, Deep-bodied Pipefish [66246]		Species or species habitat may occur within area
<a href="#">Kimblaeus bassensis</a> Trawl Pipefish, Bass Strait Pipefish [66247]		Species or species habitat may occur within area
<a href="#">Lissocampus runa</a> Javelin Pipefish [66251]		Species or species habitat may occur within area
<a href="#">Maroubra perserrata</a> Sawtooth Pipefish [66252]		Species or species habitat may occur within area
<a href="#">Mitotichthys mollisoni</a> Mollison's Pipefish [66260]		Species or species habitat may occur within area
<a href="#">Mitotichthys semistriatus</a> Halfbanded Pipefish [66261]		Species or species habitat may occur within area
<a href="#">Mitotichthys tuckeri</a> Tucker's Pipefish [66262]		Species or species habitat may occur within area
<a href="#">Notiocampus ruber</a> Red Pipefish [66265]		Species or species habitat may occur within area
<a href="#">Phyllopteryx taeniolatus</a> Common Seadragon, Weedy Seadragon [66268]		Species or species habitat may occur within area
<a href="#">Pugnaso curtirostris</a> Pugnose Pipefish, Pug-nosed Pipefish [66269]		Species or species habitat may occur within area
<a href="#">Solegnathus robustus</a> Robust Pipehorse, Robust Spiny Pipehorse [66274]		Species or species habitat may occur within area
<a href="#">Solegnathus spinosissimus</a> Spiny Pipehorse, Australian Spiny Pipehorse [66275]		Species or species habitat may occur within area
<a href="#">Stigmatopora argus</a> Spotted Pipefish, Gulf Pipefish, Peacock Pipefish [66276]		Species or species habitat may occur within area
<a href="#">Stigmatopora nigra</a> Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish [66277]		Species or species habitat may occur within area
<a href="#">Urocampus carinirostris</a> Hairy Pipefish [66282]		Species or species habitat may occur within

Name	Threatened	Type of Presence area
<a href="#">Vanacampus phillipi</a> Port Phillip Pipefish [66284]		Species or species habitat may occur within area
<a href="#">Vanacampus poecilolaemus</a> Longsnout Pipefish, Australian Long-snout Pipefish, Long-snouted Pipefish [66285]		Species or species habitat may occur within area

#### Mammals

<a href="#">Arctocephalus forsteri</a> Long-nosed Fur-seal, New Zealand Fur-seal [20]		Species or species habitat may occur within area
<a href="#">Arctocephalus pusillus</a> Australian Fur-seal, Australo-African Fur-seal [21]		Species or species habitat may occur within area

#### Whales and other Cetaceans

[ [Resource Information](#) ]

Name	Status	Type of Presence
<b>Mammals</b>		
<a href="#">Balaenoptera acutorostrata</a> Minke Whale [33]		Species or species habitat may occur within area
<a href="#">Balaenoptera musculus</a> Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
<a href="#">Caperea marginata</a> Pygmy Right Whale [39]		Foraging, feeding or related behaviour may occur within area
<a href="#">Delphinus delphis</a> Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
<a href="#">Eubalaena australis</a> Southern Right Whale [40]	Endangered	Breeding likely to occur within area
<a href="#">Grampus griseus</a> Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
<a href="#">Lagenorhynchus obscurus</a> Dusky Dolphin [43]		Species or species habitat may occur within area
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
<a href="#">Tursiops truncatus s. str.</a> Bottlenose Dolphin [68417]		Species or species habitat may occur within area

#### Extra Information

##### State and Territory Reserves

[ [Resource Information](#) ]

Name	State
Coles Bay	TAS
Freycinet	TAS

##### Regional Forest Agreements

[ [Resource Information](#) ]

Note that all areas with completed RFAs have been included.

Name	State
<a href="#">Tasmania RFA</a>	Tasmania

## Invasive Species

[ [Resource Information](#) ]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit, 2001.

Name	Status	Type of Presence
<b>Birds</b>		
<i>Alauda arvensis</i> Skylark [656]		Species or species habitat likely to occur within area
<i>Anas platyrhynchos</i> Mallard [974]		Species or species habitat likely to occur within area
<i>Carduelis carduelis</i> European Goldfinch [403]		Species or species habitat likely to occur within area
<i>Carduelis chloris</i> European Greenfinch [404]		Species or species habitat likely to occur within area
<i>Columba livia</i> Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
<i>Passer domesticus</i> House Sparrow [405]		Species or species habitat likely to occur within area
<i>Sturnus vulgaris</i> Common Starling [389]		Species or species habitat likely to occur within area
<i>Turdus merula</i> Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
<b>Mammals</b>		
<i>Canis lupus familiaris</i> Domestic Dog [82654]		Species or species habitat likely to occur within area
<i>Felis catus</i> Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
<i>Lepus capensis</i> Brown Hare [127]		Species or species habitat likely to occur within area
<i>Mus musculus</i> House Mouse [120]		Species or species habitat likely to occur within area
<i>Oryctolagus cuniculus</i> Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
<i>Rattus rattus</i> Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
<i>Sus scrofa</i> Pig [6]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
<b>Plants</b>		
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat likely to occur within area
Chrysanthemoides monilifera subsp. monilifera Boneseed [16905]		Species or species habitat likely to occur within area
Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
Nassella trichotoma Serrated Tussock, Yass River Tussock, Yass Tussock, Nassella Tussock (NZ) [18884]		Species or species habitat likely to occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Ulex europaeus Gorse, Furze [7693]		Species or species habitat likely to occur within area

# Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

# Coordinates

-42.15556 148.29432

# Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [-Other groups and individuals](#)

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact Us](#) page.