



# **Ecology Survey Scope**

## **Fingerboards Project**

Gippsland Critical Minerals

28 November 2025

→ **The Power of Commitment**



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# Executive summary

GHD was engaged by Gippsland Critical Minerals (GCM) to prepare an ecological survey program for the Fingerboards project.

The Fingerboards Project is a critical minerals project that has been in development for over a decade. Following the outcome of the 2020 EES, the project has been re-scoped to reduce and mitigate environmental impacts.

The project area is centred on the Bairnsdale-Dargo Road, approximately 25 km north of Bairnsdale, with a proposed haul road extending to the south of the proposed mine to a rail siding adjacent to the Bairnsdale railway line. Refer to Figure 1 for an overview of the Fingerboards Project.

This Ecological Survey Scope Report sets out the recommended ecological survey program for the existing condition assessments associated with the Fingerboards Project. The development of this report included the following stages:

- A review of background materials, databases and relevant documents relating to the project
- Identification of the threatened species and threatened ecological communities with potential to occur in the project area
- Consideration of survey guidelines and legislative requirements
- Recommended survey program (e.g. method, timing, survey effort)

The survey program is considered sufficient to establish a baseline for the ecological impact assessment for the project and inform the scoping requirements arising from referrals under the *Environment Effects Act 1978* (EE Act) and the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

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# Abbreviations and glossary

Table 1 Abbreviations and glossary

Abbreviation	Definition
AECOM	AECOM Australia Pty Ltd
CMA	Catchment Management Authority
CR	Critically endangered
Cth	Commonwealth
DCCEEW	Australian Government Department of Climate Change, Energy, the Environment and Water (previously known as the Department of Agriculture, Water and the Environment) (2024 to present)
DEECA	Department of Energy, Environment and Climate Action
DELWP	Department of Environment, Land, Water and Planning (2015 to 2022); now split to DTP and DEECA
DEPI	Department of Environment and Primary Industries (2013 to 2014)
DSE	Department of Sustainability and Environment (2002 to 2013)
DSEWPC	Australian Department of Sustainability, Environment, Water, Population and Communities (2010 to 2013)
DTP	Department of Transport and Planning (formerly DELWP Impact Assessment Unit)
EE Act	<i>Environment Effects Act 1978 (Vic)</i>
EES	Environment Effects Statement
EHP	Ecology and Heritage Partners
EMP	Environmental Management Plan
EN	Endangered
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act (Cth)</i>
EVC	Ecological vegetation class
FFG	<i>Flora and Fauna Guarantee Act 1998 (Vic)</i>
GCM	Gippsland Critical Minerals Pty Ltd
GDE	Groundwater dependent ecosystem
GHD	GHD Pty Ltd
GIS	Geographical Information System
Ha	Hectare
IUCN	International Union for Conservation of Nature
km	Kilometre
LGA	Local Government Area
m	Metre
PMST	Protected Matters Search Tool
Project	Fingerboards Project
TEC	Threatened Ecological Communities
VBA	Victorian Biodiversity Atlas
VQA	Vegetation Quality Assessment
VU	Vulnerable

# 1. Introduction

## 1.1 Project description

The Fingerboards Critical Minerals Project (the Project) has been in development for over a decade. Following the outcome of the 2020 EES, the Project has been re-scoped to reduce and mitigate environmental impacts. The project is in the East Gippsland region of Victoria, approximately 200 km east of Melbourne and 25 km west of Bairnsdale. Refer to Figure 1 for the location of the Project and Figure 2 for the proposed layout of the Project.

## 1.2 Purpose of this report

The purpose of the Ecological Survey Scope Report is to identify and provide detail (e.g. method, seasonality of survey, survey effort) of the anticipated ecological surveys required to complete the existing conditions assessment. This included determining to what extent existing survey data could be used, and what outstanding information would be required to establish a baseline for the ecological impact assessment for the project and inform the scoping requirements arising from planned referrals under the *Environment Effects Act 1978* (EE Act) and the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

## 1.3 Scope of this report

This document outlines the recommended ecological survey program for the existing condition assessments associated with the Fingerboards Project.

The scope includes:

- A review of background materials, databases and relevant documents relating to the project
- Identification of the key threatened species and threatened ecological communities of the study area
- Consideration of survey guidelines and legislative requirements
- Development of the scope for baseline ecological surveys of the project area

The scope does not include preparation of an ecological impact assessment, or preparation of referrals under the EE Act or EPBC Act.

## 1.4 Limitations and assumptions

### 1.4.1 Spatial data

The preparation of this report relies on spatial files provided by:

- Ecology and Heritage Partners via GCM, provided as folder “Ecology” and including spatial files associated with the figures provided in EHP (2020)
- GCM, provided as folder “GCM Fingerboards GIS Shapefiles\_V1\_20250930” and including pit outline, proposed project area, pump station, roads, siding and tenements

For the purpose of this report, GHD has not verified or ground-truthed the ecological data provided by Ecology and Heritage Partners or GCM.

## 1.4.2 Use of databases

- The Victorian Biodiversity Atlas (VBA) database can be used to search a defined geographical area to produce species lists of flora and fauna that have been recorded historically within the searched area. The database lists are only as accurate as the quality and quantity of data that have been recorded and documented from the area.
- Location details for many records (typically older records) have a relatively low degree of accuracy (e.g., within 1 km). Thus, the database search may not pick up some records of species that were made within the site historically.
- These datasets are not exhaustive. In other words, many locations locally and across Victoria have a low level of documented survey effort for one or more groups of flora and fauna. During field surveys, it is not uncommon to find species at locations for which there are few or no previous nearby database records.
- A search of the Protected Matters Search Tool (PMST) was conducted to identify relevant Matters of National Environmental Significance listed under the EPBC Act. This tool is predictive only.
- The document and database review is limited to flora species and threatened ecological communities listed under the EPBC and FFG Acts as at 20 November 2025.

*This report has been prepared by GHD for Gippsland Critical Minerals and may only be used and relied on by Gippsland Critical Minerals for the purpose agreed between GHD and Gippsland Critical Minerals as set out in section 1.2 of this report.*

*GHD otherwise disclaims responsibility to any person other than Gippsland Critical Minerals arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.*

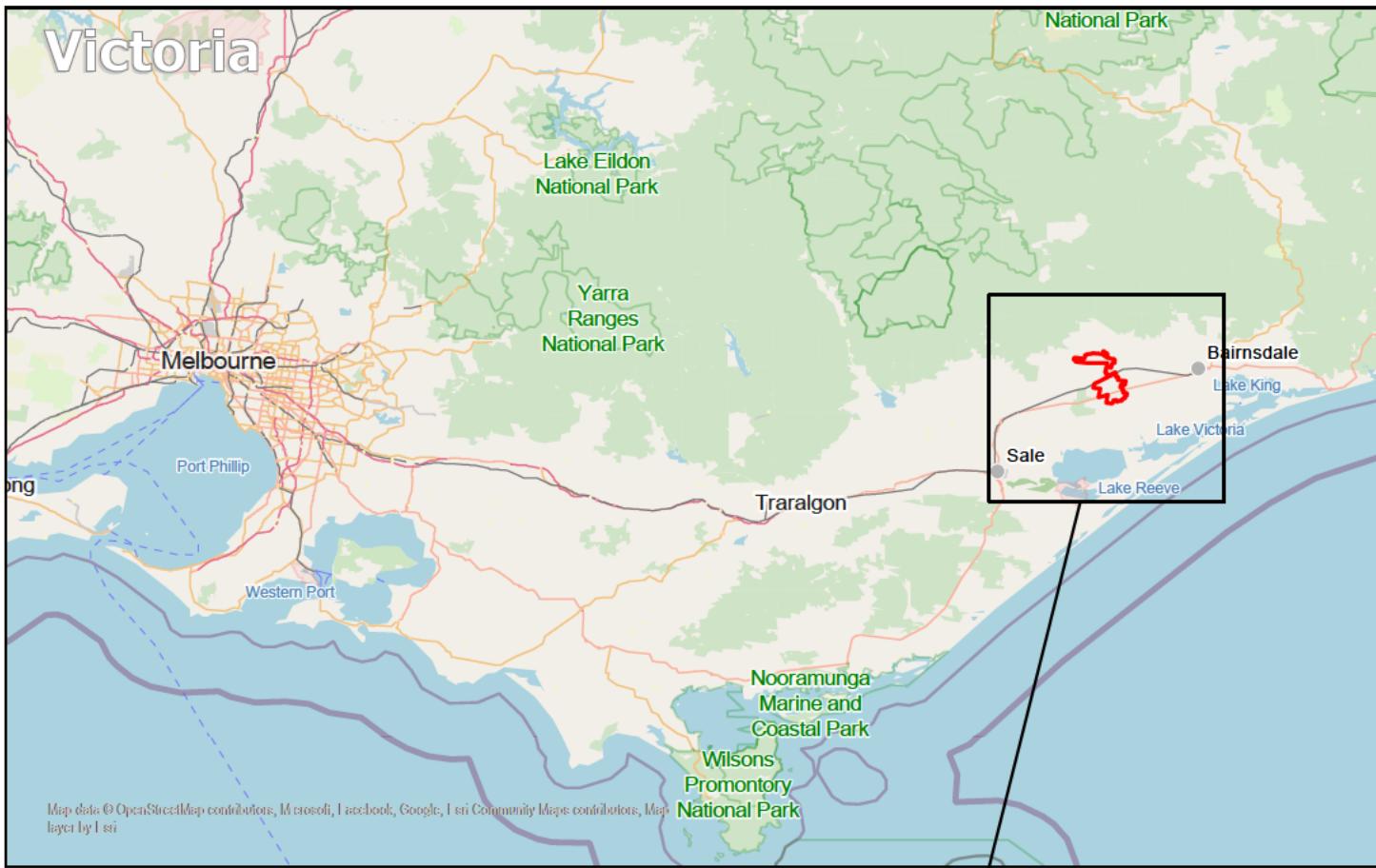
*The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.*

*The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.*

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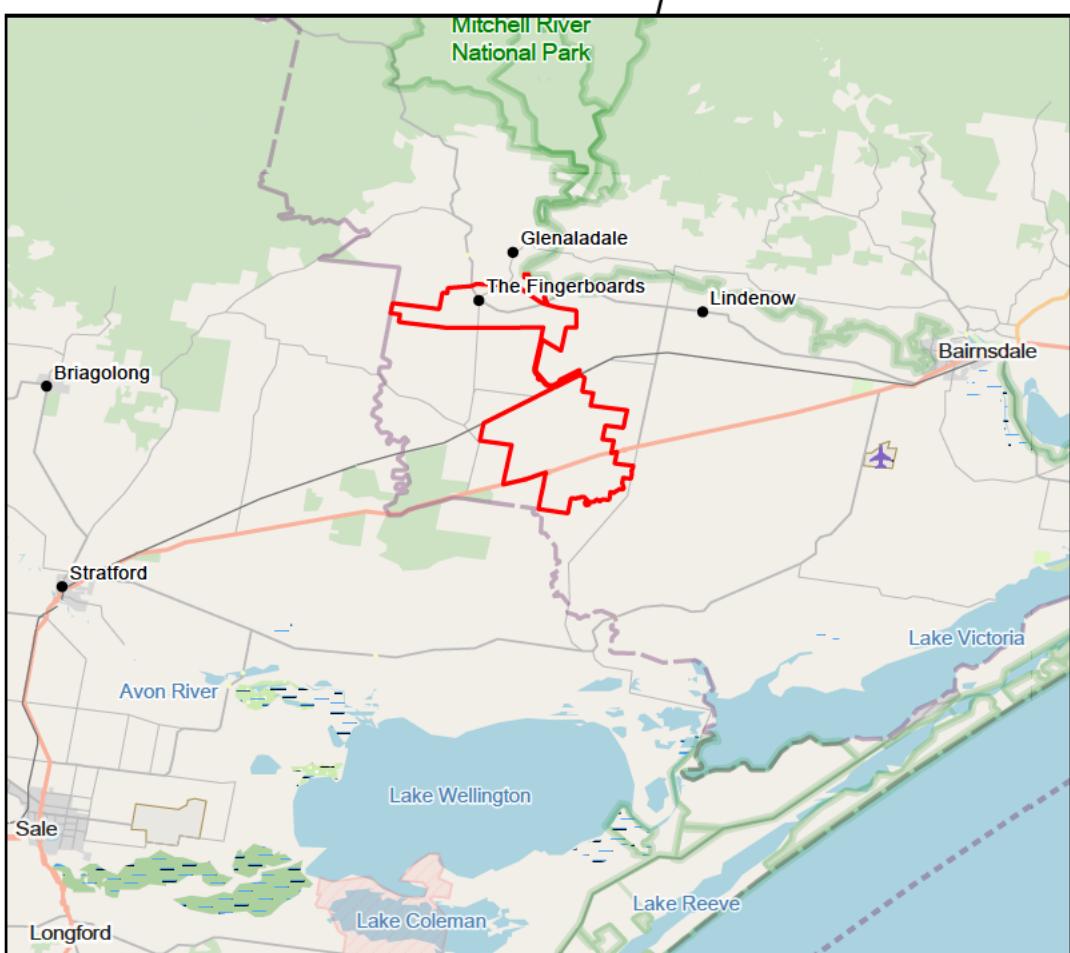
### **Accessibility of documents**

*If this report is required to be accessible in any other format, this can be provided by GHD upon request and at an additional cost if necessary.*



**Legend**

Project Area



Paper Size ISO A4  
0 16 32 48 64  
Kilometers

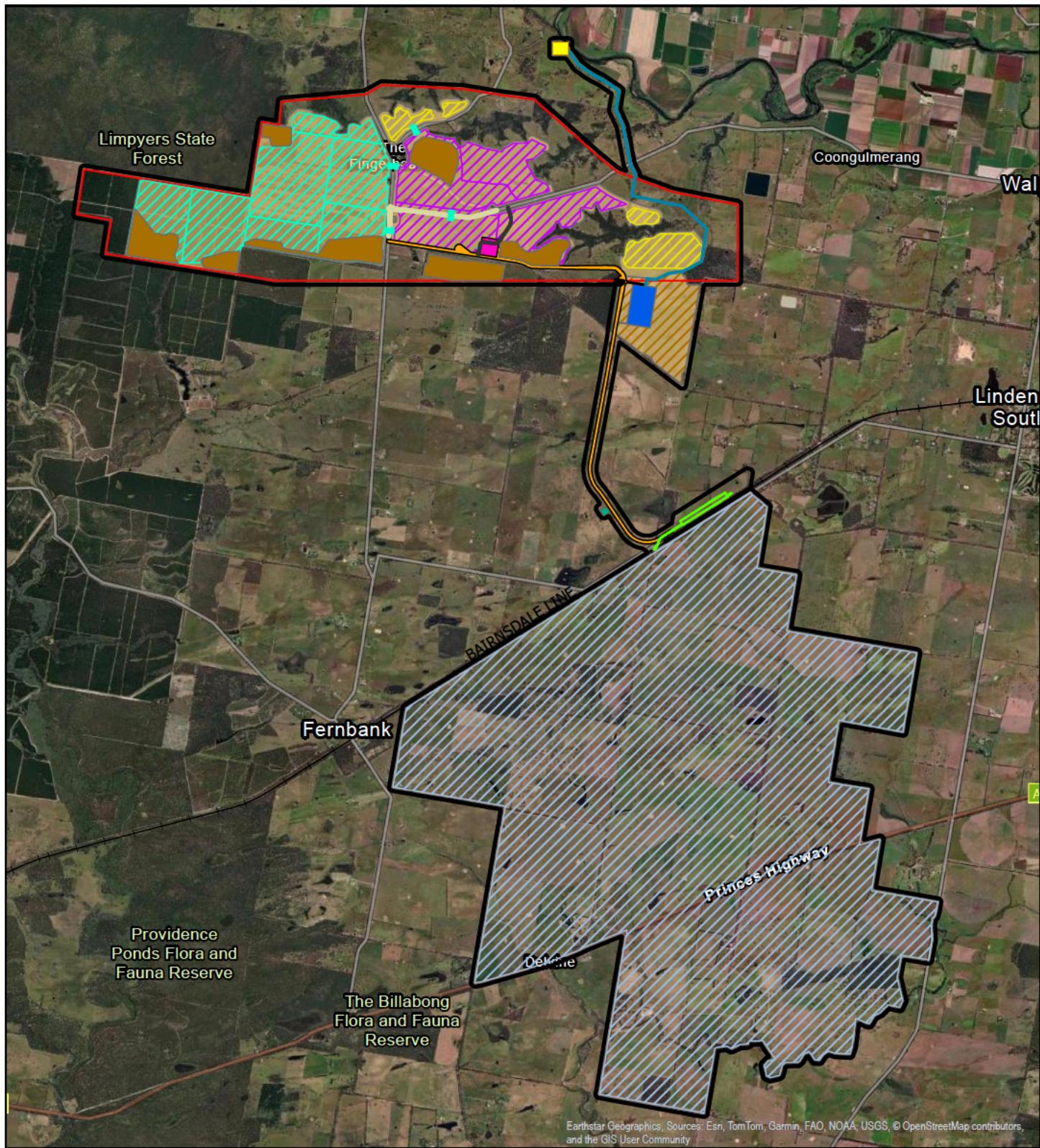
Horizontal Datum: GDA 1994  
Grid: GCS GDA 1994



Gippsland Critical Minerals Pty Ltd  
Fingerboards Project Scoping Ecology Requirements

Location of the  
Fingerboards Critical Minerals Project,  
Glenaladale, Victoria

Project No. 12667336  
Revision No. 0  
Date 21/11/2025



#### Legend

Project Area	Separation Plant	Project Disturbance Footprint	Separation Plant Access Road
Proposed Mining Licence Area	Mitchell River Water Pipeline Corridor	Freshwater Storage Dam	Fernbank East Rail Siding
West Pit	Mitchell River Pump Station	Services Corridor	Pipe Crossing
East Pit	Overburden Stockpile	Latrobe Group Borefield Investigation Area	Rail
Satellite Pits	Freshwater Storage Dam Investigation Area	Road Diversion	
Substation			

Paper Size ISO A4  
0 0.55 1.1 1.65 2.2  
Kilometers

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55



#### Gippsland Critical Minerals Pty Ltd Fingerboards Project Scoping Ecology Requirements

#### Layout of the Fingerboards Critical Minerals Project, Glenaladale, Victoria

Project No. 12667336  
Revision No. 0  
Date 21/11/2025

## 2. Review of existing information

### 2.1 Project area and study area

The project area is shown in Figure 2. For the purposes of this assessment, the term **project area** includes the Mining Licence Area (MLA) plus ancillary components: Mitchell River pump station and pipeline, freshwater storage dam, borefield investigation area, infrastructure corridor (haul road, pipeline and power line) and rail-siding.

The project area is located within:

- East Gippsland Shire Local Government Area (LGA)
- Both the West and East Gippsland Catchment Management Authority (CMA) areas
- Both the Gippsland Plain and East Gippsland Lowlands Victorian bioregions
- Both the South East Coastal Plain and South East Corner Interim Biogeographic Regionalisation for Australia (IBRA) bioregions

The term **study area** refers to a broader region surrounding the project area (i.e. includes areas that are outside the project area). The study area for this assessment includes private properties, reserves and roadsides within 10 km of the project area. This description covers a much broader area than the land proposed to be directly impacted by the Fingerboards Project, and the additional information captured has been used to provide context to determine the significance of ecological features identified within the project area (for example, whether they are part of a larger area, or whether there are potential indirect impacts on ecological values outside the project area).

### 2.2 Method - document and database review

Project documents were reviewed to gain an understanding of the scope of previous ecological surveys conducted for the 2020 EES, the findings and limitations, relevant environmental legislative considerations and the critical issues to be addressed for the revised project.

The following documents were reviewed:

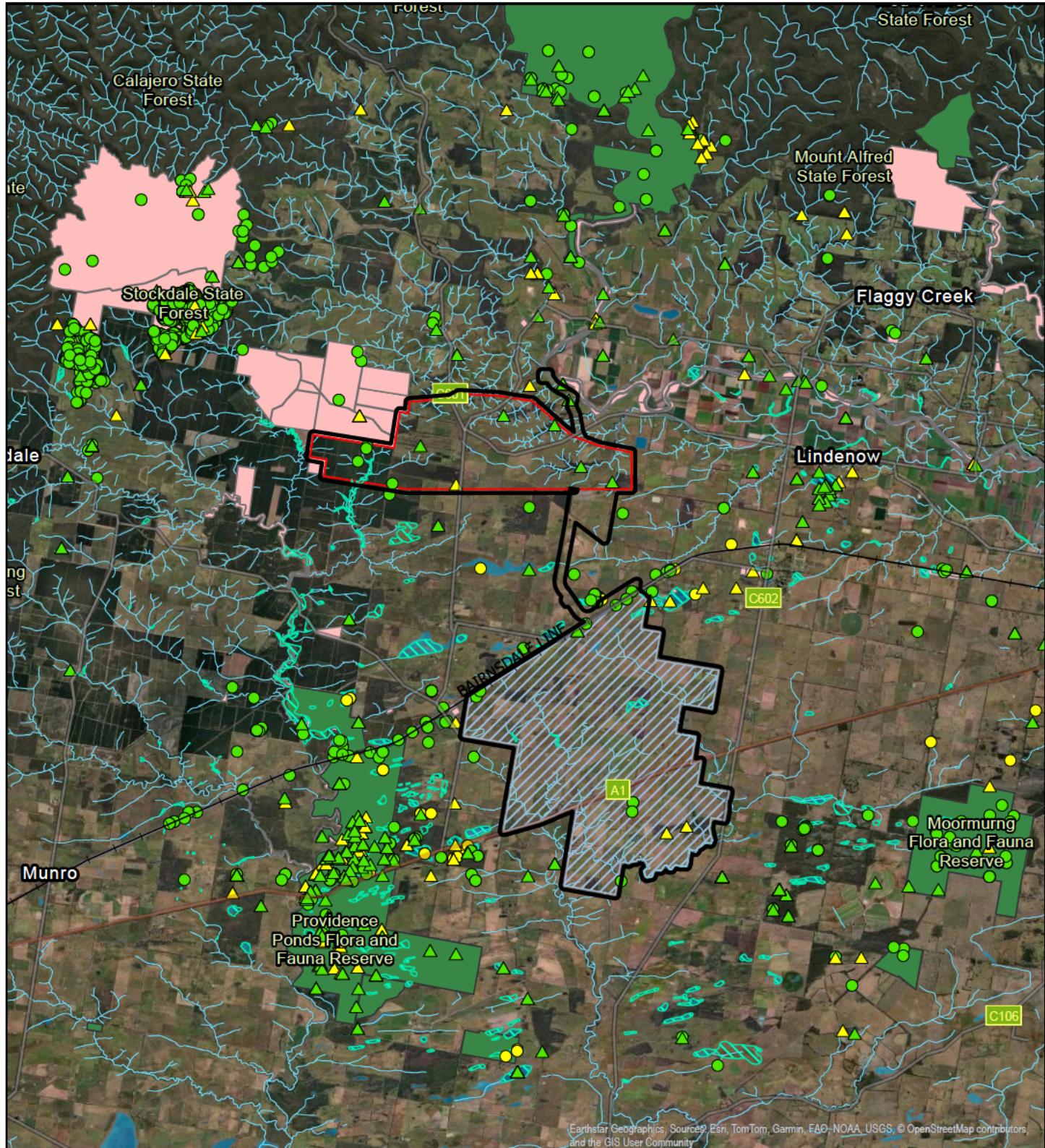
- Ecology and Heritage Partners Pty Ltd (2020). Detailed Ecological Investigations for the Proposed Fingerboards Mineral Sands Project, Glenaladale, Victoria. August 2020
- Planning Panels Victoria (2021). Fingerboards Mineral Sands Project Inquiry and Advisory Committee Report. September 2021
- Fingerboards Mineral Sands Project. Minister's Assessment under *Environment Effects Act 1978*. November 2021 ('Minister's Assessment')

A desktop assessment of ecological values known or predicted to be present within the study area (10 km buffer around the project area) was undertaken and included a review of the following government databases, spatial datasets and documents:

- Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) Protected Matters Search Tool (PMST) (maintained by the Australian Department of Climate Change, Energy, the Environment and Water; DCCEEW)
- The Victorian Biodiversity Atlas (VBA), maintained by the Victorian Department of Energy, Environment and Climate Action (DEECA)
- NatureKit – maintained by DEECA
- Extant and pre-1750 Ecological Vegetation Classes (EVCs) mapped by DEECA
- Gippsland Lakes Ramsar Site Ecological Character Description (DSEWPC 2010)
- Aerial imagery of the project area
- Spatial data associated with Ecology and Heritage Partners Pty Ltd (2020)
- Spatial data of the proposed mine footprint, buffer zone and gully conservation zones
- Mean monthly rainfall data for the Mount Moornapa and Bairnsdale Airport weather stations, maintained by the Australian Bureau of Meteorology

The review process involved reading previous project documents, and comparing the findings of the updated desktop assessment with the original project documents. A preliminary likelihood of assessment was completed in May 2025 for threatened species based on available desktop information. This information was updated in November 2025 following commencement of field assessments. For threatened species with a possibility of occurrence within the project area, a determination was made as to whether additional information would be required for assessment in accordance with the EPBC and/or EE Act. This determination involved answering the following questions to identify gaps in ecological knowledge and/or interpretation of biodiversity legislation relevant to the revised project footprint:

- Have the previous studies adequately covered the geographic extent of the revised project to sufficiently identify vegetation, threatened species and threatened species habitat? If not, what remains to be assessed?
- Are the timing and duration of field assessments completed to date considered current and acceptable according to published survey guidelines (if applicable), and standards required by the relevant regulatory authorities?
- Were there notable limitations to the field assessments?
- Does the previous survey effort warrant repeating and expanding upon due to age of the data?
- Is the consideration of potential habitat for threatened species and communities based on current threatened species and community listings?
- The findings of this review are presented in Table A.1 in Appendix A.



#### Legend

- Watercourse
- Waterarea
- Wetland
- Parks and Reserves
- Crownland

- Flora
  - EPBC Listed
  - FFG Listed
- Fauna
  - EPBC Listed
  - FFG Listed

- Project Area
- Rail
- Latrobe Group Borefield Investigation Area
- Proposed Mining Licence Area

Paper Size ISO A4  
0 1 2 3 4  
Kilometers

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55



#### Gippsland Critical Minerals Pty Ltd Fingerboards Project Scoping Ecology Requirements

Records of threatened flora and fauna from the Victorian Biodiversity Atlas within 10 km of the proposed Project

Project No. 12667336  
Revision No. 0  
Date 21/11/2025

## 2.3 Review findings

### 2.3.1 Summary

Two key changes in environmental conditions since the 2020 ecological assessment are of relevance to the ecology survey scope going forward:

1. Impact of the Black Summer bushfires drove dispersal of more mobile fauna species through the broader landscape from burned areas to unburned areas, resulting in the potential for a different assemblage of fauna species being present or making use of the project area.
2. In addition, the recent, improved rainfall (as of May 2025) may induce changes to emergence and flowering of some flora species compared to the earlier (2016-2019) surveys, which were undertaken during a period of drought (Planning Panels Victoria 2021). This may result in an increase in cover and extent in native vegetation and increased presence of fertile material across the project area when compared to previous surveys. Similarly, low rainfall may have impacted the likelihood of detecting some frog species in the 2016-2019 surveys.

Furthermore, there have been new records of threatened species within the broader study area (i.e. not previously recorded within 10 km), as well as changes in legislative status for species and communities known to occur, or with potential to occur in the study area, which will require new matters to be considered in the ecology survey scope.

EHP (2020) noted targeted surveys for flora were undertaken outside the known flowering/emergence period of four species, two of which (Cobra Greenhood *Pterostylis grandiflora* and Rough-grain Love-grass *Eragrostis trachycarpa*) have been identified as having moderate or high likelihood of occurrence by GHD. EHP (2020) noted surveys for these species were undertaken during the general vegetation surveys which were undertaken at a time (i.e. March and June) when these species were detectable. However, there is some uncertainty as to whether the intensity of survey effort was sufficient to adequately detect these species should they occur. It is noted that EHP (2020) applied the precautionary principle and considered them to have a moderate likelihood of occurrence.

EHP (2020) did not have access to the property at 2705 Bairnsdale-Dargo Road (Figure 1), and this presents a limitation in understanding the ecological values present within that parcel of land. It is noted that other aspects of the project footprint have varied from the original project design, for example, the gullies in the east of the project area are no longer proposed to be included within the direct impact extent of the proposed mine, and there is a mining exclusion zone setback approximately 1 km from the Mitchell River and approximately 1.5 km from the Lindenow Valley horticultural area. There are additional impact areas associated with ancillary infrastructure which will require field survey.

Based on the review of existing information, Table A.1 in Appendix A lists the ecological values present, or with potential to occur, within the study area. The table includes a summary of existing information relevant to the project area, a high-level description of the additional information required, and the rationale for seeking this information.

### 2.3.2 Changes in environmental conditions

Survey limitations for the original project field assessment period 2016-2019 (EHP 2020) included the impacts of the 2014 Glenaladale-Mt Ray bushfire that burned most of the project area, as well as periods of below-average rainfall. Table 2 provides a chronological summary of the field surveys completed for the original project (EHP 2020) and includes summary rainfall information obtained from the Bureau of Meteorology for the Mount Moornapa and Bairnsdale Airport weather stations.

Since 2019 the region experienced the Black Summer bushfires of the 2019-20 summer, burning just over 1.5 million hectares in Gippsland to the east of the project area, resulting in changes to regional habitat and resource availability. In addition, the fires may have driven dispersal of more mobile species into nearby unburned areas which may include the project area. The rainfall in 2024 was largely below average, except for the winter period. The rainfall to May 2025 has been close to or above average, and included a significantly wetter February.

Table 2 Summary of field survey program completed for original project (EHP 2020) including notes on average rainfall

Ecological assessment type	Duration (days or nights)	Month	Year	Notes re. mean monthly rainfall
Vegetation surveys	5	June	2016	Above average rainfall
Aquatic ecology	3	June	2016	Above average rainfall
Terrestrial fauna surveys	5	October	2016	At or above average rainfall
Vegetation surveys	3	March	2018	Significantly lower average rainfall (14.6 mm vs 47.8 mm, following a drier summer)
Terrestrial fauna surveys	3	March	2018	Significantly below average rainfall, following a few months of below average as well
Targeted flora surveys and updated vegetation mapping	5	March	2018	Significantly below average rainfall, following a few months of below average as well
Vegetation surveys	5	October	2018	Below average rainfall, following a few months of below average as well
Terrestrial fauna surveys	5	October	2018	Below average rainfall, following a few months of below average as well
Targeted flora surveys and updated vegetation mapping	5	October	2018	Below average rainfall, following a few months of below average as well
Targeted Giant Burrowing Frog and nocturnal surveys	4	November	2018	Below average rainfall, following a few months of below average as well
Targeted Australian Grayling, Dwarf Galaxias	3	November	2018	Below average rainfall, following a few months of below average as well
Flora and fauna assessments - Bairnsdale rail siding and Racecourse Rd roundabout	1	January	2019	Below average rainfall, following a few months of below average as well
Targeted Powerful Owl, Masked Owl	4	August	2019	Below average rainfall, following a few months of below average as well
Potential offset sites	2	September	2019	Below average rainfall, following a few months of below average as well
Vegetation assessment of rail siding	2	September	2019	Below average rainfall, following a few months of below average as well

### 2.3.3 Changes in legislation

One of the main legislative changes since the original assessment (EHP 2020) was the *Flora and Fauna Guarantee Amendment Act 2019* which came into effect on June 1, 2020.

The Amendment Act introduced several key reforms specified by DEECA:

- Establishing guiding principles for the implementation of the FFG Act, with explicit recognition of the rights and interests of Traditional Owners and the challenges posed by climate change
- Ensuring biodiversity is considered across all levels of government, so that decisions and policies account for their potential environmental impact
- Clarifying existing authority to identify critical habitats and enhancing their protection through cooperative management efforts

- Aligning with a nationally consistent approach to assessing and listing threatened species via the Common Assessment Method, reducing duplication across jurisdictions and supporting better monitoring of conservation status
- Strengthening the enforcement framework of the FFG Act, including the introduction of tougher penalties

Using the Common Assessment Method, species were assessed using the IUCN criteria, categories and thresholds. If they are eligible, species can be listed as Vulnerable, Endangered, Critically Endangered, Extinct in the Wild or Extinct.

EHP (2020) considered taxa that at the time were included on the Advisory List of Rare or Threatened Plants in Victoria (DEPI 2014), the Advisory list of Threatened Invertebrate Fauna in Victoria (DSE 2009) or the Advisory List of Threatened Vertebrate Fauna in Victoria (DSE 2013). All the Advisory Lists were reviewed in accordance with the Common Assessment Method by DEECA (between 2018-2021) and taxa considered were either assigned a conservation status under the FFG Act, had their conservation status updated, or were removed from consideration under the FFG Act. The resultant changes to listed threatened species are reflected in the updated desktop searches undertaken for the Project.

Changes to the legislative protection of taxa were also triggered by the Black Summer bushfires, with the habitat impacts of this significant event referenced in the approved conservation advice for the newly-listed Gang Gang Cockatoo (*Callocephalon fimbriatum*) and Pilotbird (*Pycnoptilus floccosus*) under the EPBC Act (in effect 2 March 2022).

# 3. Scope for ecological survey

## 3.1 Objectives

The objectives of the ecological survey scope are to collate the additional information requirements as set out in Table A.1 in Appendix A, and design a program that mitigates risks, optimises efficiencies and aligns with project approval timelines.

This includes collecting the necessary baseline data to assess the potential impacts of the proposed Project on species and communities listed as threatened under the EPBC Act and FFG Act. The scope also requires that data collection methods meet the requirements of relevant government documents, including relevant EPBC Act policy statements and guidelines.

## 3.2 Key issues and ecological impacts

The ecology survey scope is prepared on the understanding that the Project may result in the following impacts to biodiversity and habitat:

- Direct loss or degradation of native vegetation and associated listed ecological communities, including those listed as threatened under the EPBC Act and/or the FFG Act.
- Direct loss or degradation of habitat for flora and fauna listed as threatened under the EPBC Act and/or the FFG Act.
- Disturbance and/or degradation of adjacent or nearby habitat that may support listed species or other protected flora, fauna or ecological communities.
- Indirect habitat loss or degradation resulting from other effects, such as edge effects, surface hydrological changes, groundwater drawdown, groundwater mounding, dust deposition, traffic, noise, vibration, light or the introduction of weeds/pathogens.
- Disruption to the movement of fauna between areas of habitat across the broader landscape.
- The availability of suitable offsets for the loss of native vegetation and habitat for listed threatened species under the FFG Act and EPBC Act.

## 3.3 Priorities for characterising the existing environment

This ecology survey scope is prepared based on the previous Environment Effects Statement prepared for the project, on the understanding that the priorities for characterising the existing environment are likely to be:

- Identify and characterise the distribution and quality of native vegetation, terrestrial and aquatic habitat and wildlife movement in the area that could be impacted by the Fingerboards Project or associated works.
- Identify and characterise the existing or likely presence of listed threatened and migratory species, other protected species and ecological communities listed under the EPBC Act and FFG Act. This characterisation will be informed by the literature and suitable available data and supported by seasonal or targeted surveys where necessary. Records and other data from local sources will also be gathered and considered as appropriate.
- Identify the existing or likely presence of environmental weeds, pathogens, pest animals and potentially threatening processes.
- As appropriate, identify the different uses which significant species may make use of different habitat areas that could be affected by the project at different times or life-cycle stages.
- Identify and characterise any groundwater-dependent ecosystems that may be affected by the project works. This characterisation will be informed by data, literature and appropriate surveys.

- Describe the biodiversity values that could be affected by the project, including:
  - Native vegetation and any ecological communities listed under the EPBC Act or FFG Act
  - Presence of, or suitable habitats for, generally protected or threatened flora listed under the EPBC Act and/or FFG Act
  - Presence and expected use of, or suitable habitats for, threatened or migratory fauna species, listed under the EPBC Act and/or FFG Act

## 3.4 Survey methods

The ecology survey scope should include:

- An updated and current desktop assessment
- Updated vegetation quality assessment and mapping
- Targeted surveys for five threatened ecological communities, 38 threatened flora species and 27 threatened fauna species

### 3.4.1 Existing information and desktop studies

The aim of the desktop assessment would be to collect the latest knowledge of species and their habitat with respect to the broader study area (i.e. 10 km buffer).

The desktop assessment should be current and include reviews of relevant ecological databases and literature including:

- The Victorian Biodiversity Atlas (VBA) database (maintained by DEECA) for records of flora and fauna species, including threatened, protected and migratory species, within a 10-km radius of the project area
- The Commonwealth Department of Climate Change, Energy the Environment and Water (DCCEEW) Protected Matters Search Tool (PMST), which predicts the occurrence of Matters of National Environmental Significance listed under the EPBC Act (search conducted 24 November 2025)
- NatureKit Maps, which provide GIS mapping, maintained by DEECA, including modelled mapping of extant and pre-1750 Ecological Vegetation Classes (EVCs) and known threatened species records
- Other GIS spatial datasets such as current Wetland Layer, Habitat Value Score and Native Vegetation Condition Score (maintained by DEECA)
- Aerial imagery of the project area and its surroundings
- Other relevant ecological assessments or reports pertaining to the project area and/or project as available

Using the above information, an updated preliminary assessment of likelihood of occurrence of threatened flora and fauna and migratory fauna should be undertaken. The results would inform the scope of the fieldwork and identify additional threatened species or communities for which targeted surveys may be undertaken during the project timeframe.

### 3.4.2 Updated Vegetation Quality Assessment

An updated Vegetation Quality Assessment will be required to satisfy requirements under the *Guidelines for the removal, destruction or lopping or native vegetation* (DEECA 2025b), as well as quantify native vegetation impacts against the threshold triggers under the referral criteria of the EE Act.

During the site assessment, the EVC, vegetation quality and extent of native vegetation should be verified against the EHP (2020). If the score is no longer accurate, a new assessment will be required.

Any new assessment should be conducted in accordance with the Habitat Hectare assessment method, as outlined in the Vegetation Quality Assessment Manual – guidelines for applying the habitat hectare scoring method (DSE 2004). Native vegetation must be assessed using version 1.3 of the ‘Vegetation Quality Field Assessment Sheet’ provided by DEECA and EVC benchmarks for the Gippsland Plain and East Gippsland Lowlands Bioregions.

### 3.4.3 Targeted surveys for threatened ecological communities and species

A targeted survey program is recommended for five threatened ecological communities, 38 threatened flora species and 27 threatened fauna species. Targeted surveys are required to determine if, and to what extent, the project will effect ecological values.

Targeted surveys should focus on areas identified as containing suitable habitat within the project area and areas with potential to be directly or indirectly impacted by the project. Targeted surveys should be conducted at appropriate times of the year according to seasonal survey requirements and using appropriate methods and survey effort to maximise the likelihood of detecting the species as summarised in Table 3 and Table 4.

Targeted surveys will be undertaken in accordance with government guidelines and requirements (where available) as specified in Table A.1 in Appendix A and summarised in Table 3 and Table 4.

## 3.5 Indicative survey program

Table 3 (vegetation and flora) and Table 4 (fauna) provide the recommended season and method for general and targeted surveys of ecological values for which additional information is required.

### 3.5.1 Program risks, assumptions and exclusions

It is envisaged that the timing of the detailed assessment fieldwork will be suitable for undertaking targeted surveys for some, but not all threatened species and communities identified as likely to occur.

Therefore, targeted surveys will be undertaken to survey for threatened species and communities for which the timing is deemed appropriate, i.e. winter 2025 to autumn 2026, and where access is permitted. For species and communities that require targeted surveys to be done outside the targeted fieldwork period, separate targeted surveys will be recommended as follow-up surveys during preparation of the impact assessment for the EES. In addition, subject to the outcomes of the detailed survey, further surveys not specified in Table 3 may also be necessary.

The recommended ecology survey program is limited to the recommended baseline ecological surveys. The program does not include impact assessment, reporting or preparation of referral documentation.

The program assumes unhindered access to the project area to conduct field surveys. Should access not be available to some properties, GCM plans to consult with DEECA regarding the proposed approach for assessment of those properties.

For some values it may also be appropriate to survey beyond the project area to provide context for impacts within the project area.

Table 3 Proposed ecological survey program for the Fingerboards Project – vegetation and threatened flora

Key to table														
Optimal	Period when species are most visible or identifiable	Spring			Summer			Autumn			Winter			Survey method
Suitable	May be visible or identifiable outside the optimal survey season	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	
Poor	Lowest chance of detecting or correctly identifying													
No survey	Species not present/visible; or survey not recommended													
Surveys completed														
Ecological value	EPBC	FFG	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
General site values														
Native vegetation and scattered trees														Vegetation Quality Assessment Method
Threatened ecological communities														
Gippsland Red Gum ( <i>Eucalyptus tereticornis</i> subsp. <i>mediana</i> ) Grassy Woodland and Associated Native Grassland	CR													Field survey
River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria	CR													Field survey
Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains	CR													Field survey
Forest Red Gum Grassy Woodland		TH												Field survey
Central Gippsland Plains Grassland		TH												Field survey
Threatened flora species														
River Swamp Wallaby-grass ( <i>Amphibromus fluitans</i> )	VU													Transects
Wavy Swamp Wallaby-grass ( <i>Amphibromus sinuatus</i> )	EN													Transects
Veined Spear-grass ( <i>Austrostipa rufis</i> subsp. <i>australis</i> )	EN													Transects
Pinkwood ( <i>Beyeria lanceolata</i> )	EN													Transects
Velvet Appleberry ( <i>Billardiera scandens</i> )	EN													Transects
Variable Bossiaea ( <i>Bossiaea heterophylla</i> )	EN													Transects
Austral Moonwort ( <i>Botrychium australe</i> )	CR													Transects
Yellow Burr-daisy ( <i>Calotis lappulacea</i> )	VU													Transects
Eastern Bitter-cress ( <i>Cardamine microthrix</i> )	EN													Transects
Forest Bitter-cress ( <i>Cardamine papillata</i> )	EN													Transects
Dwarf Kerrawang ( <i>Commersonia prostrata</i> )	EN	EN												Transects
Pale Swamp Everlasting ( <i>Coronidium gunnianum</i> )	CR													Transects
Spurred Helmet orchid ( <i>Corybas acontiflorus</i> )	EN													Transects
Fringed Helmet-orchid ( <i>Corybas fimbriatus</i> )	EN													Transects
Purple Diuris ( <i>Diuris punctata</i> var. <i>punctata</i> )	EN													Transects
Blotched Diuris ( <i>Diuris</i> sp. aff. <i>dendrobioides</i> (Bairnsdale))	CR													Transects
Bushy Hedgehog-grass ( <i>Echinopogon caespitosus</i> var. <i>caespitosus</i> )	EN													Transects
Rough-grain Love-grass ( <i>Eragrostis trachycarpa</i> )	EN													Transects
Gippsland Stringybark ( <i>Eucalyptus mackintii</i> )	VU													Transects
Forest Red-box ( <i>Eucalyptus polyanthemos</i> subsp. <i>longior</i> )	EN													Transects
Austral Crane's-bill ( <i>Geranium solanderi</i> var. <i>solanderi</i> s.s.)	EN													Transects
Clover Glycine ( <i>Glycine latrobeana</i> )	VU	VU												Transects
Wrinkle-nut Lignum ( <i>Muehlenbeckia rhyticarya</i> )	VU													Transects
Open Marshwort ( <i>Nymphoides geminata</i> )	EN													Transects
Woolly Waterlily ( <i>Philydrum lanuginosum</i> )	EN													Transects
Broad Shield-fern ( <i>Polystichum formosum</i> )	CR													Transects

Ecological value	EPBC	FFG	Spring			Summer			Autumn			Winter			Survey method
			Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	
Golden Pomaderris ( <i>Pomaderris aurea</i> )		EN													Transects
Convex Pomaderris ( <i>Pomaderris subcapitata</i> )		EN													Transects
Gaping Leek-orchid ( <i>Prasophyllum correctum</i> )	EN	CR													Transects
Long-tongue Summer-greenhood ( <i>Pterostylis aestiva</i> )		EN													Transects
Red-tip Greenhood ( <i>Pterostylis clivosa</i> )		EN													Transects
Fisch's Greenhood ( <i>Pterostylis fischiorum</i> )		EN													Transects
Cobra Greenhood ( <i>Pterostylis grandiflora</i> )		EN													Transects
Water Pimpernel ( <i>Samolus valerandi</i> )		VU													Transects
Slender Fireweed ( <i>Senecio microbasis</i> )		VU													Transects
Sprawling Cassia ( <i>Senna aciphylla</i> )		EN													Transects
Delicate New Holland Daisy ( <i>Vittadinia tenuissima</i> )		VU													Transects
Swamp Everlasting ( <i>Xerochrysum palustre</i> )	VU	CR													Transects
Sandfly Zieria ( <i>Zieria smithii</i> )		EN													Transects

Table 4 Proposed ecological survey program for the Fingerboards Project – threatened fauna

Key to table																		
Optimal	Period when species are most visible or identifiable																	
Suitable	May be visible or identifiable outside the optimal survey season																	
Poor	Lowest chance of detecting or correctly identifying																	
No survey	Species not present/visible; or survey not recommended																	
						Spring		Summer		Autumn		Winter						
		EPBC		FFG		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Survey method
Ecological value																		
Threatened fauna species																		
Birds																		
Regent Honeyeater ( <i>Anthochaera phrygia</i> )		CR		CR										Diurnal bird surveys				
Great Egret ( <i>Ardea alba modesta</i> )				VU										Wetland bird surveys – area search or transect				
Australasian Bittern ( <i>Botaurus poiciloptilus</i> )		EN		CR								Wetland bird surveys – area search or transect						
Gang-gang Cockatoo ( <i>Callocephalon fimbriatum</i> )		EN		EN								Diurnal bird surveys						
Latham's Snipe ( <i>Gallinago hardwickii</i> )		VU		VU								Wetland bird surveys – area search or transect						
Painted Honeyeater ( <i>Grantiella picta</i> )		VU		VU								Diurnal bird surveys						
White-bellied Sea-eagle ( <i>Haleolatus leucogaster</i> )				EN								Diurnal bird surveys						
Little Eagle ( <i>Hieraetus morphnoides</i> )				VU								Diurnal bird surveys						
Swift Parrot ( <i>Lathamus discolor</i> )		CR		CR								Diurnal bird surveys						
Square-tailed Kite ( <i>Lophoictinia isura</i> )				VU								Diurnal bird surveys						
Powerful Owl ( <i>Ninox strenua</i> )				VU								Nocturnal call-playback and spotlighting						
Pilotbird ( <i>Pycnoptilus floccosus</i> )		VU		VU								Diurnal bird surveys						
Australian Painted-snipe ( <i>Rostratula australis</i> )		EN		CR								Wetland bird surveys – area search or transect						
Diamond Firetail ( <i>Stagonopleura guttata</i> )		VU		VU								Diurnal bird surveys						
Masked Owl ( <i>Tyto novaehollandiae</i> )				CR								Nocturnal call-playback and spotlighting						
Sooty Owl ( <i>Tyto tenebricosa</i> )				EN								Nocturnal call-playback and spotlighting						
Reptiles																		
Lace Monitor ( <i>Varanus varius</i> )				EN								Incidental detection						
Glossy Grass Skink ( <i>Pseudemoia rawlinsoni</i> )				EN								Artificial tile grids, cameras and or active searching via transects						
Swamp Skink ( <i>Lissolepis coventryi</i> )		EN		EN								Artificial tile grids, cameras and or active searching via transects						

Ecological value	EPBC	FFG	Spring			Summer			Autumn			Winter			Survey method			
			Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug				
<b>Threatened fauna species</b>																		
<b>Mammals</b>																		
Grey-headed Flying-Fox ( <i>Pteropus poliocephalus</i> )	VU	VU													Active searches for camps			
White-footed Dunnart ( <i>Sminthopsis leucopus</i> )		VU													Baited Elliot traps and baited remote-sensing cameras			
New Holland Mouse ( <i>Pseudomys novaehollandiae</i> )	VU	VU													Baited Elliot traps and baited remote-sensing cameras			
<b>Frogs</b>																		
Giant Burrowing Frog ( <i>Heleioporus australiacus</i> )	EN	CR													Spotlighting and call-playbacks			
Green and Golden Bell Frog ( <i>Litoria aurea</i> )	VU														Spotlighting and call-playbacks			
Growling Grass Frog ( <i>Litoria raniformis</i> )	VU	VU													Spotlighting and call-playbacks			
Martin's Toadlet ( <i>Uperoleia martini</i> )	EN	EN													Spotlighting and call-playbacks			
Southern Toadlet ( <i>Pseudophryne semimarmorata</i> )		EN													Spotlighting and call-playbacks			

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# Appendices

# **Appendix A**

**Ecological values present or with potential  
to occur in the project area**

Table A.1 Ecological values present or with potential to occur in the project area and summary of information requirements

Ecological value	EPBC	FFG	Summary of existing information	Additional information required including survey method/guideline
<b>General site values</b>				
Native vegetation	n/a	n/a	<p>EHP 2020 completed detailed vegetation mapping across approximately 2,000 hectares of the project area and recorded approximately 277.42 hectares of remnant vegetation (excluding mapped 'Current Wetlands') and 1,401 large trees (in patches and scattered), consisting predominantly of large old eucalypts. EHP 2020 report included data for 67 habitat zones.</p>	<p>The assessment currency requirements specified in Chapter 3.10 of the Assessor's Handbook (DEECA 2025a), state "the site assessment must have been completed within the last three years for grassy, heathland, shrubland ecosystems including grassy woodlands, and five years for forest ecosystems. If the assessment is older than this, an accredited native vegetation assessor must verify the condition, and if the score is no longer accurate complete a new assessment".</p> <p>Given the site assessments were undertaken 5 years ago, additional site assessment is likely to be required to confirm EVCs, vegetation quality and extent of native vegetation. This should be verified against the scores provided in EHP (2020). If the score is no longer accurate, a new assessment will be required.</p> <p>Any new assessment should be conducted in accordance with the Habitat Hectare assessment method, as outlined in the Vegetation Quality Assessment Manual – guidelines for applying the habitat hectare scoring method (DSE 2004). Native vegetation must be assessed using version 1.3 of the 'Vegetation Quality Field Assessment Sheet' provided by DELWP and EVC benchmarks for Gippsland Plain Bioregion.</p>
<b>Threatened ecological communities</b>				
<b>Gippsland Red Gum (<i>Eucalyptus tereticornis</i> subsp. <i>mediana</i>) Grassy Woodland and Associated Native Grassland</b>	CR		<p>EHP 2020 recorded the community within the surveyed sections of the project area in high quality Plains Grassy Woodland remnants located within the road reserve of Fernbank-Glenaladale Road and Bairnsdale-Dargo Road. There are also high-quality remnants along the Gippsland railway reserve outside of the proposed project footprint. Patches of Plains Grassy Woodland that correspond with the community, cover a total area of 1.74 hectares, all of which lies within the surveyed sections of the project footprint. It is noted no access was available to 2705 Bairnsdale-Dargo Road at the time.</p> <p>The Minister's Assessment flagged potential misclassification of EVC which may have implications for how this threatened ecological community has been identified and mapped in EHP (2020).</p>	<p>Conduct ground-truthing surveys to verify the EVC in patches of Plains Grassy Forest which may instead be Plains Grassy Woodland.</p> <p>Subject to access to the 2705 Bairnsdale-Dargo Rd property, confirm the presence or absence of Gippsland Red Gum (<i>Eucalyptus tereticornis</i> subsp. <i>mediana</i>) Community and the implications for the extent of this community that may be impacted</p> <p>Field survey and update mapping in accordance with key characteristics and condition thresholds for the community.</p>
<b>River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria</b>	CR		<p>Not considered in EHP 2020 as this is a newly listed (2020) EPBC-listed threatened ecological community.</p> <p>The ecological community occurs only in the South East Corner IBRA Bioregion, which partially intersects the west and northern section of the project area. It occurs on alluvial landforms related to coastal river floodplains and associated sites where transient water accumulates, including floodplains, riverbanks, riparian zones, creek lines (including the floors of tributary gullies), floodplain pockets, depressions, alluvial flats, fans, terraces, and localised colluvial fans. Floodplains may be occasionally or more often saturated, waterlogged or inundated. The ecological community is typically found below 50 metres above sea-level (m ASL), although it can occur up to 250 m ASL (e.g. on floodplain pockets and plateaus above nick points).</p> <p>This community has potential to occur within, or close to, the project area and has associations within the following EVCs in the project area: Dry Valley Forest (EVC 69), Plains Grassy Forest (EVC 151), Valley Grassy Forest (EVC 47).</p>	<p>Desktop assessment and potential ground truthing to determine if the community occurs in the project area, or could be impacted by the project.</p> <p>It is recommended to review the landforms, geology and elevations of the project area within and adjoining the South East Corner IBRA Bioregion to identify where the community may occur. This may include suitable landforms areas that are outside the project area but may be indirectly impacted by the project.</p> <p>Conduct ground-truthing in areas of Dry Valley Forest, Plains Grassy Forest and Valley Grassy Forest within the project area to determine if any areas of vegetation meet the key diagnostic characteristics. This task can be completed as part of verification of EVC data required for native vegetation noted above.</p>
<b>Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains</b>	CR		<p>Field surveys within the project area and the project locality (e.g. in the area identified as low to moderate occurrence of GDEs to the north of the study area) by EHP (2020) confirmed that the surveyed areas do not support this ecological community. It is noted no access was available to 2705 Bairnsdale-Dargo Road at the time.</p>	<p>Following completion of updated groundwater study (referenced in the information for groundwater dependent ecosystems at the end of this table), review the potential for groundwater dependent ecosystems within the project area and determine if new areas require assessment to determine presence of Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains threatened ecological community.</p> <p>Updated assessment could be completed as part of verification of EVC data required for native vegetation noted above.</p>
<b>Forest Red Gum Grassy Woodland</b>		TH	<p>EHP 2020 recorded the community within the surveyed sections of the project area. The community is represented by higher quality patches of Plains Grassy Woodland and covers approximately 14.54 hectares of surveyed land within the original project footprint. It is noted no access was available to 2705 Bairnsdale-Dargo Road at the time.</p>	<p>Conduct ground-truthing surveys to verify the EVC in patches of Plains Grassy Forest which may instead be Plains Grassy Woodland.</p> <p>Subject to access to the 2705 Bairnsdale-Dargo Rd property, confirm the presence or absence of Forest Red Gum (<i>Eucalyptus tereticornis</i> subsp. <i>mediana</i>) and the implications for the extent of this community that may be impacted.</p> <p>Update the mapping accordingly. This task can be completed as part of verification of EVC data required for native vegetation noted above.</p>
<b>Central Gippsland Plains Grassland</b>		TH	<p>EHP 2020 did not record the community within the surveyed sections of the project area. It is noted no access was available to 2705 Bairnsdale-Dargo Road at the time.</p>	<p>There is potential for this community to occur in areas not yet surveyed, e.g. 2705 Bairnsdale-Dargo Road and the expanded rail siding footprint. Consideration for the potential occurrence of this community should be undertaken as part of a general field survey of 2705 Bairnsdale-Dargo Road.</p>

Ecological value	EPBC	FFG	Summary of existing information	Additional information required including survey method/guideline
<b>Threatened flora</b>				
River Swamp Wallaby-grass ( <i>Amphibromus fluitans</i> )	VU		Considered low likelihood in EHP (2020) and no targeted surveys undertaken. Suitable habitat is present, despite no records in the broader study area. GHD recommends surveys as species has a rare to uncommon distribution throughout Victoria.	Targeted survey recommended during preferred season (i.e. late spring and early summer) across all areas of suitable habitat, e.g. permanent swamps and dams and ephemeral wetlands.
Wavy Swamp Wallaby-grass ( <i>Amphibromus sinuatus</i> )		EN	Considered low likelihood in EHP (2020) and no targeted surveys undertaken. Suitable habitat is present, GHD recommends surveys as species has a rare to uncommon distribution throughout Victoria.	Targeted survey recommended during preferred season (i.e. late spring and early summer) across all areas of suitable habitat, e.g. permanent swamps and dams and ephemeral wetlands.
Veined Spear-grass ( <i>Austrostipa rufis</i> subsp. <i>australis</i> )		EN	Considered high likelihood in EHP (2020) and targeted surveys undertaken in 2016. Suitable habitat is present and <i>Austrostipa rufis</i> s.l. is abundant across the site. GHD recommends surveys.	Targeted survey recommended within suitable habitat and in areas not previously surveyed e.g. 2705 Bairnsdale-Dargo Rd and the expanded rail siding footprint.
Pinkwood ( <i>Beyeria lanceolata</i> )		EN	Considered low likelihood in EHP (2020) and no targeted surveys undertaken.	Targeted survey recommended within suitable habitat and in areas not previously surveyed e.g. 2705 Bairnsdale-Dargo Rd.
Variable Bossiaea ( <i>Bossiaea heterophylla</i> )		EN	Considered moderate likelihood in EHP (2020) and targeted surveys undertaken in all potentially suitable habitat - noting no access was available to 2705 Bairnsdale-Dargo Road at the time. Species not recorded.	Targeted survey recommended within suitable habitat and in areas not previously surveyed e.g. 2705 Bairnsdale-Dargo Rd and the expanded rail siding footprint.
Austral Moonwort ( <i>Botrychium australe</i> )		CR	Considered moderate likelihood in EHP (2020) and targeted surveys undertaken in all potentially suitable habitat - noting no access was available to 2705 Bairnsdale-Dargo Road at the time. Species not recorded.	Targeted survey recommended within suitable habitat and in areas not previously surveyed e.g. 2705 Bairnsdale-Dargo Rd and the expanded rail siding footprint.
Yellow Burr-daisy ( <i>Calotis lappulacea</i> )		VU	Considered moderate likelihood in EHP (2020) and targeted surveys undertaken in all potentially suitable habitat - noting no access was available to 2705 Bairnsdale-Dargo Road at the time. Species not recorded.	Targeted survey recommended within suitable habitat and in areas not previously surveyed e.g. 2705 Bairnsdale-Dargo Rd
Eastern Bitter-cress ( <i>Cardamine microthrix</i> )		EN	Not considered in EHP (2020). Suitable habitat is present and GHD recommends targeted surveys.	Targeted surveys recommended during spring across all areas of suitable habitat, e.g. near streams and lagoons, drainage lines and ephemeral creek lines.
Forest Bitter-cress ( <i>Cardamine papillata</i> )		EN	Not considered in EHP (2020). Suitable habitat is present and GHD recommends targeted surveys.	Targeted surveys recommended in higher quality understorey woodland and forest EVCs during spring.
Dwarf Kerrawang ( <i>Commersonia prostrata</i> )	EN	EN	From EHP 2020: Targeted surveys were undertaken across the project area in all potentially suitable habitat. This included the modified areas of Plains Aquatic Herland, Grassy Wetland and Sedge Wetland. Species not recorded. The project will result in the direct removal of wetland/aquatic habitat suitable for the Dwarf Kerrawang. Species not detected through targeted surveys within project area and has low likelihood of occurrence within project area. The extent of habitat removal potentially supporting small numbers of individuals is unlikely to impact species viability over the project life.  Noting no access was available to 2705 Bairnsdale-Dargo Road at the time.  From the Minister's Assessment: Given the limited extent of potential habitat for the species that could be affected by the project, there is low possibility that the species will be adversely affected and is therefore not considered to be a significant impact. However, if the project is considered for approval by a statutory decision-maker, further targeted surveys for the species should be conducted to the satisfaction of DEECA Gippsland Region in any areas of potential habitat for Dwarf Kerrawang. This would need to occur prior to earthworks or other disturbance. Contingency plans should be agreed with the relevant authorities for management of any plants that might be found before works which could affect areas of potential habitat are initiated.	Targeted survey recommended within suitable habitat and in areas not previously surveyed e.g. 2705 Bairnsdale-Dargo Rd and the expanded rail siding footprint, and in other areas of suitable habitat as per Minister's Assessment - e.g. wetter areas of the project area, swamps, wetlands, waterways.  Recommend consultation with DEECA Gippsland Region as part of targeted survey design.
Pale Swamp Everlasting ( <i>Coronidium gunnianum</i> )		CR	Considered moderate likelihood in EHP (2020) and targeted surveys undertaken in all potentially suitable habitat - noting no access was available to 2705 Bairnsdale-Dargo Road at the time. Species not recorded.	Targeted survey recommended within suitable habitat and in areas not previously surveyed e.g. 2705 Bairnsdale-Dargo Rd and the expanded rail siding footprint.
Spurred Hemet Orchid ( <i>Corybas aconitiflorus</i> )		EN	Considered moderate likelihood in EHP (2020) and targeted surveys undertaken during spring in all potentially suitable habitat, however this was outside the preferred season to detect the species. It is also noted no access was available to 2705 Bairnsdale-Dargo Road at the time. Species not recorded.	Targeted survey recommended during preferred season (i.e. winter) and across all areas of remnant woodland and forest EVCs with higher quality understorey.
Fringed Helmet-orchid ( <i>Corybas fimbriatus</i> )		EN	Considered moderate likelihood in EHP (2020) and targeted surveys undertaken during spring in all potentially suitable habitat, however this was outside the preferred season to detect the species. It is also noted no access was available to 2705 Bairnsdale-Dargo Road at the time. Species not recorded.	Targeted survey recommended during preferred season (i.e. winter) and across all areas of remnant woodland and forest EVCs with higher quality understorey.
Purple Diuris ( <i>Diuris punctata</i> var. <i>punctata</i> )		EN	Considered high likelihood in EHP (2020) with known population nearby to the project footprint, and targeted surveys undertaken in all potentially suitable habitat - noting no access was available to 2705 Bairnsdale-Dargo Road at the time. Species not recorded.	Targeted surveys recommended in higher quality understorey woodland and grassland/derived grassland EVCs and within areas not previously surveyed e.g. 2705 Bairnsdale-Dargo Road and areas associated with expanded rail siding footprint.
Blotched Diuris ( <i>Diuris</i> sp. aff. <i>dendroboides</i> (Bairnsdale))		CR	Not considered in EHP (2020). Suitable habitat may be present and GHD recommends targeted surveys.	Targeted surveys recommended in higher quality areas of derived grassland habitat.

Ecological value	EPBC	FFG	Summary of existing information	Additional information required including survey method/guideline
<b>Bushy Hedgehog-grass (<i>Echinopogon caespitosus</i> var. <i>caespitosus</i>)</b>		EN	Considered high likelihood in EHP (2020) and targeted surveys undertaken in all potentially suitable habitat - noting no access was available to 2705 Bairnsdale-Dargo Road at the time. Species not recorded.	Targeted surveys recommended in higher quality understorey woodland and forest EVCs and within areas not previously surveyed e.g. 2705 Bairnsdale-Dargo Road.
<b>Rough-grain Love-grass (<i>Eragrostis trachycarpa</i>)</b>		EN	Considered moderate likelihood in EHP (2020) and targeted surveys undertaken during spring in all potentially suitable habitat, however this was outside the preferred season to detect the species. It is also noted no access was available to 2705 Bairnsdale-Dargo Road at the time. Species not recorded.	Targeted survey recommended during preferred season (i.e. autumn) and across suitable areas, e.g. near streams and lagoons, drainage lines, ephemeral creek lines and wetlands.
<b>Gippsland Stringybark (<i>Eucalyptus mackintii</i>)</b>		VU	Considered low likelihood EHP (2020) and no targeted surveys occurred. Suitable habitat occurs although on the edge of known species distribution.	Targeted survey recommended to be undertaken during general surveys, VQA assessments and <i>E. polyanthemos</i> subsp. <i>longior</i> surveys.
<b>Forest Red-box (<i>Eucalyptus polyanthemos</i> subsp. <i>longior</i>)</b>		EN	This is a subspecies of the broader species <i>Eucalyptus polyanthemos</i> ( <i>sensu lato</i> [s.l.]). EHP (2020) recorded the presence of <i>Eucalyptus polyanthemos</i> s.l. but not to subspecies level so it is not known which subspecies occurs on site. The report listed approximately 350 large trees in patches and scattered trees as <i>E. polyanthemos</i> s.l. however there are likely to be more occurrences of the broader species across the project area.	Targeted survey recommended within suitable habitat and in areas not previously surveyed e.g. 2705 Bairnsdale-Dargo Rd.
<b>Austral Crane's-bill (<i>Geranium solanderi</i> var. <i>solanderi</i> s.s.)</b>		EN	Not considered in EHP (2020), however EHP (2020) detected at least two <i>Geranium</i> specimens that were not identified to species level.	Targeted survey recommended within suitable habitat across the project area, e.g. higher quality areas of grassy woodland, derived grassland and forest EVCs.
<b>Clover Glycine (<i>Glycine latrobeana</i>)</b>	VU	VU	Considered low likelihood in EHP (2020) and no targeted surveys completed. GHD considers moderate likelihood. There are new (2019) records of the species in Lowland Herb-rich Forest EVC, near Beverley Road and Stoney Road intersection to the north of the project area.	Targeted surveys recommended in higher quality understorey woodland and forest EVCs and within areas not previously surveyed e.g. 2705 Bairnsdale-Dargo Road.
<b>Wrinkle-nut Lignum (<i>Muehlenbeckia rhyticarya</i>)</b>		VU	Considered moderate likelihood in EHP (2020) and targeted surveys undertaken in all potentially suitable habitat - noting no access was available to 2705 Bairnsdale-Dargo Road at the time. Species not recorded.	Targeted survey recommended within suitable habitat and in areas not previously surveyed e.g. 2705 Bairnsdale-Dargo Rd.
<b>Open Marshwort (<i>Nymphoides geminata</i>)</b>		EN	Considered moderate likelihood in EHP (2020) and targeted surveys undertaken in all potentially suitable habitat - noting no access was available to 2705 Bairnsdale-Dargo Road at the time. Species not recorded.	Targeted survey recommended within suitable wetland areas and in areas not previously surveyed e.g. 2705 Bairnsdale-Dargo Road and any wetter areas associated with expanded rail siding.
<b>Woolly Waterlily (<i>Philydrum lanuginosum</i>)</b>		EN	Considered high likelihood in EHP (2020) and targeted surveys undertaken in all potentially suitable habitat - noting no access was available to 2705 Bairnsdale-Dargo Road at the time. Species not recorded.	Targeted survey recommended within suitable wetland areas and in areas not previously surveyed e.g. 2705 Bairnsdale-Dargo Road and any wetter areas associated with expanded rail siding.
<b>Broad Shield-fern (<i>Polystichum formosum</i>)</b>		CR	Considered moderate likelihood in EHP (2020) and targeted surveys undertaken in all potentially suitable habitat - noting no access was available to 2705 Bairnsdale-Dargo Road at the time. Species not recorded.	Targeted survey recommended within suitable habitat and in areas not previously surveyed e.g. 2705 Bairnsdale-Dargo Rd.
<b>Golden Pomaderris (<i>Pomaderris aurea</i>)</b>		EN	Considered low likelihood in EHP (2020) and no targeted surveys completed. GHD considers high likelihood, as there is a single 2003 record of species close to western end (plantation section) of project area but outside project impact footprint. However, targeted surveys for other species have been conducted in remnant vegetation in the vicinity and this species may have been visible and flowering at this time however was not recorded. Noting no access was available to 2705 Bairnsdale-Dargo Road at the time.	Recommend verification of the existing record, and if confirmed, conduct targeted surveys of remnant vegetation of moderate to high quality in areas not already surveyed e.g. 2705 Bairnsdale Dargo Road.
<b>Convex Pomaderris (<i>Pomaderris subcapitata</i>)</b>		EN	Not considered in EHP (2020). GHD considers moderate likelihood, as a single 2022 record of species is located few kilometres north of project area. However, targeted surveys for other species have been conducted in remnant vegetation in the vicinity and this species would have been visible and flowering at this time however was not recorded. Noting no access was available to 2705 Bairnsdale-Dargo Road at the time.	Recommend targeted surveys of remnant vegetation of moderate to high quality in areas not already surveyed e.g. 2705 Bairnsdale Dargo Road.
<b>Gaping Leek-orchid (<i>Prasophyllum correctum</i>)</b>	EN	CR	From EHP (2020): Considered moderate likelihood and targeted surveys undertaken in all potentially suitable habitat, except for the rail siding or 2705 Bairnsdale-Dargo Road. Species not detected through targeted surveys within project area. DELWP indicated at the time the Gaping Leek-orchid occurs in two undisclosed locations within rail reserve and therefore has a high likelihood of occurrence within this location.  From Minister's Assessment: Although the species was not detected by the proponent's targeted surveys, the consequences for the species of further impacts resulting from the project would be serious even if the likelihood of such consequences occurring would be low. I note that DELWP Gippsland Region included Gaping Leek-orchid among the species for which species habitat units would contribute to the overall offset calculation if the project were to proceed (Tabled Document 521). The potential for the project to affect the surviving population of Gaping Leek-orchid cannot be ruled out and if impact did occur it would likely be significant.	Targeted survey recommended within suitable remnant vegetation of moderate to high quality in areas not already surveyed e.g. 2705 Bairnsdale Dargo Rd as well as in areas associated with expanded rail siding. Noted that apparently DEECA has fenced the populations off within the rail reserve and provided GCM with spatial files designated as no-go zones.

Ecological value	EPBC	FFG	Summary of existing information	Additional information required including survey method/guideline
Long-tongue Summer-greenhood ( <i>Pterostylis aestiva</i> )		EN	Not considered in EHP (2020). GHD considers moderate likelihood due to a 2019 record, from near the Stoney Road and Beverleys Road intersection in the Stockdale State Forest, north west of project area, within Lowland Forest EVC.	Targeted surveys recommended in higher quality understorey woodland and forest EVCs as well as within areas not previously surveyed e.g. 2705 Bairnsdale-Dargo Road.
Red-tip Greenhood ( <i>Pterostylis clivosa</i> )		EN	Considered in EHP as synonymous species <i>Pterostylis</i> sp. aff. <i>parviflora</i> (Southern Victoria) and targeted surveys undertaken in 2016. Species was not detected.	Targeted surveys recommended in all areas of suitable habitat
Fisch's Greenhood ( <i>Pterostylis fischiorum</i> )		EN	Considered high likelihood in EHP (2020) and targeted surveys undertaken in all potentially suitable habitat - noting no access was available to 2705 Bairnsdale-Dargo Road at the time. Species not recorded.	Targeted surveys recommended in higher quality understorey woodland and forest EVCs as well as within areas not previously surveyed e.g. 2705 Bairnsdale-Dargo Road.
Cobra Greenhood ( <i>Pterostylis grandiflora</i> )		EN	Considered moderate likelihood in EHP (2020) and targeted surveys undertaken in all potentially suitable habitat - noting no access was available to 2705 Bairnsdale-Dargo Road at the time. Species not recorded. EHP (2020) flagged a limitation that the targeted surveys were undertaken outside the known flowering/emergence for this species.	Targeted surveys recommended in higher quality understorey woodland and forest EVCs as well as within areas not previously surveyed e.g. 2705 Bairnsdale-Dargo Road.
Water Pimpernel ( <i>Samolus valerandi</i> )		VU	Considered moderate likelihood in EHP (2020) and targeted surveys undertaken in all potentially suitable habitat - noting no access was available to 2705 Bairnsdale-Dargo Road at the time. Species not recorded.	Targeted survey recommended during preferred season (i.e. late spring and early summer) across all areas of suitable habitat, e.g. permanent swamps and dams and ephemeral wetlands.
Slender Fireweed ( <i>Senecio microbasis</i> )		VU	Not considered in EHP (2020) however EHP (2020) detected at least two <i>Senecio</i> specimens that were not identified to species level.	Targeted surveys recommended in higher quality understorey woodland and forest EVCs.
Sprawling Cassia ( <i>Senna aciphylla</i> )		EN	Not considered in EHP (2020). GHD considers moderate likelihood, as a single 2022 record of species is located few kilometres north of project area. However, targeted surveys for other species have been conducted in remnant vegetation in the vicinity and this species would have been visible and flowering at this time however was not recorded. Noting no access was available to 2705 Bairnsdale-Dargo Road at the time.	Recommend targeted surveys of remnant vegetation of moderate to high quality in areas not already surveyed e.g. 2705 Bairnsdale Dargo Road.
Delicate New Holland Daisy ( <i>Vittadinia tenuissima</i> )		VU	Considered moderate likelihood in EHP (2020) and targeted surveys undertaken in all potentially suitable habitat - noting no access was available to 2705 Bairnsdale-Dargo Road at the time. Species not recorded.	Recommend targeted surveys of remnant vegetation of moderate to high quality in areas not already surveyed e.g. 2705 Bairnsdale Dargo Road.
Swamp Everlasting ( <i>Xerochrysum palustre</i> )	VU	CR	Considered high likelihood in EHP (2020) and targeted surveys undertaken in all potentially suitable habitat. Species not recorded. Species known from Saplings Morass Flora Reserve, near the proposed rail siding.  From Minister's Assessment: Targeted surveys for the EES failed to detect the species within the area that would be affected by project works. I note that DELWP Gippsland Region did not include Swamp Everlasting among the species for which species habitat units would contribute to the overall offset calculation if the project were to proceed (Tabled Document 521). Given the limited extent of potential habitat for the species that could be affected by the project, there is not considered to be adverse effects of significance for this species.  GHD considers it prudent to survey the expanded rail siding footprint to mitigate risks associated with this species.	Targeted survey recommended within suitable habitat in areas not previously surveyed e.g. the expanded rail siding footprint.
Sandfly Zieria ( <i>Zieria smithii</i> )		EN	Recorded in targeted surveys completed for EHP (2020) - noting no access was available to 2705 Bairnsdale-Dargo Road at the time.  GHD considers it prudent to survey 2705 Bairnsdale-Dargo Road to understand extent of habitat within the project area.	Recommend targeted surveys of remnant vegetation of moderate to high quality in areas not already surveyed e.g. 2705 Bairnsdale Dargo Road.
<b>Threatened fauna</b>				
<b>Mammals</b>				
Grey-headed Flying-Fox ( <i>Pteropus poliocephalus</i> )	VU		Surveys conducted by EHP (2020) on the 26 August 2019 detected this species within the project area. No camps were present on site; the closest camp being approximately 25 km east of the project area. This species was recorded within the site and therefore is known to at least occasionally utilise the site for foraging purposes. Assumed to still be present and searches for new camps can be incorporated into other site surveys for other species suggested below.	Targeted surveys are unlikely to be required for this species and at least occasional visitation would be assumed. Active searches for camps will be undertaken during general habitat surveys.
New Holland Mouse ( <i>Pseudomys novaehollandiae</i> )	VU	EN	Marginal habitat within the project area. Habitat for the New Holland Mouse includes coastal heath, sclerophyll forests, open forests and grasslands. Woodland habitats within the site may provide low quality habitat for this species. Given there are numerous records at Providence Ponds Flora and Fauna Reserve approximately 10 km south of the project area.	Surveys for New Holland mouse are recommended. There are no survey guidelines for the species, although the Elliot trapping method is generally accepted within the industry and likely a suitable method for this species. Survey guidelines for small mammals utilising Elliott traps includes 20 Elliott traps per sampling site with a minimum of two sampling sites per 5 hectares over four nights (DCCEEW 2010c). Full survey extent will be determined once the area of potentially suitable habitat is ascertained.
Yellow-bellied Sheathtail Bat ( <i>Saccopteryx flaviventris</i> )		VU	This species was recorded within the project area by EHP (2020) and therefore is known to at least occasionally utilise the site or potentially roost within hollow-bearing trees.	This species is assumed present. Targeted surveys for this species are unlikely to be required.

Ecological value	EPBC	FFG	Summary of existing information	Additional information required including survey method/guideline
White-footed Dunnart ( <i>Sminthopsis leucopus</i> )		VU	Not considered by EHP (2020) however numerous records (>100) with 10 km of the project area. Suitable habitat present in heathy woodlands and forest in the project area.	There are no survey guidelines for the species, although the Elliot trapping method is generally accepted within the industry and likely a suitable method for this species. Survey guidelines for small mammals utilising Elliott traps includes 20 Elliott traps per sampling site with a minimum of two sampling sites per 5 hectares over four nights (DCCEEW 2010c). Full survey extent will be determined once the area of potentially suitable habitat is ascertained.
Platypus ( <i>Ornithorhynchus anatinus</i> )		VU	New FFG-listed species as of January 2021. The VBA contains 10 records within 10 km of the project area, the most recent in 2021. During targeted fish survey, a single male was observed in the Mitchell River in November 2018 (EHP 2020). Other waterways within the project area do not contain suitable habitat for the species, and they are not expected to use habitats along waterways such as Perry Gully, Simpson Gully or Lucas Creek on a permanent or frequent basis given the ephemeral nature of these drainage lines (EHP 2020).	This species is assumed present. Targeted surveys for this species are unlikely to be required.
<b>Birds</b>				
Regent Honeyeater ( <i>Anthochaera phrygia</i> )	CR	CR	The Regent Honeyeater occupies open and forests and woodlands dominated by Box-ironbark eucalypts. Species is highly mobile and capable of dispersing long distances, foraging on nectar from eucalypts and mistletoe. This species has been recorded four times approximately 13 km from the site in 2011. Habitat is limited to woodland and forests mapped within the project area.	Habitat for the Regent Honeyeater is likely limited to foraging habitat and is considered a rare potential visitor to the project area and therefore is unlikely to require specific targeted survey, though would be considered in general diurnal bird surveys.
Eastern Great Egret ( <i>Ardea alba modesta</i> )		VU	Preferred habitat for this species includes wetlands, river margins, dams, lakes, estuaries and mudflats. Habitat for this species within the project area will include mapped wetlands and dams. There are no recent records within the study area; however, this species is highly mobile and will opportunistically use an array of waterbodies when dispersing to high quality habitat.	This species is considered a rare potential visitor to the project area and therefore is unlikely to require specific targeted survey, though would be considered in wetland bird surveys.
Australasian Bittern ( <i>Botaurus poiciloptilus</i> )	EN	CR	The Australasian Bittern prefers wetland habitat associated with dense vegetation including sedges, rushes and reeds and is known to be highly mobile. There is potential wetland habitat present within the project area; however, there no recent records within 10 km of the project area.	This species is considered a rare potential visitor to the project area and therefore is unlikely to require specific targeted survey, though would be considered in wetland bird surveys from October to March (BirdLife, 2017).
Gang-gang Cockatoo ( <i>Callocephalon fimbriatum</i> )	EN	EN	New EPBC-listed species as of 02/02/2022. Foraging habitat for this species may occur within the woodlands and scattered trees present within the project area. This species has been recorded 13 times within 10 km of the project area, with the most recent record approximately 6 km from the project area in 2024.	There are no survey guidelines for this species. Diurnal bird surveys are an acceptable method. This species is often found in open eucalypt forests and woodlands during the autumn and winter months. This species breeds between October and January utilising hollows.
Latham's Snipe ( <i>Gallinago hardwickii</i> )	VU	VU	New EPBC-listed species as of 05/01/2023 and FFG-listed species as of 18/9/2025. Habitat for this species includes permanent and ephemeral wetlands with vegetation cover for roosting including tussock grasses, grasslands, reeds and rushes. Wetlands are present within the site and have the potential to provide habitat for this species. This species has been recorded six times with the most recent record within 10 km of the site in 2019.	There are no survey guidelines for this species. This species can be detected by conducting area searches or transects in wetland habitats between October and February.
Painted Honeyeater ( <i>Grantiella picta</i> )	VU	VU	Habitat for this species includes dry and open forests and woodlands with strong association with mistletoe. Although there are no records within a 10 km radius of the project area, this species has the potential to utilise forestry and woodland habitat present within the project area.	This species is considered a rare potential visitor to the project area and therefore is unlikely to require specific targeted survey, though would be considered in diurnal bird surveys.
White-bellied Sea-Eagle ( <i>Haliaeetus leucogaster</i> )		EN	Found in coastal, marine and large freshwater habitats including lakes, wetlands, rivers and billabongs. This species has the potential to hunt within the site; however, is likely limited to being an occasional fly over. This species has been recorded recently in 2010 approximately 7 km from the project area.	There are no survey guidelines for this species. Diurnal bird surveys are an acceptable method.
Little Eagle ( <i>Hieraetus morphnoides</i> )		VU	Widespread over diverse habitats across most of Australia, from coastal to inland forest, woodland, open scrub and tree-lined watercourses. Most abundant where open country mixes with wooded or forested hills.	There are no survey guidelines for this species. Diurnal bird surveys are an acceptable method.
White-throated Needletail ( <i>Hirundapus caudacutus</i> )	VU	VU	This species is almost exclusively aerial and will occur over most habitats. Habitat for this species within the project area is minimal; however, this species may occasionally use the airspace above woodland and forest habitats. There are no recent records; however, this species has historically been recorded within the study area.	Targeted surveys are unlikely to be required for this species, though would be considered in general diurnal bird surveys.
Swift Parrot ( <i>Lathamus discolor</i> )	CR	CR	EHP (2020) considered this species as an occasional visitor to the project area over winter months. Habitat for the Swift Parrot includes forests and woodlands containing eucalypts, particularly Box Ironbark Forest. This species may utilise the woodland to forage, over the winter period. There are no recent records within 10 km of the project area; however, there are sporadic records throughout Gippsland which may suggest a small chance for this species to utilise eucalypts present within the project area.	The Swift Parrot has the potential to occasionally utilise the project area for foraging but is unlikely to rely on habitat present. Therefore targeted surveys are unlikely to be required. Occasional use by the species is assumed though will be considered in general diurnal bird surveys.
Square-tailed Kite ( <i>Lophoictinia isura</i> )		VU	Habitat for this species includes woodlands and open forests where the species will hunt for food above the canopy. This species has the potential to utilise woodland and forest habitat present within the project area. This species has been recorded once within 10 km of the project area.	There are no survey guidelines for this species. Diurnal bird surveys are an acceptable method.

Ecological value	EPBC	FFG	Summary of existing information	Additional information required including survey method/guideline
Powerful Owl ( <i>Ninox strenua</i> )		VU	Targeted surveys completed by EHP (2020) did not detect this species between the 26 and 29 August 2019. Foraging habitat for this species has the potential to occur within the woodland and forest habitat mapped within the project area and may roost in large hollow-bearing trees. Species is highly mobile and is known to disperse through treelined watercourses when hunting for prey.	Nocturnal call playbacks are the preferred method for this species followed by spotlighting preferably surveying during the breeding season in spring when individuals are likely to call (Loyn, McNabb, & Machunter, 2011).
Pilotbird ( <i>Pycnoptilus floccosus</i> )	VU	VU	New EPBC-listed species as of 02/02/2022. Areas mapped as Lowland Forest that have dense understorey vegetation have the potential to support this species. This species has been recorded three times within a 10 km radius of the project area, with the most recent record approximately 6 km in 2024.	There are no survey guidelines for this species. Diurnal bird surveys are an acceptable method.
Australian Painted-snipe ( <i>Rostratula australis</i> )	EN	CR	This species will utilise freshwater wetlands with emergent tussocks, rushes and sedges as well as dams and inundated pastures. This species has the potential to utilise wetland habitat present within the project area. There are no recent records of this species within 10 km of the project area. This species is cryptic, and records may not accurately represent distribution.	This species is considered a rare potential visitor to the project area and therefore is unlikely to require specific targeted survey, though would be considered in wetland bird surveys.
Diamond Firetail ( <i>Stagonopleura guttata</i> )	VU	VU	New EPBC-listed species as of 31/03/2023. This species occurs in eucalypt and acacia woodlands, open forests and lightly timbered habitats including farmland, scattered trees and grasslands. This species has the potential to utilise woodland and forest habitat present within the site. There are no recent records within 10 km of the site; however, there is a historic record present from 2005 within 10 km of the project area.	Targeted surveys are unlikely to be required for this species, though would be considered in general diurnal bird surveys.
Masked Owl ( <i>Tyto novaehollandiae</i> )		CR	Targeted surveys completed by EHP (2020) did not detect this species between the 26 and 29 August 2019. The Masked Owl inhabits tall eucalypt forests and a range of forests and woodlands including forest and agricultural mosaics. There are no recent records for this species within 10 km of site; however, there is potential habitat for this species is present as scattered trees, woodlands and forests within the project area.	Nocturnal call-playback and spotlighting in the spring months during breeding season. There are no survey guidelines for this species; however, nocturnal call-playback and spotlighting are considered an acceptable method for owls.
Sooty Owl ( <i>Tyto tenebricosa</i> )		EN	The Sooty Owl will utilise temperate and dry rainforest as well moist Eucalypt forests. Although habitat for this species is limited within the site, there is two recent records approximately 8 km from the project area in 2020.	There are no survey guidelines for this species; however, nocturnal call-playback and spotlighting are considered an acceptable method for owls.
<b>Reptiles</b>				
Glossy Grass Skink ( <i>Pseudemoia rawlinsoni</i> )		EN	Habitat includes swamp and lake edges, saltmarshes and boggy creeks with dense vegetation. EHP (2020) did not conduct targeted surveys on the basis that suitable habitat was not present. GHD has deemed that potential habitat is present for this species within the project area.	There are no survey guidelines for this species; however artificial tile grids are considered the most effective method. A combination of tile grids, cameras and or active searching is expected to be used to be determined based on methods that won't interfere with existing land use.
Swamp Skink ( <i>Lissolepis coventryi</i> )	EN	EN	Known from swamp scrub habitat in cool, temperate, low-lying areas, including wetlands, river margins, lakes, swamp margins and estuarine areas with a dense shrub layer, particularly in near-coastal areas across southern Victoria. Often associated with stands of paperbark and tea-tree, usually in heathy or scrubby areas. GHD has deemed that potential habitat is present for this species within the project area.	There are no survey guidelines for this species; however artificial tile grids are considered the most effective method. A combination of tile grids, cameras and or active searching is expected to be used to be determined based on methods that won't interfere with existing land use.
Lace Monitor ( <i>Varanus varius</i> )		VU	This species is highly mobile and prefers well-timbered woodlands and forests. Habitat for this species includes all woodlands and forests present within the project area. This species has been recorded two times with the most recent record approximately 7.5 km from the project area in 2020.	There are no survey guidelines for this species. Incidental detection during general habitat surveys.
<b>Frogs</b>				
Giant Burrowing Frog ( <i>Heleioporus australiacus</i> )	EN	CR	Targeted surveys were conducted approximately seven years ago in November 2018 (EHP 2020). Habitat for this species may occur within/around dams, gullies and ephemeral streams. Targeted surveys conducted between 27 and 30 of November 2018 did not detect this species.	Targeted surveys (including spotlight surveys and call-playback) should be conducted between September to March within one week of heavy rainfall over 50 mm in seven days. Surveys as a minimum need to be conducted over four nights using a spotlight on foot and by road (DCCEEW, 2010b).
Green and Golden Bell Frog ( <i>Litoria aurea</i> )	VU		The Green and Golden Bell Frog is known to utilised vegetated wetlands, farm dams, drains and flooded paddocks. Although there are no recent records, potential habitat is present for this species within the project area.	Targeted surveys (including spotlight surveys and call-playback) should be conducted September to March for a minimum of four nights under ideal conditions. Ideal conditions include warm and windless nights post rainfall (DCCEEW, 2010b).
Growling Grass Frog ( <i>Litoria raniformis</i> )	VU	VU	The Growling Grass Frog will utilise well-connected permanent and semi-permanent waterbodies including farm dams, vegetated wetlands, flooded paddocks and rivers that contain submergent vegetation. This species has no recent records; however, there is potential habitat for this species within the project area.	Targeted surveys (including spotlight surveys and call-playback) should be conducted between November to December for a minimum of two nights under ideal conditions (DCCEEW, 2010b).
Martin's Toadlet ( <i>Uperoleia martini</i> )	EN	EN	This species was not listed at the time of EHP (2020). Martin's Toadlet will utilise forests, woodlands, shrublands, flooded grasslands and cleared paddocks. There are no recent records within 10 km of the project area; however, there are records approximately 16 km south of the project area from 2011 and suitable habitat is present within the project area.	There are no survey guidelines for this species; however, nocturnal call-playbacks during the breeding season are considered acceptable.

Ecological value	EPBC	FFG	Summary of existing information	Additional information required including survey method/guideline
Southern Toadlet ( <i>Pseudophryne semimarmorata</i> )		EN	Southern Toadlet habitat includes depressions, dams and watercourses in woodlands and open forests. This species has been recorded 19 times with the most recent record in 2011 approximately 7 km from the site. The Lowland Forest, ephemeral drainage lines and dams have the potential to provide habitat.	Targeted surveys (including spotlight surveys and call-playback) should be conducted between late March to early May with at least one survey in April. There are no published survey guidelines for this species but the recommended approach follows industry best practice as published in De Angelis and Cleland (2023).
<b>Fish</b>				
Australian Grayling ( <i>Prototroctes maraena</i> )	VU	EN	Presence confirmed in the Mitchell River outside of the project area with the collection of two individuals during fish surveys in November 2018 (EHP 2020). The VBA also contains records in the Mitchell River with the last record in February 2021. Other waterways within the project area do not contain suitable habitat for the species, or connectivity with the Mitchell River that would allow passage (EHP 2020).	No additional targeted surveys are warranted.
Dwarf Galaxias ( <i>Galaxiella pusilla</i> )	EN	EN	<p>The VBA contains a single record from 1977 within 10 km of the project area while EHP (2020) suggest they were previously reported within 20 km in Cobblers Creek in 2012. Targeted surveys undertaken within and adjacent to the project area in November 2018 (EHP 2020). Ten dams and the Mitchell River were surveyed with no individuals collected (EHP 2020). EHP (2020) and Aquatica Environmental (2016) suggest that while waterways within the project area have some potential habitat for the species, this habitat is considered sub-optimal and there is a low likelihood of occurrence.</p> <p>Furthermore, in offstream habitats (such as the dams and gullies within the project area), the species relies on seasonal flooding and connectivity to other areas where they occur for habitat and population replenishment (Saddlier et al. 2010). Although the Nation Recovery Plan for the species state that their range includes the Mitchell River (Saddlier et al. 2010), the lack of connectivity between the river and waterways within the project area would restrict the species occurrence</p>	No additional targeted surveys are warranted.
<b>Ramsar sites</b>				
Gippsland Lakes			<p>The Ramsar site is approximately 50 km downstream from the project area. EHP (2020) highlighted that the Perry River long-term data indicated no material impact heavy metals, sediment and nutrients (EHP 2020). Minor increase in annual sediment load to the Mitchell River (EHP 2020).</p> <p>The Ministers assessment noted that adverse risks from out of normal operations could lead to direct impacts on the Ramsar site and need to be considered.</p>	The footprint has changed and there is an approximate 1 km buffer from the Mitchell River as well as creating conservation areas around Simpson Gully, Perry Gully and Lucas Creek. The impacts to the Gippsland Lakes will need to be investigated for potential impacts and mitigation and whether these are likely to exceed Ramsar limits of acceptable change.
<b>Groundwater dependent ecosystems (GDEs)</b>				
			<p>GDEs within the project area reliant on the surface expression of groundwater (i.e., rivers wetlands and springs), or groundwater (i.e., terrestrial vegetation) were identified and mapped (Austral Research and Consulting 2020; EHP 2020).</p> <p>The Minister's Assessment stated "<i>It would have been preferable for the proponent's EES to have provided more definitive information about the project's potential impacts on GDEs</i>".</p> <p>A groundwater study is being undertaken in 2025 which will provide additional information on the potential locations of groundwater dependent ecosystems within the project area.</p>	Following completion of updated groundwater study, review the potential for groundwater dependent ecosystems within the project area.



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