



Rare or Threatened Flora & Fauna Surveying of the proposed Kalbar Fingerboards Mineral Sands Project site

SITE ADDRESS: Fingerboards Mineral Sands Project,
Glenaladale, Victoria

REPORT DATE: 2 November 2020

TREETEC REFERENCE: glen1120bj

PREPARED FOR:

Submitter 813

PREPARED BY:

Bradley Jenner

Botanist

(03) 8644 8005

admin@treetec.net.au

Contents

Acknowledgements	3
1 Introduction.....	3
1.1 Purpose.....	3
1.2 Background.....	3
1.3 Scope	3
1.4 Survey methods.....	3
1.5 Limitations	4
2 Results.....	4
2.1 Rare or threatened flora and fauna survey results	4
2.1.1 Flora	4
2.1.2 Fauna.....	6
3 Discussion.....	6
3.1 Rare or threatened flora and fauna legislation and policy	7
4 Conclusion and Recommendations	8
5 References.....	13
6 Appendix 1. Rare or threatened flora and fauna survey methods.....	14
7 Appendix 2. Rare or threatened flora survey results	15
8 Appendix 3. Incidental observations recorded within the study area	16
9 Appendix 4. Assumptions and Limitations	17

Acknowledgements

Thanks is given to the following people for their contribution to this work:

- David De Angelis for leading fauna surveying and providing input for this report;
- [REDACTED] for providing information about the occurrence of flora; and,
- [REDACTED] families for providing property access and site information guidance.

1 Introduction

1.1 Purpose

The purpose of this document is to record the results of rare or threatened flora and fauna surveying of selected areas within the Fingerboards Mineral Sands Project site and to provide a summary of results.

1.2 Background

Treetec were engaged by community members to carry out rare or threatened flora and fauna surveying of selected areas within the Fingerboards Mineral Sands Project site. This engagement was in response to concerns over possible shortfalls in the mines planning developments. The Fingerboards Mineral Sands Project is a proposed open pit mining operation that includes infrastructure construction and has potential to cause direct and inadvertent ecological impacts both within and outside the 1,675-hectare project area boundary. A potential ecological impacts assessment of the project location has been reported by Ecology and Heritage Partners Pty Ltd (2020).

1.3 Scope

- Undertake flora and fauna surveying to detect the presence of rare or threatened flora and fauna within selected areas of the Fingerboards Mineral Sands Project site.
- Provide details about potential legislative implications relevant to any rare or threatened flora or fauna detected during this survey work.
- Summarise aspects of the ecology and conservation status of any rare or threatened flora or fauna detected during this survey work.
- Provide details about any recommendations for further ecological investigation including targeted surveys for rare or threatened flora or fauna that may be impacted by the project.

1.4 Survey methods

Two zoological and botanical field survey specialists carried out the surveying. Surveying was undertaken only within the few selected areas of the proposed Kalbar Fingerboards Mineral Sands Project site over the period of 23rd-25th October 2020. Surveying was also undertaken outside the site boundary where adverse ecological impacts caused by planned mining operations are highly likely (i.e. downstream of major planned works). Due to time constraints, surveying focused on areas of perceived higher quality remnant vegetation and habitats due to their increased likelihood of harbouring the target species. Time constraints also caused surveying to be brief and cursory. All taxa with state and federal statutory and non-statutory conservation status listings with a reasonable likelihood of occurring within site were either targeted or recorded opportunistically if encountered. Refer to Appendix 1 for descriptions of the survey methods that were employed.

1.5 Limitations

For a list of assumptions and limitations for this report refer to Appendix 4. Limitations on survey efficacy and the detectability of rare or threatened species are considered in section 3.1.

2 Results

2.1 Rare or threatened flora and fauna survey results

2.1.1 Flora

Rare or threatened flora detections are outlined in Appendix 2. Conservation statuses listed in Appendix 2 refer to non-statutory Victorian conservation assessment categories listed on the Advisory List of Rare Or Threatened Plants In Victoria – 2014 (DEPI 2014). Categories from this list that are applicable to detections made during this survey are represented by the letters v (vulnerable), r (rare) and k (poorly known). These category explanations follow:

- *“Vulnerable in Victoria: not presently endangered but likely to become so soon due to continued depletion; occurring mainly on sites likely to experience changes in land-use which would threaten the survival of the plant in the wild; or, taxa whose total population is so small that the likelihood of recovery from disturbance, including localised natural events such as drought, fire or landslip, is doubtful”.*
- *“Rare in Victoria: rare but not considered otherwise threatened - there are relatively few known populations or the taxon is restricted to a relatively small area”.*
- *“Poorly Known in Victoria: poorly known and suspected, but not definitely known, to belong to one of the above categories (x, e, v or r) within Victoria. At present, accurate distribution information is inadequate”.*

A summary of the rare or threatened flora detected during this fieldwork is provided in the following paragraphs and plates one to nine show example photographs of each of these taxa taken during surveying.

Wavy Swamp Wallaby-grass (*Amphibromus sinuatus*) (Vic conservation status: vulnerable)

Wavy Swamp Wallaby-grass is an aquatic perennial grass that grows in spreading patches on the edges of permanent to semi-permanent water-bodies. It has very few distribution records across Victoria. This species was found growing at the edge of one of the dams at the 2705 Bairnsdale-Dargo Rd, Glenaladale property and is likely to be present in other parts of the project area supporting potential habitat.

Eastern Bitter-cress (*Cardamine microthrix*) (Vic conservation status: vulnerable)

Eastern Bitter-cress is a small delicate herb with an annual life cycle that grows in water retentive soils near water drainage and accumulation sites. The delicate and sensitive nature of Eastern Bitter-cress means that it likely lacks tolerance to changes to the environmental conditions patterns to which it is adapted. It has very few distribution records across Victoria. Populations were observed growing as small discrete patches of individuals along Honeysuckle Creek Tributary and the major gully of the 2705 Bairnsdale-Dargo Rd, Glenaladale property.

Pale Swamp Everlasting (*Coronidium gunnianum*) (Vic conservation status: vulnerable)

Pale Swamp Everlasting has a widespread but rare distribution in Victoria predominantly across lowland landscapes at seasonally water retentive sites. The decline of Pale Swamp Everlasting is being caused predominantly by changes in land use processes including habitat destruction, wetland drainage and groundwater hydrology modification. This species was found growing along a section of the Honeysuckle Creek tributary.

Helmet Orchid (*Corybas* sp.) (Vic conservation status: ?)

A colony of an unidentified Helmet Orchid species was detected growing within the riparian zone of a tributary of Honeysuckle Creek. The identity was not able to be determined due to a lack of the required flower character observations. The flowering season is likely to be from late autumn to early spring. The identity is likely to be *Corybas aconitiflorus*, *C. fimbriatus* or *C. incurvus* due to their occurrence proximity to this detection. *C. aconitiflorus*, *C. fimbriatus* are both listed as rare (r) species on the Advisory List of Rare Or Threatened Plants In Victoria – 2014 (DEPI 2014).

Slender Tick-trefoil (*Desmodium varians*) (Vic conservation status: poorly known)

Slender Tick-trefoil is a deeply tap rooted small perennial herb that endures drought periods by reducing activity and foliage production. It is uncommonly encountered across its Victorian range and occurs mostly in woodlands and open forests. Within the study area, it was found growing on the properties at 1520 Fernbank-Glenaladale Rd, Glenaladale and 2705 Bairnsdale-Dargo Rd, Glenaladale.

Slender Wire-lily (*Laxmannia gracilis*) (Vic conservation status: rare)

Slender Wire-lily is a rare tufted perennial herb species with a scattered Victorian distribution, which is sporadic and usually in open rocky areas on sandstone derived or granitic soils. This species was found growing on the 1520 Fernbank-Glenaladale Rd, Glenaladale property within an area of relatively high indigenous vegetation quality.

Woolly-head Pomaderris (*Pomaderris eriocephala*) (Vic conservation status: rare)

Woolly-head Pomaderris is a medium sized shrub occurring mostly in relatively dry habitats. It is a rare species overall and has very few distribution records around the project area landscape. Its main Victorian distribution is to the east of Bairnsdale. Approximately 50 mature individuals were detected at one site near the edge of Limpyers Road within the project area boundary.

Sharp Greenhood (*Pterostylis X ingens*) (Vic conservation status: rare)

Sharp Greenhood is a small delicate terrestrial orchid that reaches up to 50cm tall when flowering. This taxon is a naturally occurring hybrid between Nodding Greenhood (*Pterostylis nutans*) and Sickie Greenhood (*Pterostylis falcta*). It has a rare and irregular distribution and requires moist soils of riparian zones. This taxon was found growing along the tributary of Honeysuckle Creek.

Dissected New Holland Daisy (*Vittadinia dissecta* var. *dissecta*) (Vic conservation status: Poorly known)

Dissected New Holland Daisy is another rare species with a small distribution and very few records in Victoria. It's Victorian distribution is thought to be limited to dry rocky slopes in the Bairnsdale to Orbost region including a few records at Mitchell River National Park to the north of the project area. The presence of this species within the project area close to the edges of Careys Road represents a significant and previously undocumented outlying population.

2.1.2 Fauna

Although no threatened fauna was confirmed during the survey period, a grass skink (*Pseudemoia* sp.) was seen on Limpyers Road near an adjacent dam on the 23rd of October 2020 (GDA94: E 526795, N 5815837). The skink escaped before the species identity could be confirmed. Given the dense, damp, low-lying habitat, the area has potential to support the Glossy Grass Skink (*Pseudemia rawlinsoni*), which is considered Vulnerable in Victoria (DSE 2013). It is possible that this species is also present in other parts of the study area supporting little or no overhead vegetation and thick grass or low-growing ground vegetation (even where introduced grass species dominate, but where the ground has not been very recently ploughed, regularly mown, or otherwise significantly disturbed).

The Southern Toadlet (*Pseudophryne semimarmorata*) is also listed as Vulnerable on the Advisory List of Threatened Vertebrate Fauna in Victoria (DSE 2013), and considered likely to occur in the footprint of the mine; mainly in areas that are seasonally inundated and support leaf litter or grass (e.g. ephemeral gullies and depressions). Such areas are not always obvious given they may be dry for several months.

A range of other native frogs and reptiles and fish were recorded in the study area, listed in Appendix 3.

3 Discussion

3.1 Rare or threatened flora and fauna legislation and policy

All rare or threatened flora and fauna detected during this survey currently fall under non-statutory state significant conservation status listings. Their presence is not expected to trigger referral requirements or otherwise have direct implications for the project under the Flora and Fauna Guarantee Act 1988 (FFG Act) or the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), until such time that they may be listed under those Acts.

The FFG Act Scientific Advisory Committee has made a preliminary recommendation to list the Platypus (*Ornithorhynchus anatinus*) as Vulnerable under the Act using the International Union for Conservation of Nature categories (Common Assessment Method). Once approved by the Victorian Minister for Energy, Environment and Climate Change, this listing will apply to public rather than freehold land (e.g. the Mitchell River frontage) as all threatened species listings do under the Act.

The majority of advisory-listed flora and fauna species that recently underwent new conservation status assessments by the Department of Environment, Land, Water and Planning for adding to the FFG Act (i.e. all of those that have a status of 'rare' and above), are pending public comment in response to these assessments before gazetting (DSE 2013, DEPI 2014). For further explanation refer to DELWP (06/10/20).

The detectability of many flora and fauna species is influenced by multiple factors including annual seasonal environmental conditions variation, stochastic disturbance events and drought. Unfavorable environmental conditions such as prolonged drought tends to reduce the detectability of many rare or threatened species due to their associated reductions in activity and prominence in landscapes. Additionally, Many rare or threatened species occupy specific habitats and microhabitats. Therefore, when surveying, measures should be taken to maximize the detectability of the target species and in turn maximize the confidence of the survey efficacy. These measures include field inspections to locate potential suitable habitat for the target species and allowing adequate time to survey these areas in a systematic and robust manner. A measure of critical importance is to survey when environmental conditions are optimal (Garrard *et al.* 2008). In cases involving indigenous orchids it is recommended to survey during the peak of their flowering period because this is when they're most easily detected and the flowers are usually required to confirm their identity DSEWPC (2013). To assure that orchid surveys are done at the optimal time, they should be made to coincide with the peak flowering period of the nearest known population of the target species DSEWPC (2013). The abundance of flowering individuals of the target orchid species at known reference populations can also indicate how suitable the current environmental conditions are for surveying relative to previous years DSEWPC (2013).

Ecology and Heritage Partners Pty Ltd (2020) undertook an ecological impact assessment of the Fingerboards Mineral Sands Project location. Part of this assessment involved rare or threatened flora and fauna surveys of selected survey areas over the following periods:

- Terrestrial fauna surveys: 24th-28th October 2016 and 19th-21st March 2018.
- Targeted flora surveys: 24th-28th October and the 7th-11th of November 2016.

- Nocturnal surveys that included targeting Giant Burrowing Frog (*Heleioporus australiacus*): 27th-30th November 2018.
- Targeted aquatic fauna surveys including Australian Grayling (*Prototroctes maraena*) and Dwarf Galaxias (*Galaxiella pusilla*): 27th-29th November 2018.
- Targeted Powerful Owl (*Ninox strenua*) and Masked Owl (*Masked Owl*) surveys: 26th & 29th August 2019.

A feature that is consistent over most of the Ecology and Heritage Partners Pty Ltd (2020) survey periods is the 2017-2019 drought, during which lowest on record rainfall was recorded for the project locality (Bureau of Meteorology, 2020). With the aforementioned rare or threatened species detectability factors considered, and their possible influences on the efficacy of survey timing and effort of Ecology and Heritage Partners Pty Ltd (2020), if further and more comprehensive surveying were to be undertaken when target species are most detectable then it is likely that additional new detections of rare or threatened species would be made, especially when focussing efforts on areas where high quality indigenous vegetation remains extant in the case of flora.

4 Conclusion and Recommendations

This document details the results of a very brief and incomprehensive survey effort undertaken by Treetec. Given that seven of the nine rare or threatened plant taxa detections documented in the results section herein remained unreported by Ecology and Heritage Partners Pty Ltd (2020), it can be deduced that further survey effort will likely result in the discovery of additional rare or threatened species. The survey results of Ecology and Heritage Partners Pty Ltd (2020) were likely compromised by the environmental conditions of the 2017-2019 drought (Bureau of Meteorology, 2020). Therefore, it is recommended that further and more comprehensive and appropriately timed rare or threatened species surveys be commissioned.

Further surveys and opportunistic searches are recommended to be undertaken for the advisory listed (and soon to be FFG Act listed) Vulnerable Glossy Grass Skink (*Pseudemoia rawlinsoni*) and Southern Toadlet (*Pseudophryne semimarmorata*). The former species may be detected by passively searching in suitable swampy or otherwise damp (but sunny) habitat with dense grass or low-growing groundcovers, or more effectively by inspecting under roof tiles placed on the ground as artificial shelters. Autumn surveys from around mid March to mid May would be needed to detect the Southern Toadlet, with multiple (e.g. 3) visits recommended to be undertaken at night at each potential site. Survey guidelines are currently being developed by the Ecological Consultants Association of Victoria in collaboration with experts on the species.

Remote sounds recorders should also be installed to detect the Giant Burrowing Frog (*Heleioporus australiacus*) where there is potential breeding habitat, especially in and around drier gully lines and stony creek systems that support temporary pools or chains of ponds. The recorders should ideally be out for several months (at least three if possible, but ideally for longer in the absence of more thorough/official guidelines). Refer to Victoria's Forest Protection Survey Program frog survey guidelines (Durkin *et al.* 2020) for further information on survey methods and timing of emergence.

Surveys for the Growling Grass Frog (*Litoria raniformis*) and Green and Golden Bell Frog (*Litoria aurea*) should ideally be undertaken when the night temperature is at least 12 degrees Celsius or higher, with little or no wind, and over two nights between October and December (or three nights from January-March) to achieve 95% probability of detection (Heard *et al.* 2010). Surveys should target any dams or other waterbodies in the study area that have not been surveyed previously for the species, or that were otherwise surveyed in suboptimal weather conditions and/or below the requisite number of nights (as was the case for surveys detailed herein due to time constraints).

Additional surveys may also be warranted for state-threatened forest owls (particularly the Masked Owl (*Tyto novaehollandiae*) and Powerful Owl (*Ninox strenua*), and the federally listed Dwarf Galaxias (*Galaxiella pusilla*) in accordance with relevant state and federal survey guidelines (Loyn *et al.* 2011a, 2011b, and DSEWPC 2011 respectively). Surveys should focus on parts of the study area where they are not known to have been previously undertaken for these species.

All records of rare or threatened species should be uploaded to the Department of Environment, Land, Water and Planning (DELWP)-administered Victorian Biodiversity Atlas (VBA) with supporting evidence wherever possible, as this is expected to be the primary database holding biodiversity records that will be consulted by future project consultants and the relevant regulatory authorities.



Plate 1. Wavy Swamp Wallaby-grass (*Amphibromus sinuatus*) Treetec



Plate 2. Eastern Bitter-cress (*Cardamine microthrix*) Treetec



Plate 3. Pale Swamp Everlasting (*Coronidium gunnianum*) Treetec



Plate 4. Helmet Orchid (*Corybas* sp.) Treetec



Plate 5. Slender Tick-trefoil (*Desmodium varians*) Treetec



Plate 6. Slender Wire-lily (*Laxmannia gracilis*) Treetec



Plate 7. Woolly-head Pomaderris (*Pomaderris eriocephala*) Treetec



Plate 8. Sharp Greenhood (*Pterostylis X ingens*) Treetec



Plate 9. Dissected New Holland Daisy (*Vittadinia dissecta* var. *dissecta*) Louise Crisp

5 References

Bureau of Meteorology (2020). *Previous droughts*, viewed 2nd November 2020, http://www.bom.gov.au/climate/drought/knowledge-centre/previous-droughts.shtml#2017_2019_drought

DELWP (06/10/20). *Conserving threatened species, Draft assessments available for public comment*, viewed 1st November 2020, <https://www.environment.vic.gov.au/conserving-threatened-species/conservation-status-assessment-project/recent-assessments-for-public-comment>

DEPI (2014). Advisory List of Rare Or Threatened Plants In Victoria – 2014. Victorian Department of Environment and Primary industries, Melbourne, Victoria.

DSEWPC (2011). Survey guidelines for Australia’s threatened fish: Guidelines for detecting fish listed as threatened under the *Environment Protection and Biodiversity Conservation Act 1999*. Department of Sustainability, Environment, Water, Population and Communities, Canberra, ACT.

DSE (2013). Advisory List of Threatened Vertebrate Fauna in Victoria – 2013. Victorian Department of Sustainability and Environment, Melbourne, Victoria.

DSEWPC (2013). Survey guidelines for Australia’s threatened orchids: Guidelines for detecting orchids listed as ‘threatened’ under the *Environment Protection and Biodiversity Conservation Act 1999*. Department of Sustainability, Environment, Water, Population and Communities, Canberra, ACT.

Durkin, L., Chick, R. and Molloy, J. (2020). Forest Protection Survey Program, Survey Guideline Frogs, (V4.1). Arthur Rylah Institute for Environmental Research. Department of Environment, Land, Water and Planning, Heidelberg, Victoria.

Ecology and Heritage Partners Pty Ltd (2020). Detailed Ecological Investigations for the Proposed Fingerboards Mineral Sands Project, Glenaladale, Victoria. Final unpublished report for Kalbar Operations Pty Ltd. (August 2020).

Garrard, G. E., Bekessy, S. A., McCarthy, M. A. and Wintle, B. A. (2008). When have we looked hard enough? A novel method for setting minimum survey effort protocols for flora surveys. *Austral Ecology* **33**, 986-998.

Heard, G.W., Scroggie, M.P. and Clemann, N. (2010). Guidelines for managing the endangered Growling Grass Frog in urbanising landscapes. Arthur Rylah Institute for Environmental Research Technical Report Series No. 208. Department of Sustainability and Environment, Heidelberg, Victoria.

Loyn, R., McNabb, E. and MacHunter, J. (2011a). Survey Standards: Masked Owl, *Tyto novaehollandiae*. Department of Sustainability and Environment, Melbourne, Victoria.

Loyn, R., McNabb, E. and MacHunter, J. (2011b). Survey Standards: Powerful Owl, *Ninox strenua*. Department of Sustainability and Environment, Melbourne, Victoria.

6 Appendix 1. Rare or threatened flora and fauna survey methods

Survey method	Details
Searching for flora	Initial desktop investigations were performed to obtain information from the Victorian Biodiversity Atlas, previous reports on the study area and other recourses to determine the rare or threatened flora recorded within a 25km radius from the approximate centre of the project site. This list of flora informed the target species for survey. On ground flora surveying involved inspecting areas on foot that were deemed of higher potential for the target species to occur. When a target species was detected a photograph of it was taken and it's GPS location, approximate number of individuals and area of occurrence observed were recorded.
Bait trapping for fish	Bait trapping involved setting four nylon funnels (whitebait traps) at intervals along the banks of each waterbody, targeting sections of the dam or pools with emergent vegetation or submerged cover such as snags. The top of each trap was kept above the water surface for air-breathing bycatch such as frogs. Each trap was baited with a glow stick, marked on a GPS, and tied to nearby vegetation with a line to prevent it from sinking. The traps were left overnight for collection the following morning. Bait traps measured 45 cm × 23 cm × 23 cm, with an entrance diameter of 40 mm.
Dip netting for fish and tadpoles	Dip netting targeted sections of waterbodies with a reasonable cover of aquatic vegetation. The net was dragged through submerged vegetation and open water on each sweep. After several sweeps, the contents of the net were emptied into a tray containing water from the site, and any vertebrates including fish and tadpoles identified. The number of sweeps in each surveyed waterbody were: seven for the tributary of Honeysuckle Creek, five in dam off Limpyers Track, and 12 in the █████ family's dam. Dip nets measured 35 cm wide × 50 cm deep, with a mesh size of 0.9 mm.
Spotlighting for the Growling Grass Frog (<i>Litoria raniformis</i>), Green and Golden Bell Frog (<i>L. aurea</i>) and Giant Burrowing Frog (<i>Heleioporus australiacus</i>)	The edge of each targeted waterbody was searched by two observers with headlamps, looking for frogs within 10 m of the banks and in the water. This was done for up to an hour at each site or until the entire margin of the waterbody had been surveyed. Weather conditions at the time of survey including air temperature, water temperature, wind speed and relative humidity were recoded using a hand-held weather meter (Kestrel 3500, Nielsen-Kellerman, Pennsylvania, USA).
Call playback for the Growling Grass Frog (<i>Litoria raniformis</i>), and Green and Golden Bell Frog (<i>L. aurea</i>)	Call playback was undertaken at the dam on 190 Cowells Lane. Growling Grass Frog (<i>L. raniformis</i>), and Green and Golden Bell Frog (<i>L. aurea</i>) call recordings were played over a 6 W modified loudhailer via an iPod, intermittently for a total of approximately 5 minutes.
Listening for frogs	Two observers listening for frog calls while positioned beside the waterbody for a period of time.

7 Appendix 2. Rare or threatened flora survey results

Scientific Name	Common Name	Easting	Northing	Datum	Date	Count	Distribution	EPBC Act	DEPI 2014	FFG Act
<i>Amphibromus sinuatus</i>	Wavy Swamp Wallaby-grass	528553	5817400	GDA94	24/10/20	~10	Patches spread over approximately 100m ²	Not listed	v	Not listed
<i>Cardamine microthrix</i>	Eastern Bitter-cress	525894	5815512	GDA94	23/10/20	~50	Individuals scattered over approximately 10m ²	Not listed	v	Not listed
<i>Cardamine microthrix</i>	Eastern Bitter-cress	526729	5815846	GDA94	25/10/20	~50	Individuals scattered over approximately 10m ²	Not listed	v	Not listed
<i>Cardamine microthrix</i>	Eastern Bitter-cress	526534	5815776	GDA94	25/10/20	~50	Individuals scattered over approximately 5m ²	Not listed	v	Not listed
<i>Cardamine microthrix</i>	Eastern Bitter-cress	528287	5818445	GDA94	23/10/20	~30	Individuals scattered over approximately 5m ²	Not listed	v	Not listed
<i>Cardamine microthrix</i>	Eastern Bitter-cress	528226	5818381	GDA94	23/10/20	~30	Individuals scattered over approximately 5m ²	Not listed	v	Not listed
<i>Coronidium gunnianum</i>	Pale Swamp Everlasting	525925	5815490	GDA94	23/10/20	~10	Patches spread over approximately 100m ²	Not listed	v	Not listed
<i>Corybas</i> sp.	Helmet-orchid	526484	5815736	GDA94	25/10/20	~100	Colony spread across approximately 2m ²	Not listed	?	Not listed
<i>Desmodium varians</i>	Slender Tick-trefoil	530972	5818194	GDA94	25/10/20	~10	Individuals scattered over approximately 5m ²	Not listed	k	Not listed
<i>Desmodium varians</i>	Slender Tick-trefoil	528673	5817505	GDA94	24/10/20	~10	Individuals scattered over approximately 5m ²	Not listed	k	Not listed
<i>Desmodium varians</i>	Slender Tick-trefoil	528227	5817616	GDA94	25/10/20	~10	Individuals scattered over approximately 5m ²	Not listed	k	Not listed
<i>Desmodium varians</i>	Slender Tick-trefoil	528230	5818023	GDA94	25/10/20	~10	Individuals scattered over approximately 5m ²	Not listed	k	Not listed
<i>Desmodium varians</i>	Slender Tick-trefoil	528167	5818010	GDA94	25/10/20	~10	Individuals scattered over approximately 5m ²	Not listed	k	Not listed
<i>Laxmannia gracilis</i>	Slender Wire-lily	530971	5818215	GDA94	25/10/20	~10	Individuals scattered over approximately 5m ²	Not listed	r	Not listed
<i>Pomaderris eriocephala</i>	Woolly-head Pomaderris	526697	5815420	GDA94	23/10/20	2	Individuals observed on the eastern edge of Limpyers Road.	Not listed	r	Not listed
<i>Pomaderris eriocephala</i>	Woolly-head Pomaderris	526688	5815598	GDA94	25/10/20	~50	Individuals scattered along an approximately 50m length of the western edge of Limpyers Road.	Not listed	r	Not listed
<i>Pterostylis X ingens</i>	Sharp Greenhood	525896	5815503	GDA94	23/10/20	~30	Colony spread across approximately 2m ²	Not listed	r	Not listed
<i>Vittadinia dissecta</i> var. <i>dissecta</i>	Dissected New Holland Daisy	531848	5817170	GDA94	27/10/20	~20	Individuals scattered near the eastern side of Careys Road south of Simpson Gully	Not listed	k	Not listed
<i>Vittadinia dissecta</i> var. <i>dissecta</i>	Dissected New Holland Daisy	531842	5817177	GDA94	27/10/20	~25	Individuals scattered near the western side of Careys Road south of Simpson Gully	Not listed	k	Not listed

8 Appendix 3. Fauna recorded within the project area

Scientific name	Common name	Status	Total
Frogs			Adults/tadpoles
<i>Crinia signifera</i>	Common Froglet	No listing	41/80
<i>Limnodynastes dumerilii</i>	Eastern Banjo Frog	No listing	1/9
<i>Litoria ewingii</i>	Southern Brown Tree Frog	No listing	1/2
<i>Litoria ewingii</i> complex	Tree frog	No listing	1/2
<i>Litoria peronii</i>	Peron's Tree Frog	No listing	15/2
<i>Litoria verreauxii verreauxii</i>	Whistling Tree Frog	No listing	7/1
<i>Paracrinia haswelli</i>	Haswell's Froglet	No listing	0/4
Reptiles			Adults
<i>Chelodina longicollis</i>	Eastern Long-necked Turtle	dd	5
<i>Pseudemoia</i> sp.	Grass skink	No listing	1
<i>Pseudechis porphyriacus</i>	Red-bellied Black Snake	No listing	1
Fish			Adults
<i>Anguilla australis</i>	Short-finned Eel	No listing	1
<i>Anguilla reinhardtii</i>	Long-finned Eel	No listing	1

Legend: dd= 'data deficient' on the Advisory List of Threatened Vertebrate Fauna in Victoria (DSE 2013).

9 Appendix 4. Assumptions and Limitations

1. **Treetec** does not assume responsibility for legal matters, and assumes that legal descriptions, titles and ownerships are correct and good.
2. **Treetec** assumes that any property or project is not in violation of any applicable codes, ordinances, statutes or other government regulations.
3. **Treetec** takes all reasonable care to ensure all referenced material is accurate and quoted in correct context but does not take responsibility for information quoted or supplied.
4. **Treetec** shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including the payment of an additional fee for such services.
5. Loss or alteration of any part of this report invalidates the entire report.
6. Possession of this report, or a copy thereof, does not imply right of publication or use for any purpose by anyone but the person to whom it is addressed, without the prior written consent of **Treetec**.
7. All, or any part of the contents of this document, or any copy thereof, shall not be used for any purpose by anyone but the person to whom it is addressed, without the written consent of **Treetec**.
8. This document shall not be conveyed by anyone, including the client, to the public through advertising, public relations, news, sales or other media, without the written consent of **Treetec**.
9. This document and any values expressed herein represent the opinion of **Treetec** and **Treetec's** fee is in no way contingent upon the reporting of a specified value, the occurrence of a subsequent event, nor upon any finding to be reported.