

Additional Ecological Information for the Proposed Fingerboards Mineral Sands Project, Glenaladale, Victoria (Independent Advisory Committee)

Prepared for:

Kalbar Operations Pty Ltd

7 May 2021



Author:

Aaron Organ

1 INTRODUCTION

1.1 Background

I have been instructed by White and Case on behalf Kalbar Operations Pty Ltd (herein referred to as Kalbar) to undertake additional site assessments to provide updated information relating to the ecological values present within sections of the project area, to document the revised impacts to native vegetation, and to calculate the biodiversity offsets based on the revisions to the extent of native vegetation proposed to be impacted associated with the project to satisfy the State Government's *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP 2017). Information regarding the potential occurrence of additional State significant flora species is also provided.

The site assessment and updated results presented below respond to concerns raised in Brett Lane and Lincoln Kern's respective expert witness statements relating to ecological matters (Nature Advisory 2021; Practical Ecology 2021), and provides additional information based on a recent Ecology Expert Conclave (held on 14 April 2021) where recommendations for additional site surveys prior to the Independent Advisory Committee hearing was recommended (Joint Ecology Statement 2021).

Previous information on the existing conditions and proposed impacts associated with the project has been provided in the detailed ecological investigations for the project (herein referred to as EES Appendix A005) (Ecology and Heritage Partners 2020).

1.2 Objectives

Specifically, the objectives of the assessment were limited to:

- 1) Map any additional areas of native vegetation (i.e. secondary grassland across paddocks) that were identified during the site assessment undertaken by Nature Advisory between 12 and 15 January 2021 (Figure 1) (Nature Advisory 2021);
- 2) Review the Ecological Vegetation Classes (EVCs) classification of native vegetation along Glenaladale-Dargo Road, and at the intersection of Fernbank-Glenaladale Road and Chettles Lane in response of the information provided in Nature Advisory (2021), Practical Ecology (2021) and the Ecology Joint Statement (2021);
- 3) The provision of information regarding the presence of any additional areas of Gippsland Red Gum (*Eucalyptus tereticornis* subsp. *mediana*) Grassy Woodland and Associated Native Grassland (GRGGW) ecological community, which is a listed ecological community under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act); and,
- 4) Provide further information on the likelihood of occurrence of State significance flora species outlined in Nature Advisory (2021).

The current scope did not include an ecological assessment on 2705 Bairnsdale-Dargo Road, Glenaladale, nor does it include an explanation of the discrepancies pertaining to the extent of vegetation and offset requirements between the EES Appendix A005 and the EES (Kalbar 2020) that were identified in Nature Advisory 2021).

In addition, the habitat hectare data based on the mapping of the additional native vegetation was submitted to DELWP on 6 May 2021 and a Native Vegetation Removal report that includes the updated project offset requirements is currently being prepared by DELWP and should be available on 10 May 2021.

2 METHODS

2.1 Desktop Assessment

Relevant literature, online-resources and databases were reviewed, including:

- The DELWP Native Vegetation Information Management (NVIM) Tool (DELWP 2021a) and NatureKit Map (DELWP 2021b) for:
 - Modelled data for location risk, remnant vegetation patches, scattered trees and habitat for conservation significant species; and,
 - The extent of historic and current Ecological Vegetation Classes (EVCs).
- EVC benchmarks (DELWP 2021c) for descriptions of EVCs within the Gippsland Plain and East Gippsland Lowlands bioregions;
- The Victorian Biodiversity Atlas (VBA) for previously documented flora and fauna records within 10 kilometres of the project area (DELWP 2020);
- The Flora Information System (FIS) (Viridans 2014a) and Atlas of Victorian Wildlife (AVW) (Viridans 2014b) for assistance with the distribution and identification of flora and fauna species;
- Aerial photography of the project area;
- Previous ecological or other relevant assessments of the project area, including:
 - Ecology and Heritage Partners 2020a. Detailed Ecological Investigations for the Proposed Fingerboards Mineral Sands Project, Glenaladale, Victoria. Unpublished report prepared for Kalbar Operations Pty Ltd by Ecology and Heritage Partners Pty Ltd.
 - Ecology and Heritage Partners 2020b. Biodiversity Offset Management Strategy for the proposed Fingerboards Mineral Sands Project, Glenaladale, Victoria. Unpublished report prepared for Kalbar Operations Pty Ltd by Ecology and Heritage Partners Pty Ltd. April 2020.
 - Ecology Joint Statement 2021. Joint Statement between Aaron Organ, Brett Lane and Lincoln Kern.
 - Kalbar 2020. Environment Effects Statement for the proposed Fingerboard Mineral Sands Project. Report by Kalbar 2020. August 2020.
 - Nature Advisory 2021. Fingerboard Mineral Sands Mine. Review of Ecological Assessment and Expert Witness Statement prepared by Brett Lane of Nature Advisory for East Gippsland Shire Council, 2 February 2021.
 - Practical Ecology 2021. Fingerboard Mineral Sands Project. Expert Witness Statement prepared by Lincoln Kern of Practical Ecology prepared for Mine Free Glenaladale, 1 February 2021.

2.2 Ecological Field Assessment

Additional field assessments were undertaken between 4 and 6 May 2021 across areas identified as potentially supporting native vegetation that were not previously mapped in EES Appendix A005 but were identified by Nature Advisory during their recent site assessments between 12 and 15 January 2021 (Nature Advisory 2021) (Figure 1).

The areas shown below (Figure 1) were walked on foot by a Senior Botanist (Jared McGuinness) and myself, and the extent and condition of native vegetation in these areas were mapped. Vegetation mapping was confined solely to these areas and field surveyors did not assess other areas across the project footprint.

EVCs were determined with reference to DELWP pre-1750 and extant EVC mapping and their published descriptions (DELWP 2020c). Where remnant vegetation was identified, a habitat hectare assessment was undertaken following the methodology described in the Vegetation Quality Assessment Manual (DSE 2004). Native vegetation was classified in accordance with the definitions provided below, sourced from the Guidelines (DELWP 2017).

3 RESULTS

3.1 Additional Patches of Native Vegetation

Based on the additional desktop analysis and site assessment 67.96 hectares of highly modified secondary grassland [previously known as Degraded Treeless Vegetation under the former Victorian Native Vegetation Management Framework (NRE 2002)] were mapped across paddocks, primarily located adjacent to other patches of higher quality vegetation in the gullies that were previously mapped in EES Appendix A005 (Figures 2j, 2k, 2o, 2r, 2t, 2u, 2w and 2x) (Plates 1-6). Although these areas have been classified as Plains Grassy Forest, they are structurally and floristically deficient, and dominated by 3-4 species of native grasses (i.e. Weeping Grass *Microlaena stipoides*, Kangaroo Grass *Themeda triandra*, wallaby grasses and spear grasses) and generally lacked other lifeforms such as native trees, shrubs and herbs. However, the EVC cannot be accurately determined as the patches are highly modified and devoid of woody understory and overstorey species that are characteristic of an EVC. These areas have low ecological value and landscape function, are currently grazed by cattle, and are highly unlikely to support habitat for significant flora and fauna species.

A total of 223.58 hectares (additional 63.28 hectares) of native vegetation is proposed to be impacted by the project (Table 1). It is important to note that given the wetter conditions that the project area and region have experienced over the past 6-12 months (i.e. during a La Niña weather pattern), extensive areas of secondary grasslands occur throughout the local area (i.e. adjoining properties outside of the project area) where they are subject to ongoing farming practices (i.e. cultivation and grazing by stock).

No additional Large Trees in patches or scattered trees were mapped in the additional areas assessed.

Table 1. Revised summary of vegetation proposed to be impacted by the project.

| EVC | Native vegetation within the project footprint (EES Appendix 005) (hectares) | Updated native vegetation within the project footprint proposed to be impacted (hectares) |
|-----------------------------------------------|------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Aquatic Herbland (EVC 653) (Endangered) | 0.93 | 0.93 |
| Box Ironbark Forest (EVC 61) (Vulnerable) | 7.51 | 7.51 |
| Lowland Forest (EVC 16) (Vulnerable) | 5.01 | 4.89 |
| Lowland Herb-rich Forest (EVC 877) (Depleted) | 8.61 | 8.61 |
| Plains Grassy Forest (EVC 151) (Endangered) | 42.51 | 110.47 |
| Plains Grassy Wetland (EVC 125) (Endangered) | 0.28 | 0.28 |
| Plains Grassy Woodland (EVC 55) (Endangered) | 14.54 | 9.91 |
| Valley Grassy Forest (EVC 47) (Vulnerable) | 74.81 | 74.88 |
| DELWP Mapped 'Current Wetland' | 6.10 | 6.10 |
| Total (ha) | 160.30 | 223.58 |

Note: The areas in bold indicate a change in the total area of proposed vegetation removal based on the current site assessments compared with the areas provided in EES Appendix A005 (Ecology and Heritage Partners 2020a).



Plate 1. Modified Plains Grassy Forest (secondary grassland) (Ecology and Heritage Partners Pty Ltd 06/05/2021).



Plate 2. Modified Plains Grassy Forest (secondary grassland) (Ecology and Heritage Partners Pty Ltd 06/05/2021).



Plate 3. Modified Plains Grassy Forest (secondary grassland) (Ecology and Heritage Partners Pty Ltd 06/05/2021).



Plate 4. Modified Plains Grassy Forest (secondary grassland) (Ecology and Heritage Partners Pty Ltd 06/05/2021).



Plate 5. Modified Plains Grassy Forest (secondary grassland) (Ecology and Heritage Partners Pty Ltd 06/05/2021).



Plate 6. Modified Plains Grassy Forest (secondary grassland) (Ecology and Heritage Partners Pty Ltd 06/05/2021).

3.2 EVC Classification

Patches of native areas along Bairnsdale-Dargo Road were reclassified from Plains Grassy Woodland (endangered) to Plains Grassy Forest (Vulnerable) given the dominant overstorey species (i.e. stringybark and box trees) and lack of Gippsland Red-gum (*Eucalyptus tereticornis* subsp. *mediana*) along this section of road. As such, there is a reduction in the total area of the *Flora and Fauna Guarantee Act 1988* (FFG Act)-listed Forest Red Gum Grassy Woodland ecological community from 14.54 hectares to 9.91 hectares.

Conversely, a small area of vegetation at the intersection of Fernbank-Glenaladale Road and Chettles Lane was assessed and the EVC has been changed from Lowland Forest to Plains Grassy Woodland. This is consistent with the information provided in Practical Ecology (2021).

Despite these marginal changes in the EVC classification along these roadsides, the overall characterisation of the ecological values within the project area and the conclusions reached in EES Appendix 005 do not change.

No other patches of native vegetation within the project area were reclassified.

3.3 Assessment of GRGGW

No additional areas of the EPBC Act-listed GRGGW were mapped within the project area, and as such, the total extent of this ecological community proposed to be impacted by the project remains at 1.74 hectares.

3.4 Likelihood of Occurrence of State Significance Flora Species

An additional 15 State significant flora species were identified in the Victorian Biodiversity Atlas search completed by Nature Advisory (2021), while further information on the seven flora species identified in EES Appendix 005 as having a potential to occur within the project area (Appendix 1) (Figure 3 and 4).

As outlined in the EES Appendix 005 (Ecology and Heritage Partners 2020a) and the recent expert witness statement (Ecology and Heritage Partners 2021), the following will be undertaken to manage significant flora species during the operation of the mine:

- ‘Significant / Threatened Species Conservation Management Plans’ will be prepared prior to the commencement of the project, and these plans will outline measures to ensure that existing populations are protected (if possible). The plans will also include actions that will be implemented by Kalbar to ensure that the total number of significant flora species across the project area and throughout the local area increase over the life of the project.
- ‘Significant Flora Salvage and Translocation Plan’ will be prepared and include salvage procedures for individual plants prior to vegetation removal, information regarding the temporary housing of plants at Kalbar’s Seed Protection Area in Bengworden (see Plates 7-12 of the facility), and information relating to the relocation of plants either back in the project area after the completion of certain stages of the mine and/or as part of the large 200-hectare Grassy Woodland Restoration Project. All significant flora species known to occur within the project area will be propagated and progressively planted into appropriate locations within and outside of the project area (Appendix 1).
- ‘Construction Environmental Management Plan’ will be prepared and contain specific measures to avoid and minimise impacts to significant species during the operation of the project.



Plate 7. Kalbar's Seed Production Area (Ecology and Heritage Partners Pty Ltd 07/05/2021).



Plate 8. Kalbar's Seed Production Area (Ecology and Heritage Partners Pty Ltd 07/05/2021).



Plate 9. Kalbar's Seed Production Area (Ecology and Heritage Partners Pty Ltd 07/05/2021).

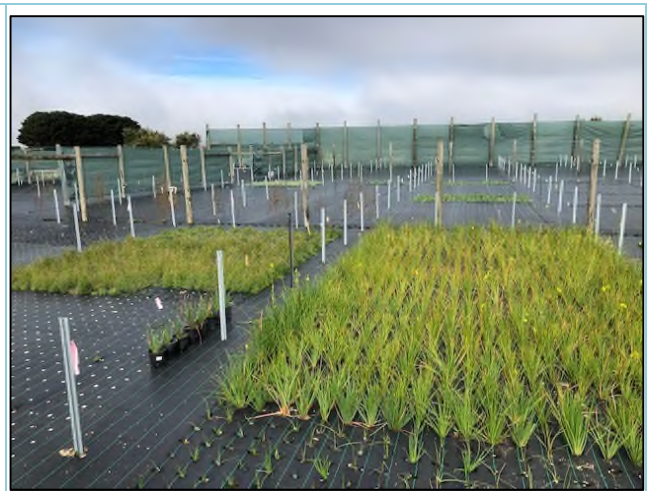


Plate 10. Kalbar's Seed Production Area (Ecology and Heritage Partners Pty Ltd 07/05/2021).

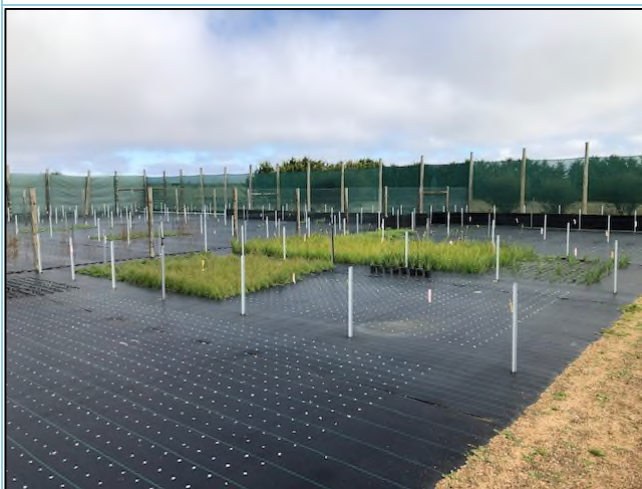


Plate 11. Kalbar's Seed Production Area (Ecology and Heritage Partners Pty Ltd 07/05/2021).



Plate 12. State significant Sandfly Zieria which was recorded in the project area (Figure 3) growing at the Seed Production Area (Ecology and Heritage Partners Pty Ltd 07/05/2021).

4 CONCLUSION

The following summarises the results of the recent site assessment:

- An additional 63.28 hectares of highly modified (i.e. structurally and floristically deficient) secondary grassland located across grazed paddocks (Table 1, Figure 2).
- Revision of the extent of EVCs previously mapped along roadsides (Figure 2), including:
 - Glenaladale-Dargo Road, and
 - The intersection of Fernbank-Glenaladale Road and Chettles Lane.
- No additional areas of the EPBC Act listed GRGGW ecological community were identified.
- Opportunities to protect, salvage and translocate, along with the propagation (as Kelbar's Seed Production Area) and reintroduction of additional State significant flora species within the project area and surrounds as part of the project.
- The likely increase in the required State offsets for the project (i.e. in accordance with the State Guidelines) (DELWP 2017).

A detailed ecological assessment across 2705 Bairnsdale – Dargo Road, Glenaladale will need to be undertaken to accurately document the extent and quality of native vegetation (i.e. patches of vegetation and Large Trees), and to determine the status of any national and State significant flora and fauna species on this part of the development site.

The additional data collected during the site assessments undertaken between 4 and 6 May 2021 does not alter the conclusions reached in the EES Appendix 005 prepared for the project (Ecology and Heritage Partners 2020a). While additional areas of highly modified native grassland located across paddocks have been mapped, which has subsequently resulted in an increase in the required State offsets for the project (DELWP 2017), the opinions expressed in my expert witness statement relating to the ecological values within and adjacent to the project area and the likely or potential impacts to these values remain unchanged.

4.1 Author's Declaration

I, Aaron Organ, have made all the inquiries that I believe are desirable and appropriate and that no matters of significance that I regard as relevant have to my knowledge been withheld from the Inquiry and Advisory Committee.

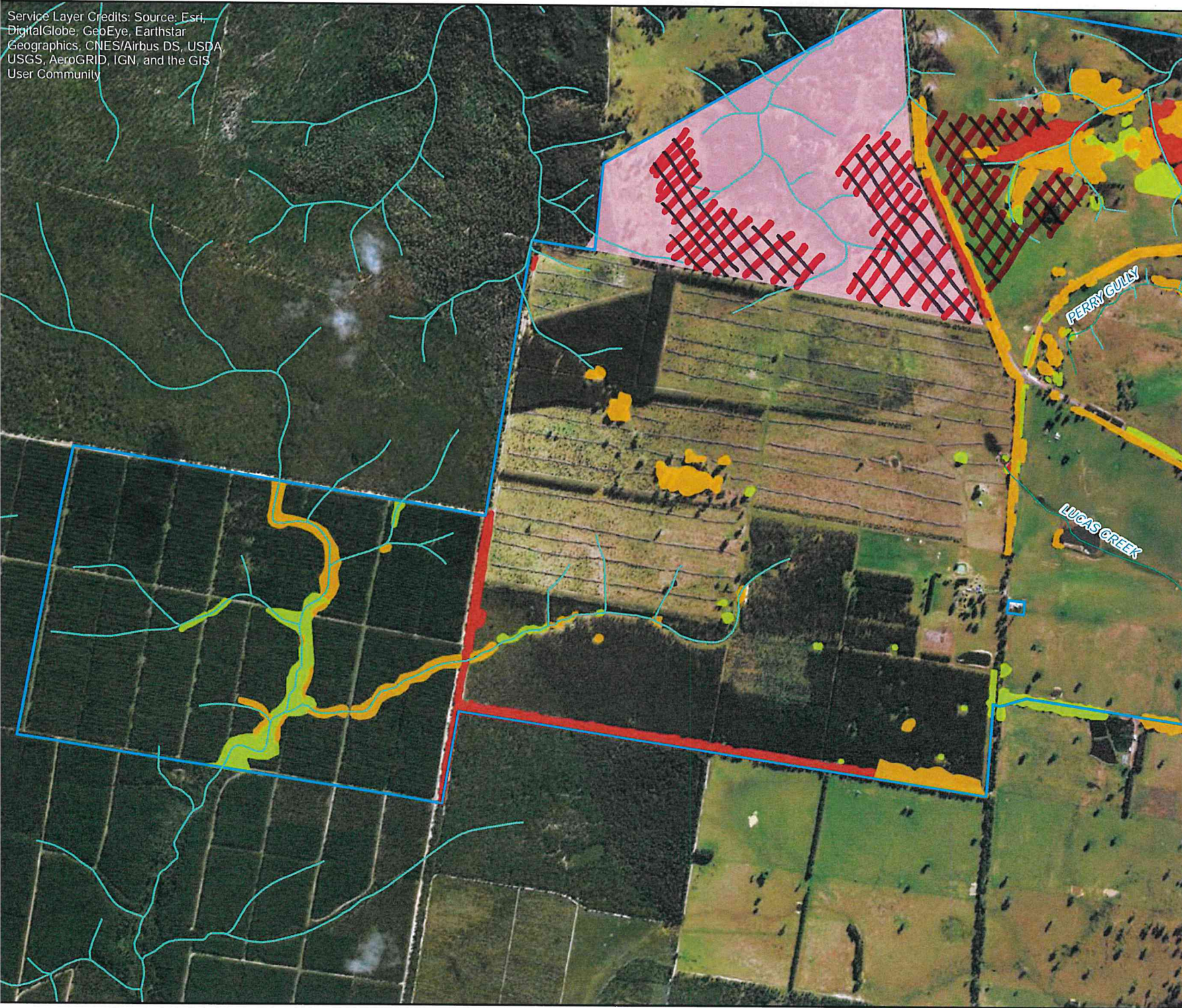


----- Date: 07/04/2021

FIGURES

Figure 1: Additional Patches of Native Vegetation identified by Nature Advisory

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Project Area
- Vegetation quality (Habitat score)**
 - Low (10 - 29)
 - Moderate (30 - 49)
 - High (50+)
 - Land Not Surveyed

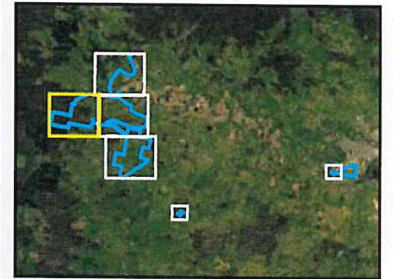
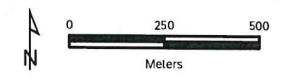
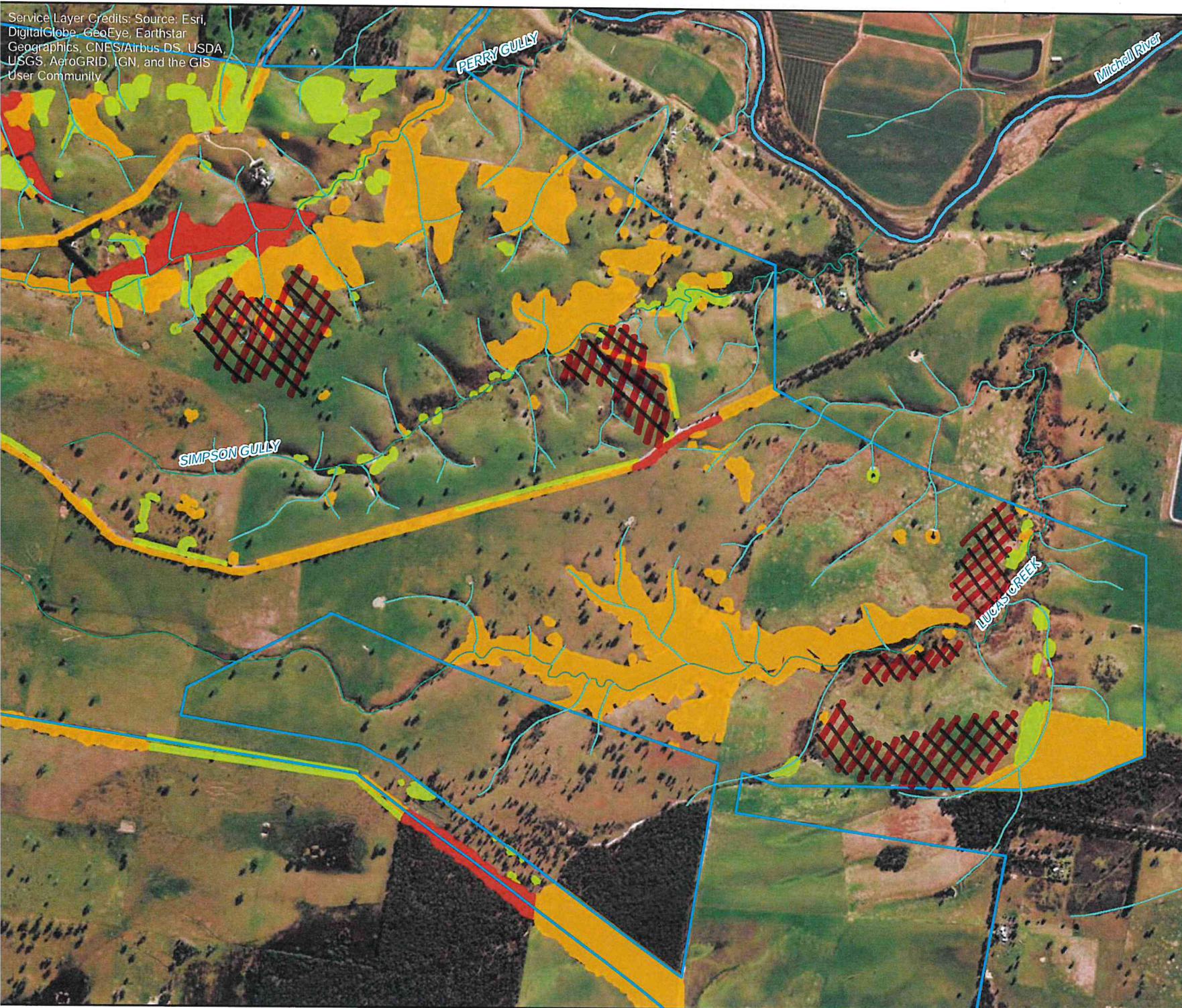


Figure 7b
Vegetation Quality throughout Study Area
Fingerboards Mineral Sands Project: Flora and Fauna Assessment



Victoria Data: The State of Victoria does not warrant the accuracy or completeness of information in this publication and any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.

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Legend

- Project Area
- Vegetation quality (Habitat score)**
- Low (10 - 29)
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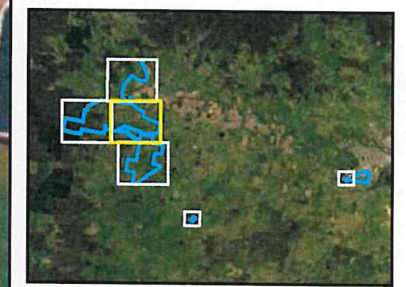
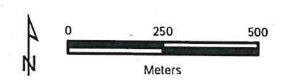


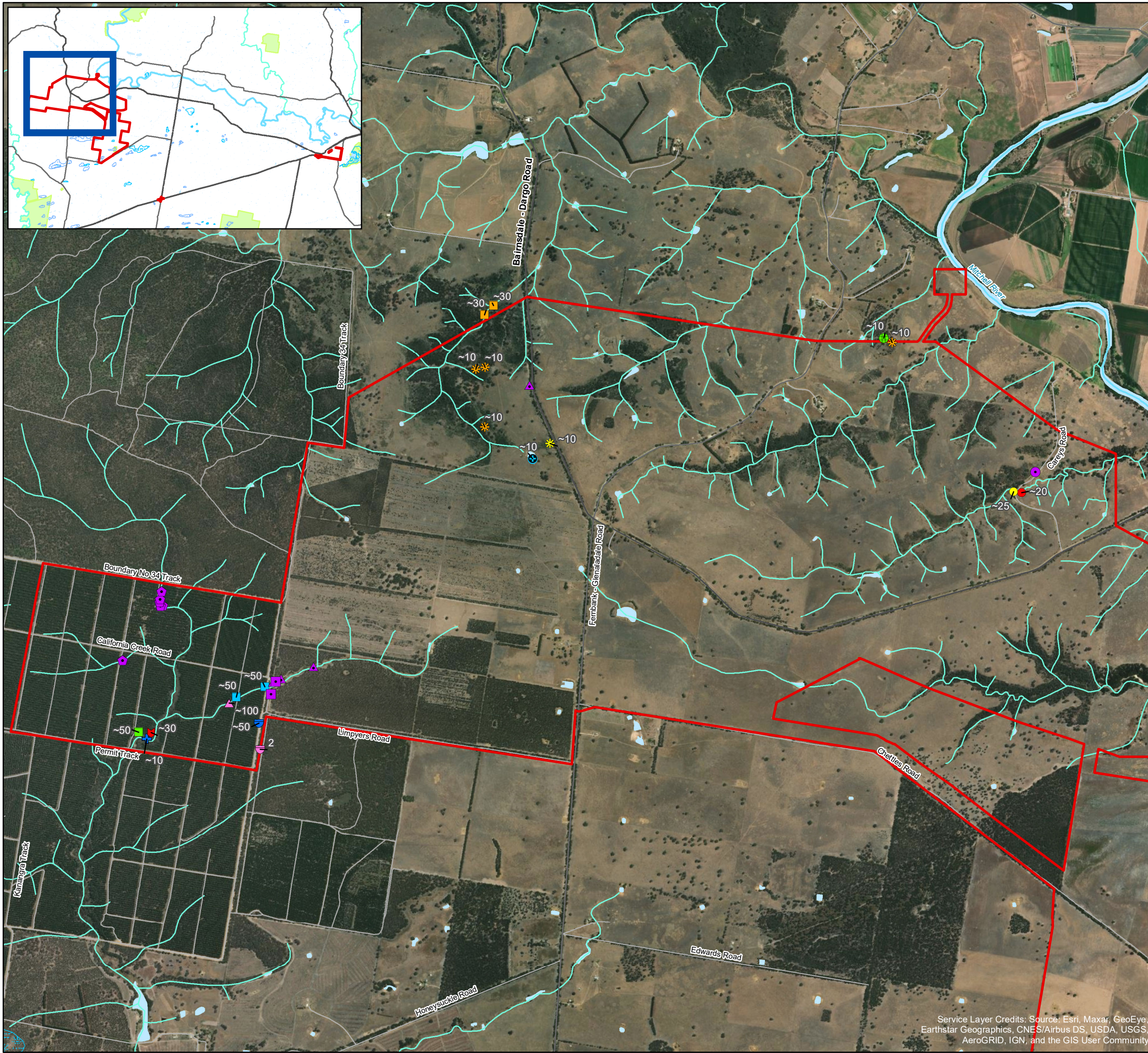
Figure 7c
 Vegetation Quality throughout Study Area
Fingerboards Mineral Sands Project: Flora and Fauna Assessment



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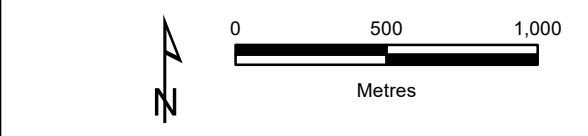
Figure 2: Updated Extent of Native Vegetation in the Project Area (Please refer to Separate Attachment)



- Legend**
- Project Area
- Flora Species (with date of record, and # individuals)**
- Dissected New Holland Daisy (27/10/2020, ~20)
 - Dissected New Holland Daisy (27/10/2020, ~25)
 - Eastern Bitter-cress (23/10/2020, ~30)
 - Eastern Bitter-cress (23/10/2020, ~50)
 - Eastern Bitter-cress (25/10/2020, ~50)
 - ▲ Helmet-orchid (25/10/2020, ~100)
 - + Pale Swamp Everlasting (23/10/2020, ~10)
 - ▼ Sharp Greenhood (23/10/2020, ~30)
 - ✱ Slender Tick-trefoil (24/10/2020, ~10)
 - ✱ Slender Tick-trefoil (25/10/2020, ~10)
 - Slender Wire-lily (25/10/2020, ~10)
 - + Wavy Swamp Wallaby-grass (24/10/2020, ~10)
 - ◐ Woolly-head Pomaderris (23/10/2020, 2)
 - ◐ Woolly-head Pomaderris (25/10/2020, ~50)
- Ecology and Heritage Partners records**
- Slender Tick-trefoil
 - ▲ Slender Wire-lily
 - Blue Mat-rush
 - ◐ Sandfly Zieria



Figure 3
State Significant Flora Species
 recorded by TreeTec (October 2020)
Fingerboards Mineral Sands Project:
Flora and Fauna Assessment



Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Victorian Biodiversity Atlas (VBA) // Sourced from: 'VBA_FLORA25', 'VBA_FLORA100', 'VBA_FAUNA25' and 'VBA_FAUNA100', Updated March 2021 © The State of Victoria, Department of Environment, Land, Water and Planning. Records prior to 1949 not shown.

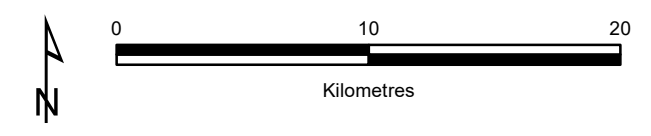
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Legend

- Project Area
- State Significant Flora**
- Billygoat Daisy-bush
- Convex Pomaderris
- Eastern Bitter-cress
- Fisch's Greenhood
- Forest Bitter-cress
- Forest Phebalium
- Fringed Helmet-orchid
- Giant Honey-myrtle
- Mauve-tuft Sun-orchid
- Mealy Saltbush
- Mountain Flat-pea
- Pale Swamp Everlasting
- Rosemary Grevillea
- Spurred Helmet-orchid
- Sticky Bertya
- Wallaby-bush
- ▲ Wavy Swamp Wallaby-grass
- ▲ Woolly-head Pomaderris

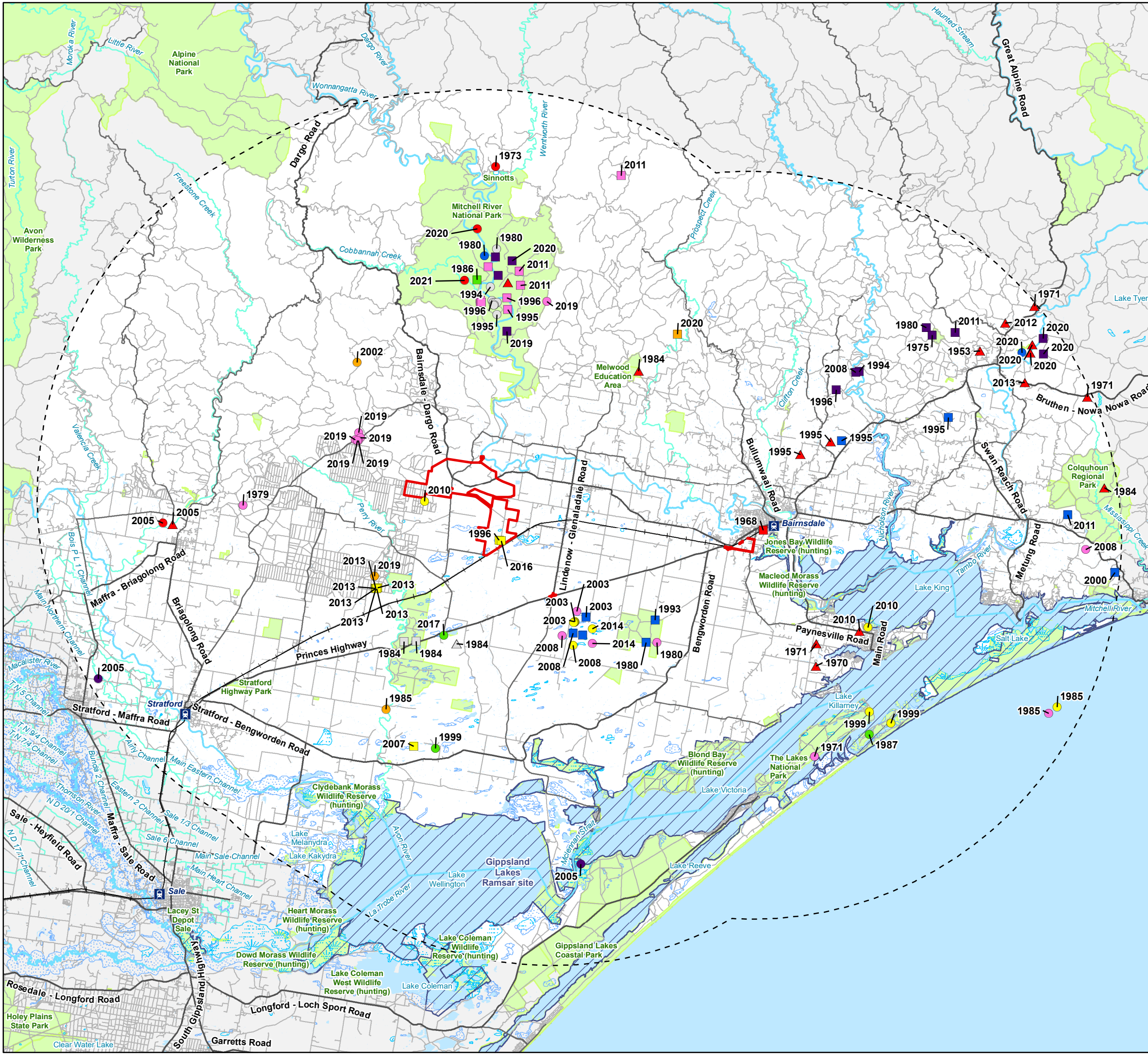


Figure 4
Previously documented State Significant Flora within 30km of the study area
Fingerboards Mineral Sands Project: Flora and Fauna Assessment



Victorian Biodiversity Atlas (VBA) // Sourced from: 'VBA_FLORA25', 'VBA_FLORA100', 'VBA_FAUNA25' and 'VBA_FAUNA100'. Updated March 2021 © The State of Victoria, Department of Environment, Land, Water and Planning. Records prior to 1949 not shown.

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REFERENCES

- DELWP 2017. *Guidelines for the removal, destruction or lopping of native vegetation*. Department of Environment, Land, Water and Planning, Melbourne, Victoria.
- Ecology and Heritage Partners 2020a. Detailed Ecological Investigations for the Proposed Fingerboards Mineral Sands Project, Glenaladale, Victoria. Unpublished report prepared for Kalbar Operations Pty Ltd by Ecology and Heritage Partners Pty Ltd.
- Ecology and Heritage Partners 2020b. Biodiversity Offset Management Strategy for the proposed Fingerboards Mineral Sands Project, Glenaladale, Victoria. Unpublished report prepared for Kalbar Operations Pty Ltd by Ecology and Heritage Partners Pty Ltd. April 2020.
- Ecology Joint Statement 2021. Joint Statement between Aaron Organ (Ecology and Heritage Partners Pty Ltd), Brett Lane (Nature Advisory Pty Ltd) and Lincoln Kern (Practical Ecology Pty Ltd).
- Kalbar 2020. Environment Effects Statement for the proposed Fingerboard Mineral Sands Project. Report by Kalbar 2020. August 2020.
- Nature Advisory 2021. Fingerboard Mineral Sands Mine. Review of Ecological Assessment and Expert Witness Statement prepared by Brett Lane of Nature Advisory for East Gippsland Shire Council, 2 February 2021.
- Practical Ecology 2021. Fingerboard Mineral Sands Project. Expert Witness Statement prepared by Lincoln Kern of Practical Ecology prepared for Mine Free Glenaladale, 1 February 2021.
- DELWP 2017. *Guidelines for the removal, destruction or lopping of native vegetation*. Department of Environment, Land, Water and Planning, Melbourne, Victoria.
- DELWP 2020. Victorian Biodiversity Atlas. Sourced from GIS layers: "VBA_FLORA25", "VBA_FLORA100", "VBA_FAUNA25", "VBA_FAUNA100". Victorian Department of Environment, Land, Water and Planning, Melbourne, Victoria.
- DELWP 2021a. Native Vegetation Information Management Tool [www Document]. URL: <<http://nvim.depi.vic.gov.au/>>. Department of Environment, Land, Water and Planning, Melbourne, Victoria.
- DELWP 2021b. NatureKit Map [www Document]. URL: <<http://maps.biodiversity.vic.gov.au/viewer/?viewer=NatureKit>>. Department of Environment, Land, Water and Planning, Melbourne, Victoria.
- DELWP 2021c. Ecological Vegetation Class (EVC) Benchmarks for each Bioregion [www Document]. URL: <<http://www.depi.vic.gov.au/environment-and-wildlife/biodiversity/evc-benchmarks#bioregionname>>. Department of Environment, Land, Water and Planning, Melbourne, Victoria.
- DEPI 2014. Advisory List of Rare or Threatened Plants in Victoria. Victorian Department of Environment and Primary Industries, Melbourne, Victoria.
- TreeTec 2020. Rare or Threatened Flora & Fauna Surveying of the proposed Kalbar Fingerboards Mineral Sands Project site. Unpublished report by TreeTec for Submitter 813.
- Viridans 2014a. Flora Information System. Viridans Biological Databases, Bentleigh East Victoria.
- Viridans 2014b. Atlas of Victorian Wildlife. Viridans Biological Databases, Bentleigh East Victoria.
-
- Additional Ecological Information, Fingerboards Mineral Sands Project, Glenaladale, Victoria

APPENDICES

Appendix 1.0 - State Significant Species

| | | | | | |
|--------------------------------------------------------------------------------|---------------------------------------------|----------------------------------------------------|------------------------------------------------------|-----------------------------------------------------------------------------|------------------------------|
| EPBC (<i>Environment Protection and Biodiversity Conservation Act 1999</i>): | | FFG (<i>Flora and Fauna Guarantee Act 1988</i>): | | DELWP (Advisory List of Rare or Threatened Plants in Victoria [DEPI 2014]): | |
| EX | Extinct | L | Listed as threatened | x | Presumed extinct in Victoria |
| CR | Critically endangered | N | Nominated for listing as threatened | e | Endangered in Victoria |
| EN | Endangered | D | Delisted as threatened | v | Vulnerable in Victoria |
| VU | Vulnerable | I | Rejected for listing as threatened; taxon invalid | r | Rare in Victoria |
| # | Listed on the Protected Matters Search Tool | X | Rejected for listing as threatened; taxon ineligible | k | Poorly known in Victoria |
| | | | | p | All subspecies threatened |

Table A1. Additional information on State significant species.

| Scientific name | Common name | Total # records (VBA) within 30km | Last documented record (VBA) within 30km | EPBC | FFG | Vic | Information on previous recorded | Potential for propagation at Kalbar's Seed Production Areas and reinstatement during the project |
|-----------------------------------|--------------------------|-----------------------------------|------------------------------------------|------|-----|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| <i>Amphibromus sinuatus</i> | Wavy Swamp Wallaby-grass | 1 | 1984 | - | - | v | Approximately 10 specimens recently recorded within the project area at 2705 Bairnsdale-Dargo Road, Glenaladale as part of targeted surveys (TreeTec 2020). A single record has previously been recorded approximately eight kilometres south of the main project area (DELWP 2020). | High |
| <i>Atriplex pseudocampanulata</i> | Mealy Saltbush | 1 | 1968 | - | - | r | A single record located approximately one kilometre north-east of the small eastern component of the project area and approximately 20 kilometres east of the project area (DELWP 2020). | High. Although not likely to be propagated and used as part of site restoration |

| Scientific name | Common name | Total # records (VBA) within 30km | Last documented record (VBA) within 30km | EPBC | FFG | Vic | Information on previous recorded | Potential for propagation at Kalbar's Seed Production Areas and reinstatement during the project |
|-----------------------------------------------------|----------------------|-----------------------------------|------------------------------------------|------|-----|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| <i>Bertya cunninghamii</i> subsp. <i>pubiramula</i> | Sticky Bertya | 9 | 2013 | - | - | r | Cluster of eight records located approximately 14 kilometres north of the main project area. One further record located approximately 25 kilometres north-east of the main project area (DELWP 2020). | High |
| <i>Beyeria lasiocarpa</i> | Wallaby-bush | 12 | 2020 | - | - | r | Two general clusters of this species, with four located approximately 15 kilometres north of the project area, and the other eight records located between approximately 27 and 46 kilometres north-east of the main project area (DELWP 2020). | High |
| <i>Cardamine microthrix</i> | Eastern Bitter-cress | 3 | 2019 | - | - | v | Approximately 220 specimens recently recorded within the project area at 2705 Bairnsdale-Dargo Road, Glenaladale and along Honeysuckle Creek as part of targeted surveys (TreeTec 2020). The three documented records are located approximately 10 kilometres north-west, seven kilometres south-east and 15 kilometres south of the project area (DELWP 2020). | High |
| <i>Cardamine papillata</i> | Forest Bitter-cress | 3 | 2017 | - | - | v | The three documented records located approximately seven kilometres south, 16 kilometres south and 33 kilometres south-east of the project area (DELWP 2020). | High |

| Scientific name | Common name | Total # records (VBA) within 30km | Last documented record (VBA) within 30km | EPBC | FFG | Vic | Information on previous recorded | Potential for propagation at Kalbar's Seed Production Areas and reinstatement during the project |
|---------------------------------|------------------------|-----------------------------------|------------------------------------------|------|-----|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| <i>Ceratophyllum demersum</i> | Hornwort | 1 | 1770 | - | - | k | Single record located approximately three kilometres north of the small eastern component of the project area and approximately 18 kilometres east of the project area along the Mitchell River (DELWP 2020). Very low potential that the species exists within the project area. | Not likely to be propagated and used as part of site restoration |
| <i>Coronidium gunnianum</i> | Pale Swamp Everlasting | 9 | 2016 | - | - | v | Approximately 10 specimens recently recorded within the project area (TreeTec 2020) (Figure 3). Two records observed within the project area towards the southern extent (1996, 2016). A cluster of six records are found approximately nine kilometres south-west of the main project area and a further record is located approximately 17 kilometres south of the project area (DELWP 2020). | High |
| <i>Corybas aconitiflorus</i> | Spurred orchid | 9 | 2014 | - | - | r | The records are dispersed to the east and south of the project area between approximately nine and 49 kilometres (DELWP 2020). | Low-moderate. Salvage and translocation of any individuals observed within the project footprint. |
| <i>Corybas fimbriatus</i> | Fringed orchid | 14 | 2019 | - | - | r | The records are dispersed in all directions of the project area between approximately five and 46 kilometres of the project area (DELWP 2020). | Low-moderate. Salvage and translocation of any individuals observed within the project footprint. |
| <i>Grevillea rosmarinifolia</i> | Rosemary Grevillea | 1 | 1986 | - | - | p | Single recorded located approximately 15 kilometres north of the main project area ((DELWP 2020). This species is likely to be planted in the region (non-indigenous). | Not likely to be propagated and used as part of site restoration. |

| Scientific name | Common name | Total # records (VBA) within 30km | Last documented record (VBA) within 30km | EPBC | FFG | Vic | Information on previous recorded | Potential for propagation at Kalbar's Seed Production Areas and reinstatement during the project |
|------------------------------------------------------|----------------------|-----------------------------------|------------------------------------------|------|-----|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| <i>Hypsela tridens</i> | Hypsela | - | - | - | - | k | <p>The VBA data shows eight records generally west/south-west of the project area between approximately 35 (Sale) and 87 (Traralgon) kilometres away that range from 1972 to 2013 (DELWP 2020).</p> <p>The VBA data shows four records generally east of the main project area between approximately 60 (Nowra Nowra) and 92 (Orbost) kilometres away that range from 1945 to 1981. These records are between approximately 42 and 72 east of the project area (DELWP 2020). Low likelihood of occurrence.</p> | Not likely to be propagated and used as part of site restoration. |
| <i>Melaleuca armillaris</i> subsp. <i>armillaris</i> | Giant Honey-myrtle | 2 | 2005 | - | - | r | Records located approximately 26 kilometres south and 33 kilometres south-west of the main project area (DELWP 2020). Not locally indigenous, not likely to occur within the project area. | Not likely to be propagated and used as part of site restoration. |
| <i>Olearia curticoma</i> | Billygoat Daisy-bush | 10 | 2013 | - | L | e | All records located north of the project area between approximately 12 and 17 kilometres of the main project area (DELWP 2020). Potential occurrence within the project area. | High |
| <i>Phebalium squamulosum</i> | Forest Phebalium | 2 | 2020 | - | - | p | Records located approximately 17 kilometres north and 43 kilometres south-west of the project area (DELWP 2020). Not likely to occur within the area area. | Not likely to be propagated and used as part of site restoration. |

| Scientific name | Common name | Total # records (VBA) within 30km | Last documented record (VBA) within 30km | EPBC | FFG | Vic | Information on previous recorded | Potential for propagation at Kalbar's Seed Production Areas and reinstatement during the project |
|------------------------------------------------------|------------------------|-----------------------------------|------------------------------------------|------|-----|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Platylobium montanum</i> subsp. <i>prostratum</i> | Mountain Flat-pea | 1 | 2020 | - | - | k | Single record located approximately 19 kilometres north-east of the main project area (DELWP 2020). Not likely to occur within the project area. | Not likely to be propagated and used as part of site restoration. |
| <i>Pomaderris eriocephala</i> | Woolly-head Pomaderris | 16 | 2020 | - | - | r | Approximately 52 specimens recently recorded within the project area along Limpers Road (TreeTec 2020). The documented records on the VBA are dispersed to the north, east and west approximately 15 and 45 kilometres of the project area (DELWP 2020). | High |
| <i>Pomaderris subcapitata</i> | Convex Pomaderris | 4 | 2020 | - | - | r | Three records are located to the north of the project area between approximately 14 and 24 kilometres. The other record is located approximately 19 kilometres west of the project area. | High |
| <i>Pterostylis aciculiformis</i> | Slender Ruddyhood | - | - | - | - | k | The closest VBA record is approximately 100 kilometres east of the project area just past Orbost. This is approximately 80 kilometres east of the small project area. The next closest two records were in 1997 in Warrandyte according to the VBA data (DELWP 2020). There is a low likelihood that this species occurs within the project area. | Low. Not likely to be propagated and used as part of site restoration. Salvage and translocation of any individuals observed within the project footprint. |

| Scientific name | Common name | Total # records (VBA) within 30km | Last documented record (VBA) within 30km | EPBC | FFG | Vic | Information on previous recorded | Potential for propagation at Kalbar's Seed Production Areas and reinstatement during the project |
|----------------------------|-------------------|-----------------------------------|------------------------------------------|------|-----|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Pterostylis fischii</i> | Fisch's Greenhood | 12 | 2014 | - | - | r | One record was observed approximately 250 metres south of the main project area towards its western end along its southern boundary. The other 11 records occur in a general south-easterly direction between approximately eight and 46 kilometres of the project area (DELWP 2020). | Low. Not likely to be propagated and used as part of site restoration. Salvage and translocation of any individuals observed within the project footprint. |
| <i>Scutellaria mollis</i> | Soft Skullcap | - | - | - | - | r | The closest VBA record is approximately 110 kilometres north-east of the project area in the Snowy River National Park from 1971. This is approximately 95 kilometres east of the project area (DELWP 2020). The remaining VBA records are in far East Gippsland east of Cann River (DELWP 2020). Not likely to occur within the project area. | Not likely to be propagated and used as part of site restoration. |
| <i>Thelymitra malvina</i> | Mauve-tuft orchid | 2 | 1984 | - | - | v | The two records are within one kilometre of each other approximately nine kilometres south-west of the project area. Potential occurrence within the project area. | Low. Not likely to be propagated and used as part of site restoration. Salvage and translocation of any individuals observed within the project footprint. |