# CLARKS ROAD, YEA 2022

Botanical Assessment


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***Natural Landscape Management***

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CLARKS ROAD, YEA BOTANICAL ASSESSMENT


**Figure 1: Western End of The Cutting on Clarks Road.**

## SUMMARY

Clarks Road running northwest to southeast from Whittlesea-Yea Road, Yea towards Murrundindi contains high quality indigenous vegetation of at least one hundred and nine indigenous species along the roadside with the central bushland reserve "The Cutting" of the highest quality overall with a splendid diversity of species surviving from the remnants of

vulnerable and endangered vegetation communities. The quality of indigenous vegetation, presence of threatened and rare species, relatively low levels of invasive weeds, good habitat, and the proximity to the adjoining forest areas and bushland, confirms Clarks Road as having significant roadside vegetation.

## AIM

The aim of this investigation is to better understand the botanical values of this roadside. The evidence should assist future management decisions and support the protection and enhancement of the natural landscape of Clarks Road, Yea.

## INTRODUCTION/ASSESSMENT PURPOSE

This is the first known botanical assessment of this estimated "several" hectares of Yea/Junction Hill district roadside vegetation. The assessment includes vegetation structure, species composition, EVC's, significant or rare plant species, locations of high threat weed species, and quality assessment. The assessment is sponsored by the Upper Goulburn Landcare Network (UGLN) as part of the Ribbons of Remnant Roadside funding by the Victorian State Government. This program seeks to generate better ecological understanding of roadside vegetation and habitat values.

**Figure 2: *Caladenia parva* Small Spider Orchid.**

# BACKGROUND

## Location

Clarks Road is located south of Yea township, set in the northern slopes of the Great Dividing Range in Central Victoria. It runs north/south between the Whittlesea/Yea Road and the Melba Highway and is situated approximately 2-300 metres above sea level (ASL). 1km to the northeast Mt Bullamalita is 505 metres ASL, and 1 km to the southwest Old Mine Hill is 426m ASL.

Clarks Road is 5km south of Yea township, immediately north of Junction Hill, 20 km northeast of Flowerdale PS, 27 km north of Glenburn, 32 km east of Strath Creek CFA, 37 km west of Alexandra township, 43 km southeast of Seymour, 50 km north of the Kinglake township, 51 km east of Broadford, and 62 km northwest of Healesville.

Clarks Road is 7.3 km long. From the northern end at 200m ASL it traverses through "The Cutting" approximately mid point at 350m ASL, then meeting Ti Tree Creek Road at the southern end at 250m ASL. Jessrellim Creek and Carter Gully shadow the road from west to east to Ti Tree Creek.


**Figure 3: Aerial map of Clarks Road (marked with black line)**

## History

Yea district is within the traditional land of the Taungurung people of the Kulin Nation.

There would have been use of much of the flora and fauna for food, clothing, medicine, weapons, and the widely practiced traditional firestick farming. There is much to learn from First Nations fire management and the lost opportunities from the abrupt changes imposed by white settlement, which it is claimed, have lead to less regular but more intense fires, now being exacerbated by climate change.

To increase awareness of the cultural value and history of indigenous flora and fauna and with respect to the longest continuous culture in the world, the author takes this opportunity to include the known First Nations (Aboriginal) use of many of the plants in this area. See Appendix 4 (First Nations/Aboriginal Use of Flora) for more detail.

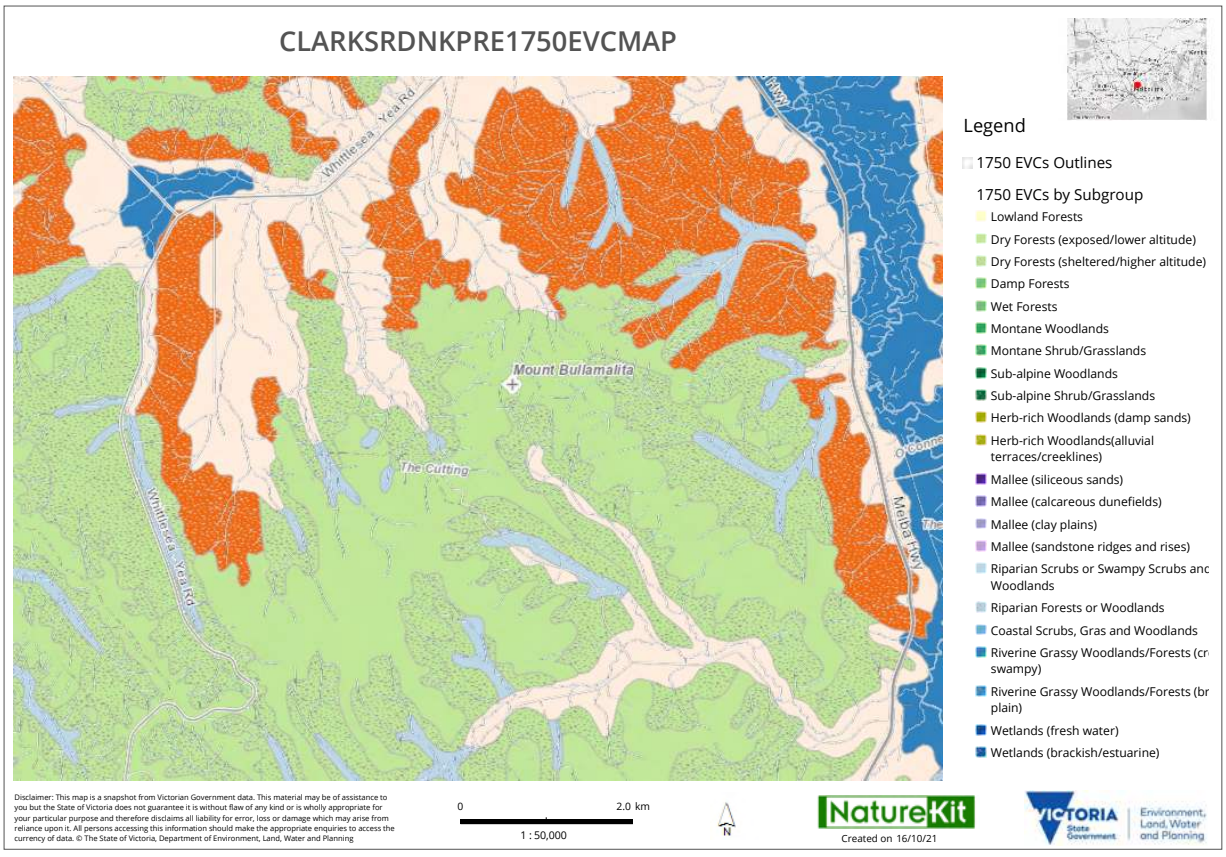


**Figure 4: Pre 1750 Clarks Road EVC's from NatureKit Biodiversity Index Map.**

The above Figure 4 shows the pre-1750 Clarks Road area as a mosaic of vegetation types including, Plains Grassy Woodland (55-pink), Valley Grassy Forest (47-spotty green), Swampy Riparian Complex (126-pale blue), Grassy Dry Forest (22-pale green), Herb-rich Foothill Forest (23-spotty green), Swampy Riparian Complex (126)/Plains Grassy Woodland

(55)/Grassy Woodland (175-white dotted orange) mix, Valley Grassy Forest (47), then Plains Grassy Woodland (55).

From the second half of the 1800's, as in many districts, gold mining was one of the first industries to have a marked effect on the area. Significant gold was recovered in this area including the Flat Lead Mine, the Welcome Mine in Junction Hill, with the gold mining shanty town in nearby Ti Tree Creek Road on the Ti Tree Creek Goldfield and the subsequent removal and use of timber. The Clarks Road area was further cleared and settled for agricultural purposes and some logging with the subsequent apparent alteration of the vegetation mix from Woodlands and Forest to a mix of today's remnants of original vegetation mostly along roadsides and on some private properties.

Contemporary landholder activities include berries, fruit trees, livestock, pine plantation, and a vineyard.

Yea district has recorded many bushfires including 1939, 2006, and 2009.

## Flora values

Yea district, including Clarks Road, sits within the Central Victorian Uplands (CVU) Bioregion and immediately north of the Highlands Northern Fall (HNF) Bioregion which are two of the 28 Bioregions as defined by the Victorian State Government.

Bioregions are a landscape-scale approach to classifying the environment using attributes such as climate, geomorphology, geology, soils and vegetation. Within these bioregions, further classifying areas into Environmental Vegetation Classes (EVC's) can assist with flora identification.

Sitting between 300 and 500m ASL on the slopes of the Great Dividing Range, this location influences the vegetation communities within.

Rainfall also influences vegetation communities. Rainfall figures from Bureau of Meteorology stations to the north Yea (BOM 1885-2021) 638.7mm, to the west Strath Creek (BOM 1982-2020) 677.6mm, to the south west Wallaby Creek 1092mm (BOM 1884-2016), and to the south east Glenburn 842.9mm (BOM 1937-2019).

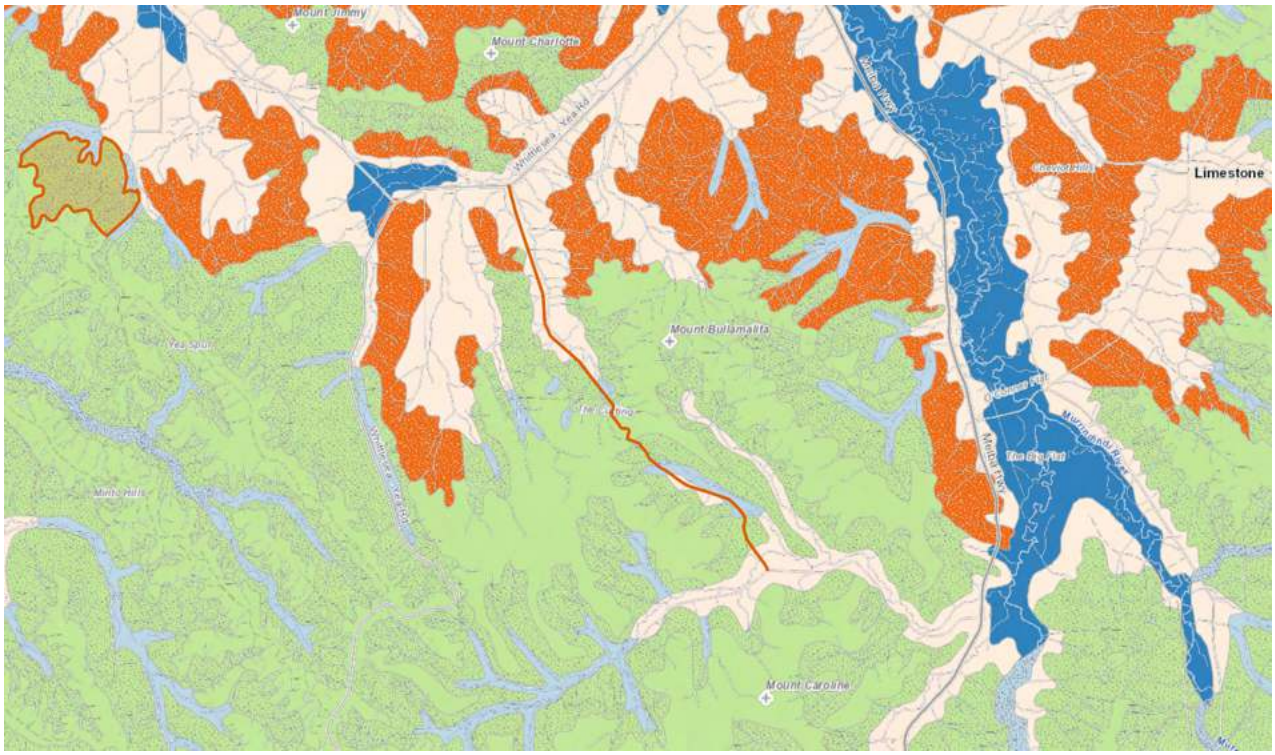


**Figure 5: Pre-1750 Clarks Road NatureKit EVC Map (with Clarks Rd marked).**

Desktop assessment using the Department of Environment Land Water & Planning's (DELWP) NatureKit online tool (see Figure 5) showed the pre-1750 Clarks Road area as a mosaic of vegetation types from west to east including, Plains Grassy Woodland (55), Valley Grassy Forest (47), Swampy Riparian Complex (126), Grassy Dry Forest (22), Herb-rich Foothill Forest (23), Swampy Riparian Complex (126)/Plains Grassy Woodland (55)/Grassy Woodland (175) mix, Valley Grassy Forest (47), then Plains Grassy Woodland (55).

As at 2005, NatureKit (Fig 6 below) shows a structure along and beside this roadside fitting many of the elements of the EVC's of Endangered Plains Grassy Woodland (55), Depleted Grassy Dry Forest (22), Endangered Swampy Riparian Complex (126), Depleted Herb-rich Foothill Forest (23), and Vulnerable Valley Grassy Forest (47). GBCMA estimate that these EVC's in this catchment are all retaining less than 50% of their pre 1750 areas with eg Plains Grassy Woodland down to 1.5% and Valley Grassy Forest down to 5.8%.

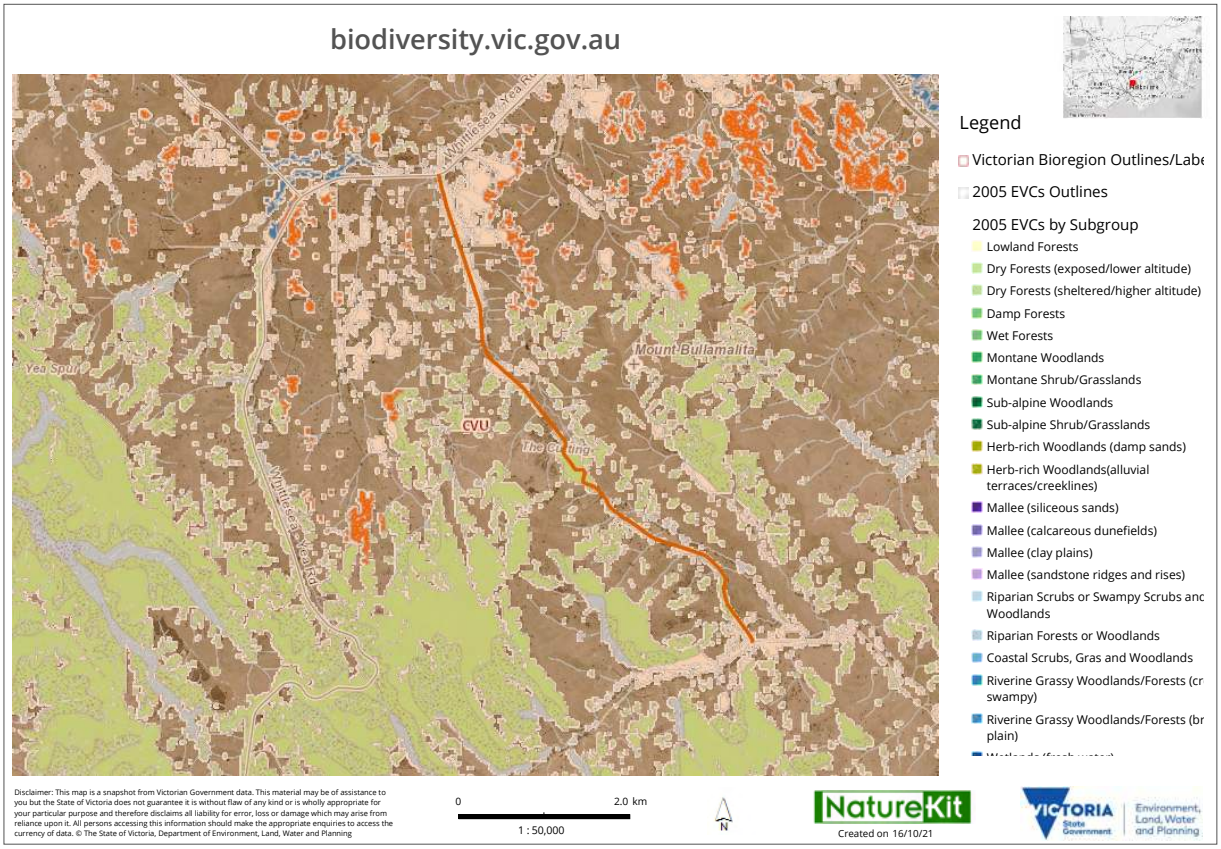


**Figure 6: 2005 Clarks Road NatureKit EVC Map.**

Whilst EVCs act as a useful guide, land use history and major disturbances such as logging, agriculture, mining, human habitation and intense bushfires complicate this process of classifying vegetation communities.

Clarks Road still retains large sections of remnant vegetation along the roadsides of varying quality although clearing, mowing, and slashing appears to have reduced the biodiversity in some sections of the roadside.

Figure 7: *Glossodia major* Wax-lip Orchid.

## Relevant Authorities and Strategies

### Local Government

Yea is within the boundaries of and thus administered by Murrindindi Shire Council (MSC). MSC have recognised Clarks Road significance by supporting this Botanic Assessment.

MSC advise of Murrundindi Planning Scheme that

"Clause 02.03 Strategic Directions includes Environmental and landscape values:

Remaining native vegetation on private land is highly fragmented and usually occurs in small or narrow linear remnants, increasing the importance of roadside and riparian vegetation. Land clearing, invasion of weeds and loss of habitat are particular threats to this vegetation….in protecting environmental and landscape values, Council supports:

Protecting environmental values, including native vegetation, roadside vegetation, and scattered paddock trees.

This is supported by the MSC Rural Roadside Management Plan (2014-18 being updated) which details the values, responsibilities, roles etc.

### Water Catchment

There is no reticulated water supply system, but, Clarks Road falls within the Goulburn Broken Catchment Management Authority (GBCMA) catchment and thus within the GB Regional Catchment Strategy 2012-2019 (currently being updated).

Jessrellim Creek and Carter Gully shadow the road from west to east to Tea Tree Creek. GBCMA seeks partnership in waterway management with the community and all levels of

government such as the Shire of Murrindindi and local residents and is ultimately responsible/accountable to the State Government.

Parks Victoria

PV is technically responsible for the Yea Bushland Reserve G54 locally referred to as "The Cutting" although it does not appear to have warranted any more than a visit in the past decade.

### State Government

Indigenous vegetation is protected by State Government on public land through the Flora and Fauna Guarantee Act 1988 (FFG), with special consideration for rare or threatened species and more broadly through the Planning and Environment Act.

Clauses 12.01 and 52.17 of the Victorian Planning Provisions seek to assist the protection and conservation of Victoria's biodiversity (including native vegetation) by ensuring that clearing of vegetation and habitat which impacts on biodiversity is regulated through Native Vegetation Clearing Regulations.

### Federal Government

The Environment Protection Biodiversity Conservation Act, 1999 (EPBC), contains protections for matters of national environmental significance including threatened vegetation communities, flora, and fauna. The recently elected federal government is expected to review the EPBC Act effectiveness.

## METHODS

This report was compiled by fieldwork in late Spring/Summer 2021 and Autumn/Winter/early Spring 2022 using visual assessment, field guides research, Landcare wildflower walks including early Spring with an ecologist. Additional information was gathered via personal communications with some local residents and other stakeholders. Vegetation Quality Assessments were assisted by using Rural Roads Victoria (RRV formerly VicRoads) Roadside Vegetation Assessment sheets.

As the roadside was the focus of the study, only one private property was visited so off road species listed are mainly those found in areas immediately adjacent including the bushland reserve.

As is a common practice, locations of flora and fauna are not always made clear to avoid potential unlawful or destructive removal.

Figure 8: *Pterostylis nutans* Nodding Greenhood.

Figure 9: Local residents and Landcarers enjoying and assessing the wildflowers.

Disclaimer

Plant identification, particularly by flowers, was mainly during late Spring, Summer, Autumn, Winter, and early Spring which covered most species and some from residents' photos. Follow up is usually suggested all year round for completeness. Also, tree species can be more difficult to identify due to height, lack of flowers and fruit, burnt bark from recent fires, and possible hybrids.

## RESULTS

This botanic assessment identified approximately 109 indigenous and 29 exotic flora species from trees through shrubs, ground flora, grasses, and ferns. This is in a structure along and beside this roadside fitting many of the elements of the EVC's of Plains Grassy Woodland (55), Grassy Dry Forest (22), Swampy Riparian Complex (126), Herb-rich Foothill Forest (23), and Valley Grassy Forest (47), including immediate surrounds.

A complete list of recorded flora is provided alphabetically by species name (including common names), and also within botanical families alphabetically in Appendix 1.

## Vegetation Quality Assessment

Using RRV Roadside Vegetation Assessment sheets, (see Appendix 1), it indicates high quality indigenous vegetation communities along the whole roadside with good vegetation structure and cover, particularly trees. The central bushland reserve "The Cutting" was of highest quality overall. This was due to several factors including rare orchids, consistent tree cover, good habitat including hollows, rocks, logs, leaf litter, low level of invasive weeds, and remnants of vulnerable or endangered vegetation communities.

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## Connectivity

Connectivity of the roadside to the adjacent rural and semirural properties adds to the habitat and biodiversity value as can be seen by the aerial photo. Continuous multi storey vegetation cover is extensive for most of the roadside.

Connectivity is assisted by proactive plantings and enhancement of existing remnants by some landholders. There are some breaks in connectivity, usually only on one side (see Figure 12) and smaller breaks particularly around farm gates.

This also correlates with the vegetation quality.

Connectivity tends to reduce some of the deleterious fragmentation and edge effects including increased risk of losing sensitive flora (and fauna), reductions in genetic diversity of those sensitive species, increased predation, and competition from species favoured by disturbance.

Figure 11: Bulbine and Chocolate Lilies in adjoining Ti Tree Creek Road.

## Biodiversity

As can be seen from the attached lists/appendices of 109 observed indigenous species, this road is considered an area of high biodiversity with remnants of the original vegetation believed to have existed before white settlement less than 200 years ago.

Figure 12: Gap in the tree cover at eastern end of Clarks Road.

## Structure

There is significant tree cover along most of the roadside with occasional gaps often around property entrances (Figure 12 above).

Some sections of the road are either regularly slashed, mowed or otherwise disturbed which appears to have reduced tree regeneration, shrub coverage and minimised groundcovers in those sections leaving mainly exotic grasses and tending to lead to single age mature trees. Multi-layered structures provide more diverse habitat and opportunities for use by a larger number of fauna species.

## Ecological Vegetation Classes (EVC's)

The Department of Environment Land Water and Planning (DELWP) NatureKit Maps indicate there are five EVC's represented along the roadside. See Figures 13 and 14 for more detail.

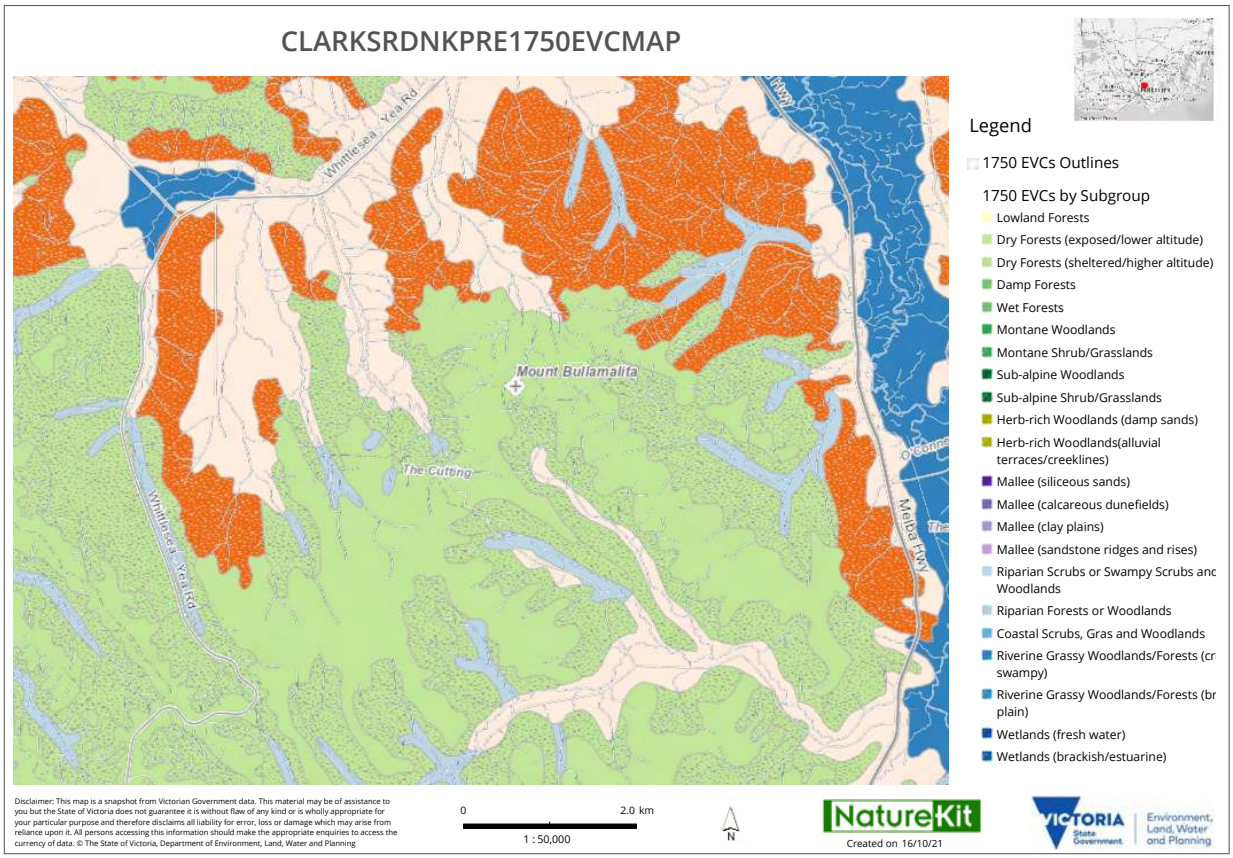


**Figure 13: Pre 1750 EVC's Clarks Road area from NatureKit Biodiversity Index Map.**

Desktop assessment using the DELWP NatureKit online tool (see Figure 13) showed the pre-1750 Clarks Road area as a mosaic of vegetation types from west to east including, Plains Grassy Woodland (55), Valley Grassy Forest (47), Swampy Riparian Complex, Grassy Dry

Forest (22), Herb-rich Foothill Forest (23), Swampy Riparian Complex (126)/Plains Grassy Woodland (55)/Grassy Woodland (175) mix, Valley Grassy Forest (47), then Plains Grassy Woodland (55).

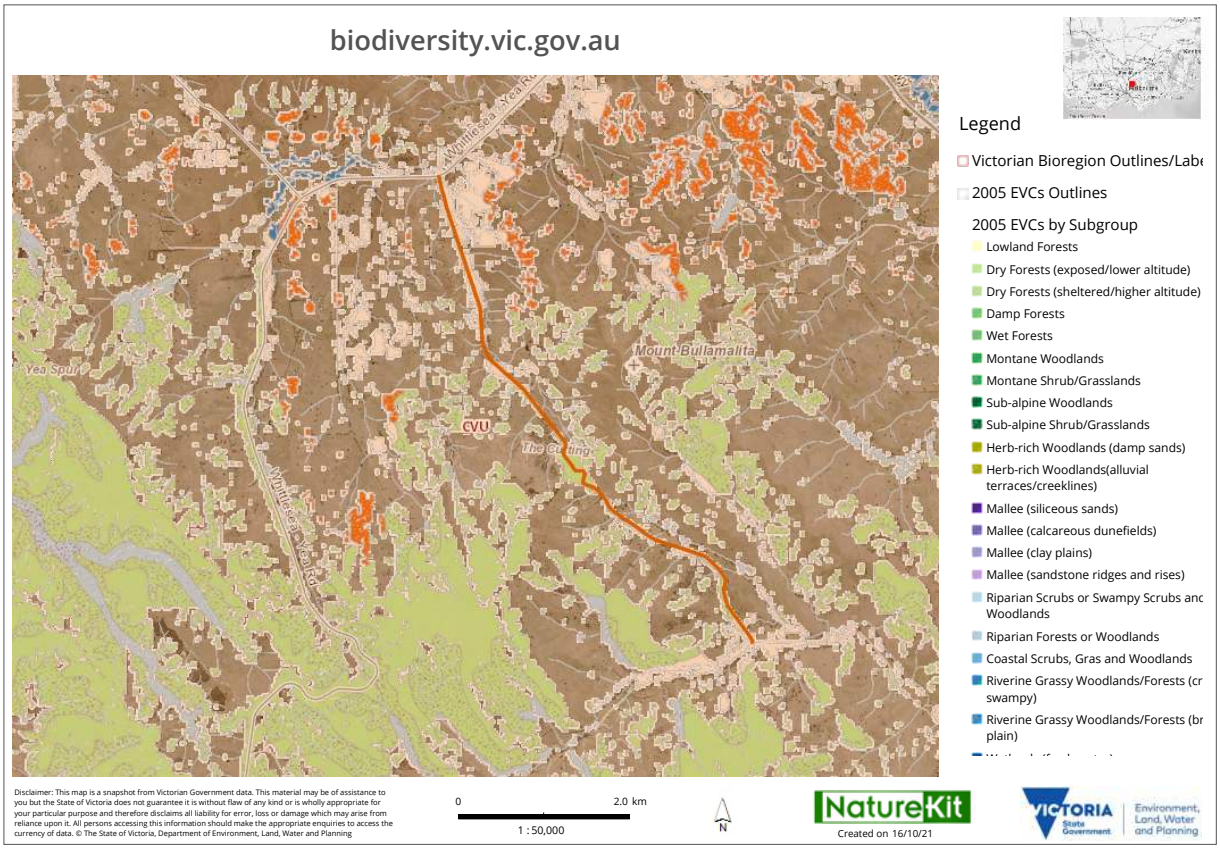


**Figure 14: Clarks Road NatureKit 2005 EVC Map.**

As at 2005, NatureKit (Fig 14 above) shows a structure along and beside this roadside fitting many of the elements of the EVC's of Endangered Plains Grassy Woodland (55), Depleted Grassy Dry Forest (22), Endangered Swampy Riparian Complex (126), Depleted Herb-rich Foothill Forest (23), and Vulnerable Valley Grassy Forest (47). GBCMA estimate that these EVC's in this catchment are all retaining less than 50% of their pre 1750 areas with eg Plains Grassy Woodland down to 1.5% and Valley Grassy Forest down to 5.8%.

Whilst EVCs act as a useful guide, land use history and major disturbances such as logging, agriculture, mining, human habitation and intense bushfires complicate this process of classifying vegetation communities.

## Trees/Darrang – (Taungurung)

Figure 15: Very old large *Eucalyptus camaldulensis* River Red Gum

Figure 16: *Acacia brownii* Heath Wattle.

Figure 17: Respecting the big old trees.

Significant indigenous tree cover along most of the road including abundant *Eucalyptus camaldulensis* (River Red Gum), *Eucalyptus dives* (Broad-leafed Peppermint), *Eucalyptus goniocalyx* (Long-leafed Box/bandi), *Eucalyptus macrorhyncha* (Red Stringybark), *Eucalyptus melliodora* (Yellow Box), *Eucalyptus microcarpa* (Grey Box), *Eucalyptus obliqua* (Messmate), *Eucalyptus polyanthemos* (Red Box), *Eucalyptus radiata* (Narrow-leafed Peppermint), *Eucalyptus rubida* (Candlebark Gum), *Acacia dealbata* (larger Silver Wattles), *Acacia mearnsii* (larger Black Wattle), *Acacia melanoxylon* (larger Blackwood/burnaaluk), *Acacia implexa* (larger Lightwood/maangga noyan), *Acacia pycnantha* (larger Golden Wattle), and *Allocasuarina littoralis* (Black Sheoak/darran). A resident apparently found evidence of an old Mountain Ash which cannot be now confirmed although other reports of ancient cut tree stumps in the district could indicate pre white settlement landscape management.

## Shrubs

**Figure 18: *Melicytus dentatus* Tree Violet.**

Wattle shrubs such as *Acacia brownii* (Heath Wattle), *Acacia dealbata* (Silver Wattle), *Acacia mearnsii* (Black Wattle), *Acacia melanoxylon* (Blackwood), *Acacia implexa* (Lightwood), *Acacia paradoxa* (Hedge Wattle/Kangaroo Thorn), *Acacia pycnantha* (Golden Wattle), and *Acrotriche serrulata* (Honey-pots), *Bursaria spinosa* (Sweet Bursaria), *Cassinia aculeata* (Dogwood/Common Cassinia), *Cassinia arcuata* (Drooping Cassinia), *Daviesia leptophylla* (Narrow-leaf Bitter-pea), *Kunzea* sp (Upright Form) (Forest Burgan), *Leptospermum continentale* (Prickly Tea-tree), *Melicytus dentatus* (Tree Violet), and *Pultenaea* sp (Pea bushes).

**Figure 19: *Pimelea curviflora* var *gracilis* Curved Rice-flower.**

**Figure 20: *Pimelea humilis* Small Riceflower**

**Figure 19A *Diuris chryseopsis* Golden Moth Orchid**

**Figure 19B** ***Pauridia vaginata*** **Yellow Star**

## Groundflora (including Lilies and Orchids)

**Figure 21: *Caladenia praecox* Early Caladenia.**

Diversity includes abundant Orchids: *Caladenia* spp (incl Spider-orchids), *Diuris* spp (Golden Moth & Tiger Orchid), *Glossodia major* (Wax-lip Orchid), *Prasophyllum* sp (Leek Orchid), *Pterostylis* spp (Maroon and Greenhoods), abundant *Thelymitra* spp incl *rubra* (Salmon Sun-orchid), *Acaena* spp (Sheep's Burr), *Arthropodium* spp (Chocolate and Vanilla Lilies), *Brunonia australis* (Blue Pincushion), *Bulbine bulbosa* (Bulbine Lilies), *Burchardia umbellata* (Milkmaids), *Craspedia variabilis* (Variable Billy-buttons), *Dianella* spp (Flax-lilies), *Dichondra repens* (Kidney-weed), abundant *Drosera* spp (Sun-dews), *Geranium* spp (Cranes-bill), *Hibbertia obtusifolia* (Showy Guinea-flower), *Hydrocotyle* spp (Pennyworts), *Hypericum gramineum* (Small St Johns Wort), *Lagenophora stipitata* (Common Bottle-daisy), abundant *Leptorhynchus* spp (Scaly/Wiry Buttons), abundant *Lomandra filiformis* ssp *coreaceae* (Wattle Mat-rush), *Pauridia vaginata* (Yellow Star), *Pimelea* spp incl *humilis* and *curviflora* (Rice-flowers), *Plantago varia* (Variable Plantain), abundant *Ranunculus* spp, *Senecio* spp (Fireweeds), *Viol*a spp (Violets), *Wahlenbergia* spp, and *Xerochrysum viscosum* (Sticky Everlasting).

Figure 22: *Arthropodium* sp Chocolate Lily

Figure 23: *Wurmbea dioica* ssp *dioica* Early Nancy

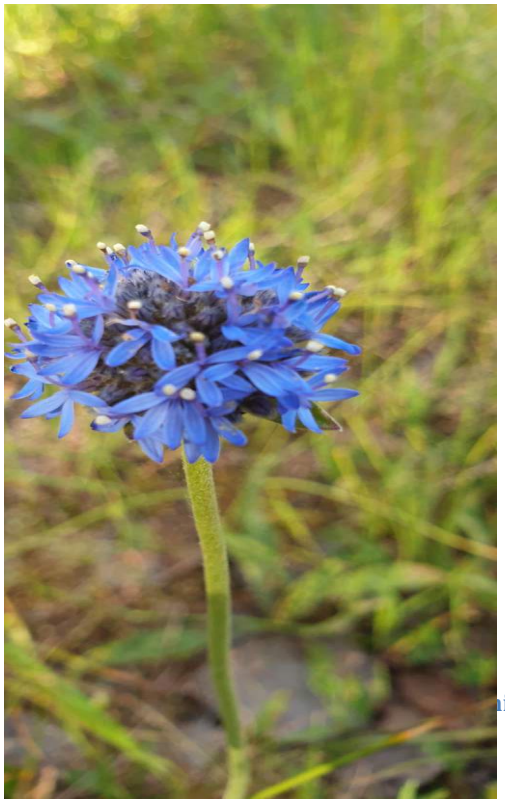

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Figure 25: *Burchardia umbellata* Milkmaids

Figure 26: *Drosera auriculata* Tall Sun-dew

**Figure 27: *Bulbine bulbosa* Bulbine Lily**

**Figure 28: *Xerochrysum viscosum* Sticky Everlasting**

**Figure 29: *Ranunculus rappaceus* Australian Buttercup (and Wasp)**

## Grasses and Grass-like Forms

*Anthosachne scabra* (Common Wheat-grass), *Austrostipa* spp incl *semibarbata* (Speargrass), *Microlaena stipoides* (Weeping Grass), *Poa morrissii* (Velvet Tussock Grass), *Rytidosperma pallidum* (Silvertop/Red-anther Wallaby Grass), *Themeda triandra* (Kangaroo Grass), and other Sedge and grass-like lifeforms.

**Figure 30: *Austrostipa semibarbata* Fibrous Spear-grass**

## Climbers

*Clematis microphylla* (Small-leaved Clematis), *Hardenbergia violacea* (Purple Coral-pea), *Kennedia prostrata* (Running Postman) and *Thysanotus patersonii* (Twining Fringe-lily).

**Figure 31: *Thysanotus patersonii* Twining Fringe-lily**

**Figure 31A *Kennedia prostrata* Running Postman**

## Ferns

*Pteridium esculentum* (Bracken Fern), *Cheilanthes sieberi* ssp *sieberi* (Narrow Rockfern), *Cyathea australis* (Rough Treefern).

Treeferns were hit hard in the last big drought according to a resident.

**Figure 32: *Cheilanthes sieberi* ssp *sieberi* Narrow Rock Fern**

## Fungi, lichens, mosses, and mistletoes

These life forms are very important, often cryptic to identify, and not always found or easily identified on roadsides. They deserve further exploration at the appropriate time of the year such as around May for fungi.

*Amyema* spp (Mistletoe)

## Habitat

Figure 33: Landcarer Chris Cobern installing nestbox in Clarks Road.

Figure 34: Wombat burrow.

The remaining sections of habitat along this roadside are sufficient to allow for a diversity of wildlife particularly with connectivity to bushland on adjacent private property areas and to The Cutting bushland reserve. There are also some trees and large logs along the roadside that contain ground level hollows. Several larger trees looked suitable for larger higher hollows.

Nesting boxes have been placed particularly around The Cutting in Autumn 2022 to provide additional habitat. (see photo).

## Indigenous Fauna

Flora as habitat is very important so fauna sightings are included in this assessment. A wide variety of animals have been observed particularly by local residents and Landcare cameras.

Over 100 bird species as well as many reptiles and mammals including Jacky Lizard, Striped Legless Lizards, Blind Snakes, Ringtail Possums, Water Rats (rakali), Echidna, Brush-tailed Possum, Brush-tailed Phascogale, Sugar Glider (see Fauna List in Appendix 2 for these and many more).

Even Lyrebirds frequent properties within a few kilometres nearby in Junction Hill.

Figure 35: *Phascogale tapoatafa* (Brush-tailed Phascogale)

# DISCUSSION

## Rare or Threatened Flora Species

Some of the species along this road are protected in Victoria if listed under the FFG Act or declared by Governor–in-Council (GiC) order, including all Orchids, and almost all Acacias, Daisies and Ferns. Some of this limited protection applies only to public land.

## Land use Threats and Opportunities

The significant fragmentation of bushland since white settlement, consequent disturbances such as weed invasions, probable changed fire regimes leading to more severe bushfires as in 2009 have all contributed to the changes to the vegetation community of the area. Fortunately, the level of awareness of their vegetation community by local residents/landowners in this area appears to be generally at a higher level than found in many similar districts. The evolutionarily developed characters of indigenous vegetation appear to have assisted survival of these processes and contributed to the roadside

biodiversity as can carefully regulated and monitored roadside burns achieve the objectives of reduced fire risk and regeneration of indigenous flora.

Ecological burning has been successfully attempted in recent years along selected local roadsides with good results in fire protection and regeneration of indigenous groundflora (see photo below),

**Figure 36: Ecological burning of roadside, Kinglake West.**

Climate change is making the fire threat increasingly more severe as the southeast of Australia will continue to get hotter and drier and with more extremes of temperature, rainfall, and winds, even if strong remedial action is belatedly taken.

## Pest Plants

High threat weed species are relatively uncommon along this roadside.

Care and attention particularly by dedicated local landholders, by the Upper Goulburn Landcare Network, and MSC in recent years have reduced high threat weed species on the roadside.

Scattered/occasional small emergent plants that are observed along the roadside could be followed up by landholders, Landcare volunteers or MSC specialist contractors to prevent re-establishment of invasive pest plants such as *Hypericum perforatum* (St Johns Wort ) amongst this biodiverse landscape or the spread of persistent noxious *Ulex europaeus* (Gorse) from the nearby creekline in adjoining property.

Lower threat weed species mentioned in the Appendix include the dominant grasses *Dactylis glomerata* (Cocksfoot), *Phalaris* sp (Canary Grass), and *Avena* sp (Bearded Oat) throughout the roadsides.

## Pest Animals

**Figure 37: Tree damaged by Deer.**

Rabbits, Foxes, Fallow and Sambar Deer have all been sighted and regularly trapped and hunted in the area with regular reports of large numbers of Deer (45 plus). Evidence of degradation of vegetation by Deer has been reported and observed also pest control measures on rabbits, foxes and deer (see Figures 37 and 38 below).

**Figure 38: Successful action on Foxes along Clarks Road.**

### Dumping

Roadside dumping on "quiet backroads" is often less of litter and more of bulk dumping. Some residents are wary of unknown vehicles and trailers who can be either dumping rubbish or waste products or illegally harvesting timber. Green waste and soil dumping can also cause weed infestations including from succulents and garden escapees which can become quite invasive. Soil disturbance including soil excavation from road works can similarly cause weed infestation and smother indigenous vegetation.

## RECOMMENDATIONS

### Community/Residents

The level of awareness of their vegetation community by local residents/landowners in the district appears to be generally at a higher level than found in many similar districts. That can vary as properties are sold or leased and as local community groups are the closest organisations to the people by their very nature, so workshops on "your local environment" with advice to residents re value of their roadsides and eradicating noxious weeds such as Gorse on their properties should be considered.

It is suggested that State and local government give continuing support to community groups such as Landcare and their local supporters that currently help to protect and enhance the ecology of the area.

### Local Government

In recent years, it is considered that MSC has had a greater awareness and made progress with weed control through specialist contractors with working knowledge of indigenous and weedy species across the Murrindindi Shire.

Scattered/occasional small emergent noxious weeds of the district such as Blackberry, Broom, Gorse, and St Johns Wort should be prevented by specialist contractor maintenance to prevent re-establishment of invasive pest plants along this relatively clean roadside.

Also, MSC should ensure clear coordination with other authorities (eg PV at The Cutting) of responsibility on the road maintenance and works on such a significant roadside.

Local government is the closest level of government to the people and is the managing authority of local roads such as Clarks Road, so there appears to be a need for continuing cooperative advice to residents through workshops, and sponsoring community initiatives such as Landcare flora and fauna walks, workshops, botanical tours, and pest control measures on rabbits, foxes and deer to raise the level of awareness of local residents. Also, MSC could actively promote green waste receival at the Municipal Transfer Stations to further reduce illegal dumping and resident burn offs. Finally, carefully regulated and monitored ecological/bushfire prevention burns of roadside should be considered as

previous examples have apparently achieved their objectives of reduced fire risk and regeneration of indigenous flora.

### State Government

Over recent years, changes to legislation in Victoria transferred the responsibility for noxious weeds on roadside to Local Government from a former State responsibility. However, this transfer of responsibilities has not usually been accompanied by sufficient resources particularly for rural shires with large areas of responsibility and limited growth areas compared to many urban local governments with established facilities or growth areas with complementary significant developer funding.

Parks Victoria, which manages Kinglake National Park to the south, also has responsibility for some small bushland reserves in the area such as at The Cutting. A scarcity of resources for community education, weed control, pest control, etc. can have a limiting effect on their ability to more effectively protect and enhance the significant flora and fauna of the district, and thus indirectly connectivity with Clarks Road. There have been some successes in the district with a Fox control program in cooperation with DELWP, Parks Victoria, Upper Goulburn Landcare Network, and interested landowners, managers, and residents.

Most State agencies such as DELWP are administered from outside the District which, combined with funding restraints, can limit their local activities and enforcement of the FFG Act etc.

Road and roadside vegetation maintenance of the nearby Melba Highway and Whittlesea-Yea Roads by Rural Roads Victoria can also affect local roads such as Clarks Road including its habitat connectivity.

**Figure 39: Eastern Clarks Road.**

## APPENDIX I FLORA SPECIES (alphabetical by species and also by family)

### Indigenous Flora

| | |
|---|---|
| *Acacia brownii* | Heath Wattle |
| *Acacia dealbata* | Silver Wattle |
| *Acacia implexa* | Lightwood (maangga noyan) |
| *Acacia mearnsii* | Black Wattle (garrong) |
| *Acacia melanoxylon* | Blackwood |
| *Acacia paradoxa* | Hedge Wattle |
| *Acacia pycnantha* | Golden Wattle |
| *Acaena agnipila* | Hairy Sheep's Burr |
| *Acaena echinata* | Sheep's Burr |
| *Acaena novae-zelandiae* | Bidgee-widgee |
| *Acrotriche serrulata* | Honey-pots |
| *Allocasuarina littoralis* | Black Sheoak (darran) |
| *Amyema* spp | Mistletoe |
| *Anthosachne scabra* | Common Wheat-grass |
| Aphanes australiana | Australian Piert |
| *Arthropodium strictum* (A) | Chocolate Lily |
| *Arthropodium* sp (A) | Chocolate/Vanilla Lilies |
| *Asperula scoparia* ssp *scoparia* | Prickly Woodruff |
| *Austrostipa semibarbata* | Fibrous Spear-grass |
| *Austrostipa* spp | Spear Grasses |
| *Brunonia australis* | Blue Pincushion |
| *Bulbine bulbosa* (A) | Bulbine Lily |
| *Burchardia umbellata* | Milkmaids |
| *Bursaria spinosa* | Sweet Bursaria |
| *Caladenia parva* | Small Spider-orchid |
| *Caladenia praecox* | Early Caladenia |
| *Caladenia* spp | Caladenia |

| | |
|---|---|
| *Carex appressa* | Tall Sedge |
| *Cassinia aculeata* | Dogwood/Common Cassinia |
| *Cassinia arcuata* | Drooping Cassinia |
| *Cheilanthes sieberi* ssp *sieberi* | Narrow Rockfern |
| *Clematis microphylla* | Small-leaved Clematis |
| *Craspedia variabilis* | Variable Billy-buttons |
| *Cyathea australis* (gumbada)? | Rough Treefern |
| *Cymbonotus preissianus* | Austral Bear's-ear |
| *Cynoglossum suaveolens* | Sweet Hound's-tongue |
| *Daviesia leptophylla* | Narrow-leaf Bitter-pea |
| *Dianella revoluta* var *revoluta* | Black-anther Flax-lily |
| *Dichondra repens* | Kidney-weed |
| *Dicksonia antarctica*? | Soft Treefern |
| *Diuris chryseopsis* | Golden Moths |
| *Diuris sulphurea* | Tiger Orchid |
| *Drosera aberrans* | Scented Sundew |
| *Drosera auriculata* (A) | Tall Sundew |
| *Drosera* spp (A) | Sundews |
| *Eucalyptus camaldulensis* (A) | River Red Gum (bi-al/be-al) |
| *Eucalyptus dives* | Broad-leafed Peppermint (yuluk) |
| *Eucalyptus goniocalyx* | Long-leafed Box, (bundi) |
| *Eucalyptus macrorhyncha* | Red Stringybark |
| *Eucalyptus melliodora* | Yellow Box |
| *Eucalyptus microcarpa* | Grey Box |
| *Eucalyptus muellerana* | Yellow Stringybark? |
| *Eucalyptus obliqua* | Messmate Stringybark |
| *Eucalyptus polyanthemos* ssp *vestita* | Red Box (A) |
| *Eucalyptus radiata* (yuluk) | Narrow-leafed Peppermint |
| *Eucalyptus rubida* | Candlebark |
| *Geranium potentilloides* (A) | Soft Crane's-bill |

| | |
|---|---|
| *Geranium* sp 2 | Crane's-bill |
| *Glossodia major* | Wax-lip Orchid |
| *Gonocarpus tetragynus* | Common Raspwort |
| *Hardenbergia violacea* | Purple Coral-pea |
| *Hydrocotyle callicarpa* | Small Pennywort |
| *Hydrocotyle laxiflora* | Stinking Pennywort |
| *Hypericum gramineum* | Small St Johns Wort |
| *Indigofera australis* | Austral Indigo |
| *Juncus* spp | Rushes |
| *Kennedia prostrata* | Running Postman |
| *Kunzea* sp (Upright form) | Forest Burgan |
| *Lagenophera stipitata* | Common Bottle-daisy |
| *Leptorhynchos squamatus* (A) | Scaly Buttons |
| *Leptospermum continentale* | Prickly Tea-tree |
| *Levenhookia dubia* | Hairy Stylewort |
| *Lomandra filiformis* ssp *coriacea* | Wattle Mat-rush |
| *Luzula meridionalis* | Common Woodrush |
| *Melicytus dentatus* | Tree Violet |
| *Microlaena stipoides* var *stipoides* | Weeping Grass |
| *Pauridia vaginata* | Yellow Star |
| *Pimelea curviflora* var *gracilis* | Curved Pimelea |
| *Pimelea humilis* | Small Riceflower |
| *Plantago varia* | Variable Plantain |
| *Poa morrisii* | Velvet Tussock-grass (bu-iy/bowat) |
| *Prasophyllum* spp | Leek Orchids |
| *Pteridium esculentum* | Austral Bracken |
| *Pterostylis curta* | Blunt Greenhood |
| *Pterostylis nutans* | Nodding Greenhood |
| *Pterostylis pedunculata* | Maroonhood |
| *Pultenaea* sp | Bush-pea |

| | |
|---|---|
| *Pycnosorus globosus* | Drumsticks |
| *Ranunculus glabrifolius* | Shining Buttercup |
| *Ranunculus lappaceus* | Australian Buttercup |
| *Ranunculus sessiliflorus* var *sessiliflorus* | Annual Buttercup |
| *Rumex brownii* | Slender Dock |
| *Rytidosperma pallidum* | Silvertop/Red-anther Wallaby Grass |
| *Rytidosperma* spp | Wallaby Grasses |
| *Sebaea ovata* | Yellow Sebaea |
| *Senecio glomeratus* | Annual Fireweed |
| *Senecio prenanthoides* | Beaked Fireweed |
| *Senecio quadridentata* | Cotton Fireweed |
| *Senecio* spp | Fireweeds |
| *Thelymitra rubra* | Salmon Orchid |
| *Thelymitra* spp (incl Blue) | Sun-orchids |
| *Themeda triandra* | Kangaroo Grass |
| *Thysanotus patersonii* | Twining Fringe Lily |
| *Typha* spp? | Cumbungi/Bulrush (cumbungi) |
| *Viola hederacea* | Ivy-leaf Violet |
| *Wahlenbergia communis* | Tufted Bluebell |
| *Wahlenbergia gracilenta* ss | Hairy Annual-bluebell |
| *Wahlenbergia stricta* ssp *stricta* | Tall Bluebell |
| *Wurmbea dioica* ssp *dioica* (A) | Common Early Nancy |
| *Xerochrysum viscosum* | Sticky Everlasting |

### Exotic Flora

| | |
|---|---|
| *Amaryllis belladonna* | Belladonna Lily |
| *Anthoxanthum odoratum* | Sweet Vernal Grass |
| *Arctotheca calendula* | Capeweed |
| *Avena* sp (A) | Wild Oat |
| *Briza maxima* | Quaking Grass |
| *Centaurium erythraea* | Common Centaury |

| | |
|---|---|
| *Cicendia filiformis* | Slender Cicendia |
| *Dactylis glomerata* (A) | Cocksfoot |
| *Ehrharta* sp | Veldt Grass |
| *Erodium botrys* | Long Storks-bill |
| *Galium aparine* | Cleavers |
| *Galium murale* | Small Goosegrass |
| *Holcus lanatus* | Yorkshire Fog |
| *Hypericum perforatum* | St Johns Wort |
| *Hypochaeris glabra* | Smooth Cat's-ear |
| *Hypochaeris radicata* | Cats-ears |
| *Petrorhargia dubia/nanteuillii* | Proliferous Pink |
| *Phalaris* sp (A) | Canary Grass |
| *Pinus radiata* | Monterey Pine |
| *Plantago* spp | Plantain/Ribwort |
| *Rosa rubiginosa* | Briar Rose |
| *Rubus fruticosus* spp agg | European Blackberry spp |
| *Sherardia arvensis* | Field Madder |
| *Silene gallica* var *gallica* | French Catchfly |
| *Sonchus* spp (A) | Sow-thistle |
| *Taraxacum officinale* | Dandelion |
| *Trifolium campestre* var *campestre* | Hop Clover |
| *Trifolium* spp | Clovers |
| *Ulex europaeus* (A in adj creek) | Gorse |

**Figure 40: Amaryllis belladonna Belladonna Lily.**

## ALL FLORA BY FAMILY

### FERNS AND ALLIES

#### Cyatheaceae

| | |
|---|---|
| *Cyathea australis*? | Rough Tree-fern |

#### Dennstaedtiaceae

| | |
|---|---|
| *Pteridium esculentum* | Austral Bracken |

#### Dicksoniaceae

| | |
|---|---|
| *Cheilanthes sieberi* ssp *sieberi* | Narrow Rock-fern |
| *Dicksonia antarctica*? | Soft Tree-fern |

### CONIFERS

#### Pinaceae

| | |
|---|---|
| **Pinus radiata* | Monterey Pine |

## MONOCOTYLEDONS

| | |
|---|---|
| **Amaryllidaceae** | |
| **Amaryllis belladonna* | Belladonna Lily |
| **Asparagaceae** | |
| *Arthropodium strictum* | Chocolate Lily |
| *Arthropodium* spp | Chocolate Lilies |
| *Lomandra filiformis* ssp *coriaceae* | Wattle Mat-rush |
| *Thysanotus patersonii* | Twining Fringe-lily |
| **Asphodelaceae** | |
| *Bulbine bulbosa* | Bulbine Lily |
| **Colchicaceae** | |
| *Burchardia umbellata* | Milkmaids |
| *Wurmbea dioica* ssp *dioica* (A) | Early Nancy |
| **Cyperaceae** | |
| *Carex appressa* | Tall Sedge |
| **Gentianaceae** | |
| **Centaurium erythraea* | Common Centaury |
| **Cicendia filiformis* | Slender Cicendia |
| *Sebaea ovata* | Yellow Sebaea |
| **Hemerocallidaceae** | |
| *Dianella revoluta* var *revoluta* | Black-anthered Flax-lily |
| **Hypoxidaceae** | |
| *Pauridia vaginata* | Yellow Star |
| **Juncaceae** | |
| *Luzula meridionalis* | Common Woodrush |
| *Juncus* spp | Rushes |
| **Orchidaceae** | |
| *Caladenia parva* | Small Spider-orchid |

| | |
|---|---|
| *Caladenia praecox* | Early Caladenia |
| *Caladenia* spp | Caladenia Orchids |
| *Diuris chryseopsis* | Golden Moths |
| *Diuris sulphurea* | Tiger Orchid |
| *Glossodia major* | Wax-lip Orchid |
| *Prasophyllum* spp | Leek Orchids |
| *Pterostylis curta* | Blunt Greenhood |
| *Pterostylis nutans* | Nodding Greenhood |
| *Pterostylis pedunculata* | Maroonhoods |
| *Thelymitra rubra* | Salmon Orchid |
| *Thelymitra* spp (incl Blue) | Sun-orchids |

### Poaceae

| | |
|---|---|
| *Anthosachne scabra* | Common Wheat-grass |
| * *Anthoxanthum odoratum* | Sweet Vernal-grass |
| *Austrostipa semibarbata* | Fibrous Spear-grass |
| *Austrostipa* spp | Spear Grasses |
| **Avena* sp (A) | Wild Oat |
| **Briza maxima* | Quaking Grass |
| * *Dactylis glomerata* (A) | Cocksfoot |
| **Ehrharta* sp | Veldt Grass |
| **Holcus lanatus* | Yorkshire Fog |
| *Microlaena stipoides* var *stipoides* | Weeping Grass |
| * *Phalaris* sp (A) | Canary Grass |
| *Poa morrissii* | Velvet Tussock-grass |
| *Rytidosperma pallidum* | Silvertop/Red-anther Wallaby Grass |
| *Rytidosperma* spp | Wallaby Grasses |
| *Themeda triandra* | Kangaroo Grass |

### Typhaceae

| | |
|---|---|
| *Typha* spp? | Cumbungi/Bulrush |

## DICOTYLEDONS

### Araliaceae

| | |
|---|---|
| *Hydrocotyle callicarpa* | Small Pennywort |
| *Hydrocotyle laxiflora* | Stinking Pennywort |

### Asteraceae

| | |
|---|---|
| **Arctotheca calendula* | Capeweed |
| *Cassinia aculeata* | Dogwood/Common Cassinia |
| *Cassinia arcuata* | Drooping Cassinia |
| *Craspedia variabilis* | Variable Billy-buttons |
| *Cymbonotus preissianus* | Austral Bear's-ear |
| **Hypochaeris glabra* | Smooth Cat's-ear |
| **Hypochaeris radicata* | Cat's-ears/Flatweed |
| *Lagenophera stipitata* | Common Bottle-daisy |
| *Leptorhynchos squamatus* (A) | Scaly Buttons |
| *Pycnosorus globosus* ? | Drumsticks |
| *Senecio glomeratus* | Annual Fireweed |
| *Senecio prenanthoides* | Beaked Fireweed |
| *Senecio quadridenta* | Cotton Fireweed |
| *Senecio* spp | Fireweed |
| **Sonchus* spp (A) | Sow-thistle |
| **Taraxacum officinale* | Dandelion |
| *Xerochrysum viscosum* | Sticky Everlasting |

### Boraginaceae

| | |
|---|---|
| *Cynoglossum suaveolens* | Sweet Hound's-tongue |

### Campanulaceae

| | |
|---|---|
| *Wahlenbergia communis* | Tufted Bluebell |
| *Wahlenbergia gracilenta* ss | Hairy Annual-bluebell |
| *Wahlenbergia stricta* ssp *stricta* | Tall Bluebell |

| | |
|---|---|
| **Caryophyllaceae** | |
| **Petrorhargia dubia/nanteuillii* | Proliferous Pink |
| **Silene gallica* var *gallica* | French Catchfly |
| **Casuarinaceae** | |
| *Allocasuarina littoralis* | Black Sheoak |
| **Clusiaceae** | |
| *Hypericum gramineum* | Small St Johns Wort |
| **Hypericum perforatum* | St John's Wort |
| **Convolvulaceae** | |
| *Dichondra repens* | Kidney Weed |
| **Droseraceae** | |
| *Drosera aberrans* | Scented Sundew |
| *Drosera auriculata* (A) | Tall Sundew |
| *Drosera* spp (A) | Sundews |
| **Ericaceae** | |
| *Acrotriche serrulata* | Honey-pots |
| **Fabaceae** | |
| *Daviesia leptophylla* | Narrow-leaf Bitter-pea |
| *Hardenbergia violacea* | Purple Coral-pea |
| *Indigofera australis* | Austral Indigo |
| *Kennedia prostrata* | Running Postman |
| *Pultenaea* sp | Bush-pea |
| **Trifolium campestre* var *campestre* | Hop Clover |
| **Trifolium* spp | Clovers |
| **Ulex europaeus* (A in adjacent creek) | Gorse |
| **Geraniaceae** | |
| **Erodium botrys* | Long Storks-bill |
| *Geranium potentilloides* (A) | Soft Cranes-bill |
| *Geranium* sp 2 | Cranes-bill |

| | |
|---|---|
| **Goodeniaceae** | |
| *Brunonia australis* | Blue Pincushion |
| **Haloragaceae** | |
| *Gonocarpus tetragynus* | Common Raspwort |
| **Loranthaceae** | |
| *Amyema* spp | Mistletoe |
| **Mimosaceae** | |
| *Acacia brownii* | Heath Wattle |
| *Acacia dealbata* | Silver Wattle |
| *Acacia implexa* | Lightwood |
| *Acacia mearnsii* | Black Wattle |
| *Acacia melanoxylon* | Blackwood |
| *Acacia paradoxa* | Hedge Wattle |
| *Acacia pycnantha* | Golden Wattle |
| **Myrtaceae** | |
| *Eucalyptus camaldulensis* (A) | River Red Gum |
| *Eucalyptus dives* | Broad-leafed Peppermint |
| *Eucalyptus goniocalyx* | Long-leaf Box, Bundy |
| *Eucalyptus macrorhyncha* | Red Stringybark |
| *Eucalyptus melliodora* | Yellow Box |
| *Eucalyptus microcarpa* | Grey Box |
| *Eucalyptus muellerana*? | Yellow Stringybark |
| *Eucalyptus obliqua* | Messmate Stringybark |
| *Eucalyptus polyanthemos* ssp *vestita* (A) | Red Box |
| *Eucalyptus radiata* | Narrow-leafed Peppermint |
| *Eucalyptus rubida* | Candlebark |
| *Kunzea* sp (Upright form) | Forest Burgan |
| *Leptospermum continentale* | Prickly Tea-tree |

| | |
|---|---|
| **Pittosporaceae** | |
| *Bursaria spinosa* | Sweet Bursaria |
| **Plantaginaceae** | |
| **Plantago* spp | Plantain/Ribwort |
| *Plantago varia* | Variable Plantain |
| **Polygonaceae** | |
| *Rumex brownii* | Slender Dock |
| **Ranunculaceae** | |
| *Clematis microphylla* | Small-leaved Clematis |
| *Ranunculus glabrifolius* | Shining Buttercup |
| *Ranunculus lappaceus* | Australian Buttercup |
| *Ranunculus sessiliflorus* var *sessiliflorus* | Annual Buttercup |
| **Rosaceae** | |
| *Acaena agnipila* | Hairy Sheep's Burr |
| *Acaena echinata* | Sheep's Burr |
| *Acaena novae-zelandae* | Bidgee-widgee |
| *Aphanes australiana* | Australian Piert |
| **Rosa rubiginosa* | Briar Rose |
| **Rubus fruticosus* sp agg | European Blackberry Species |
| **Rubiaceae** | |
| *Asperula scoparia* ssp *scoparia* | Prickly Scoparia |
| **Galium aparine* | Cleavers |
| **Galium murale* | Small Goosegrass |
| **Sherardia arvensis* | Field Madder |
| **Stylidiaceae** | |
| *Levenhookia dubia* | Hairy Stylewort |
| **Thymeleaceae** | |
| *Pimelea curviflora* var *gracilis* | Curved Pimelea |
| *Pimelea humilis* | Small Riceflower |

## Violaceae

| | |
|---|---|
| *Melicytus dentatus* | Tree Violet |
| *Viola hederacea* | Ivy-leaf Violet |

## Notation

A – abundant

P - planted

* - Exotic Flora

? – not confirmed/previously recorded in the area but not observed during this assessment

**Figure 41: *Craspedia variabilis* Variable Drumsticks**

# APPENDIX 2 – FAUNA SPECIES OBSERVED OR RECORDED


Figure 42: Brush-tailed Phascogale.


Figure 43: Ringtail Possum.

## Indigenous fauna

### Birds

Australian White Ibis
Australian Wood Duck
Australian Owlet Nightjar
Australian Magpie
Australian Raven
Barn Owl
Black-faced Cuckoo-shrike
Brown Falcon
Brown Goshawk
Brown-headed Honeyeater
Black-chinned Honeyeater
Brown Thornbill
Buff-rumped Thornbill
Chestnut Teal
Common Bronzewing
Crested Pigeon
Crimson Rosella
Dusky Woodswallow
Eastern Rosella
Eastern Spinebill
Fork-tailed Swift
Galah
Gang-gang Cockatoo
Golden Whistler
Great Egret
Grey Butcherbird
Grey Currawong
Grey Fantail
Grey Shrike-thrush
Grey Teal
Hoary-headed Grebe
Horsfields Bronze-cuckoo
Jacky Winter
King Parrot
Laughing Kookaburra
Lewins Rail
Little Black Cormorant
Little Corella
Little Wattlebird
Long-billed Corella
Magpie-lark
Mistletoe bird
Musk Duck
Nankeen Kestrel
New Holland Honeyeater
Noisy Miner
Olive-backed Oriole
Pacific Black Duck
Pallid Cuckoo
Pied Cormorant
Pied Currawong
Peregrine Falcon
Pied Butcherbird
Rainbow Lorikeet
Red-browed Finch
Red-rumped Parrot
Red Wattlebird
Sacred Kingfisher

Satin Flycatcher
Scarlet Robin
Silvereye
Southern Boobook
Spotted Pardalote
Striated Pardalote
Striated Thornbill
Stubble Quail
Sulphur-crested Cockatoo
Superb Fairy-wren
Superb Lyrebirds
Swift Parrot
Tawny Frogmouth
Tree Martin
Wedge-tailed Eagle
Welcome Swallow
White-browed Scrubwren
White-faced Heron
White-eared Honeyeater
White-naped Honeyeater
White-throated Treecreeper
White-winged Chough
Willie Wagtail
Yellow-faced Honeyeater
Yellow-tailed Black Cockatoo
Yellow-billed Spoonbill
Yellow Thornbill

### Reptiles:

Blind Snake
Blue-tongued Lizard
Long-necked Turtle
Jacky Lizard
Striped Legless Lizard

### Mammals:

Wombat
Water Rat (Rakali)
Swamp Wallaby
Brush-tailed Phascogale
Brush-tailed Possum
Echidna
Eastern Grey Kangaroo
Sugar Glider
Ringtail Possum

Figure 44: Brush-tailed Possum

Figure 45: Echidna.

Exotic Fauna

Feral Cat

Rabbit

Red Fox

Deer (Fallow and Sambar)


Figure 46: Fallow Deer.


Figure 47: Red Foxes.

## APPENDIX 3 – RRV (VICROADS) ROADSIDE VEGETATION ASSESSMENT SHEET

The roadsides were assessed and rated high (15+), medium (8-14), and low (1-7) quality roadside vegetation, reflecting the various characters shown on the attached sheet including diversity of indigenous flora species.

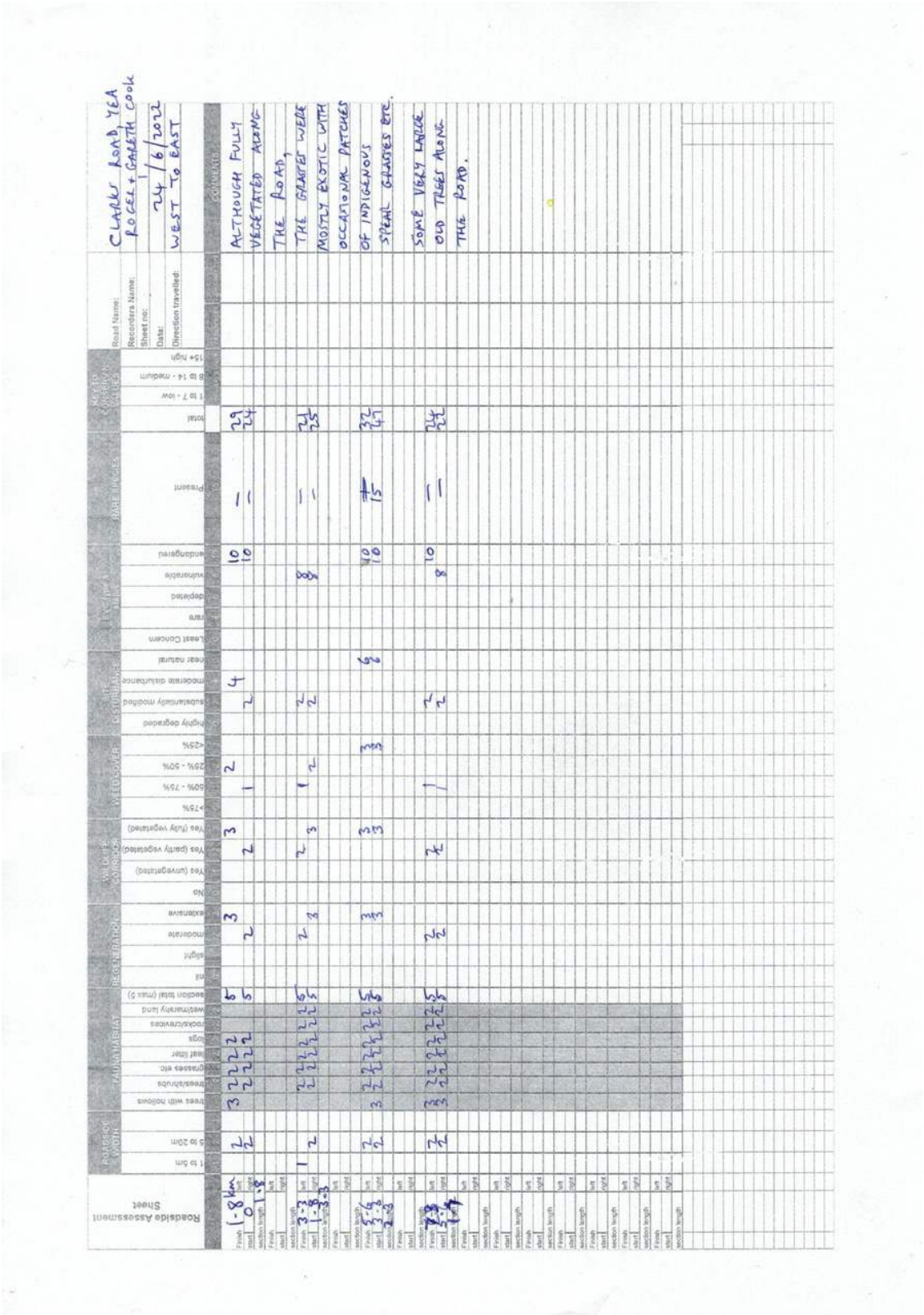


**Figure 48: RRV (Vicroads) Roadside vegetation assessment sheet**

## APPENDIX 4 –FIRST NATIONS (Aboriginal ) USE OF FLORA

Many of the plants found around Clarks Road area are species used by First Nations people across Victoria. From *Use of Victorian Plants by Koories*, in the Flora of Victoria Volume 1 by Beth Gott, and *Taungurung* compiled by Mrs Leah Healy, detailed below are uses of local species and also indigenous names applied where known:

-for fibre, adhesives, and implements

Acacia spp bark for buckets, inner bark for string; *Acacia dealbata* (moy-yan) resin for adhesives and wood for axe handles; *Acacia melanoxylon* (burnnalook) inner bark for string, wood for woomeras, shields, and throwing sticks; *Acacia verticillata* bark for string fishing lines; *Allocasuarina* spp wood for boomerang, club, and shield; *Allocasuarina littoralis* (darran/wayetuck) bark for string/containers, wood for implements; *Banksia* spp. cones for strainers and fire carriers; *Clematis microphylla* root fibre for headbands; *Exocarpos cupressiformis* (ballee) wood used for spear throwers and bullroarers; *Dianella* spp (murmbal) for basketmaking, tying; *Eucalyptus* spp. (incl gums and stringybarks) inner bark for string, bags, and nets, and suitable species for heavy spears and digging tools eg *E. camaldulensis* bark for canoes, tarnuks (bowls), *E. viminalis* for shields, tarnuks; *Hedycarya angustifolia* (djelwuck) wood for firedrills and spear ends; *Juncus* spp stems for baskets and string; *Kennedia prostrata* stems for tying; *Kunzea* sp Upright Type (burgan) wood for spears, clubs, and boomerangs; *Lepidosperma* spp. leaves for baskets; *Lomandra longifolia* (kurawan) leaves for baskets, net bags, mats, and eel-traps; *Melaleuca* spp. paperbark for swaddling; *Pimelea axiflora* bark as string for fine nets, and bootlaces; *Poa ensiformis* (bowat) leaves and stems for string and baskets; *Pomaderris aspera* wood for pegs stretching animal skins; *Prostanthera lasianthos* (coranderrk/geringda) stems for fire drill; *Themeda triandra* leaves and stem for string, fishing nets; *Typha* spp rhizome and leaf for string; and *Xanthorrhea* spp (bagap/baggup/mymurrung/toolemerin) resin from leaf for adhesives, stems as a base for fire-drills and spears, and leaves for cutting meat.

and for food, medicine, and fish-poisons from all parts of plants including seeds, flowers, roots, and leaves –

*Acacia dealbata* (moy-yan) gum for food and also applied to sores and wounds, and bark infusion for indigestion; *Acacia melanoxylon* bark infusion for rheumatic joints; *Acrotriche* spp small drupes eaten or soaked in water or sucked for nectar; *Allocasuarina littoralis* (darran/wayetuck) gum was eaten, bark for wounds and sores, stems and cones chewed to relieve thirst; *Amyema* spp for berries; *Arthropodium* spp tubers probably eaten; *Banksia* spp flowers steeped in water for nectar; *Billardiera scandens* (garawang) berries eaten raw; *Bulbine bulbosa* (pike) bulb eaten; *Burchardia umbellata* tubers eaten; *Clematis microphylla* roots peppery when raw; *Coprosma quadrifida* (morr) berries eaten raw; *Cyathea australis* (pooeet) and *Dicksonia antarctica* (kombadik/gumbadik) heart of the stems raw or cooked, and *Cyathea* stalks of young leaves roasted and eaten as a tonic; *Eucalyptus* spp. flowers for nectar, sugary lerps on some spp, seed soaked and ground, and gum for toothache, *E. camaldulensis* gum for burns and diarrhea, and *E. viminalis* leaf to smoke out fever and decoction for sores; *Exocarpos* spp succulent fruiting pedicel eaten raw; *Exocarpos*

*cupressiformis* (ballee) sap as cure for snakebite (Tasmania?); *Geranium* spp.(terrat) tubers for food; *Helichrysum luteoalbum* (in Qld) leaf infusion for general sickness; *Kunzea* sp Upright Type (burgan) leaves burned to repel insects; *Lomandra* spp. flowers for nectar; *Orchidaceae* tubers of most species for food; *Mentha* spp used as lining for earth ovens; *Polyscias sambucifolia* fleshy fruit edible, probably used; *Pteridium esculentum* rhizomes cooked and beaten for food (and in Qld young stem for insect bites); *Rubus* spp. fleshy fruits; *Sambucus* spp. whitish drupes eaten raw; *Solanum* spp. ripe berries eaten, but, some Solanum species are highly toxic; *Thysanotus* spp tubers; *Typha* spp fleshy rhizome and young shoots eaten; *Urtica incisa* leaves and young stems cooked (in SA), poultices of leaves and stems for sprains (and in NSW as a poultice for rheumatism); *Wurmbea* spp tubers and leaf bases eaten, flowers for nectar; and *Xanthorrhea* spp (bagap/baggup/mymurrung/toolemerin) tubers of young plants and leaf bases, eaten; flowers for nectar.

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Figure 49: Eastern end of Clarks Road meeting Ti Tree Creek Road.

Figure 50: *Austrostipa* sp Speargrass at The Cutting.

Figure 52: Western end of Clarks Road meeting Whittlesea-Yea Road.

Figure 51: Landcare Wildflower walk.

Figure 53: Hardenbergia violaceae Purple Coral Pea.

**Figure 54: Ecologist Geordie and Landcarers on Spring Wildflower Walk at The Cutting**

**Figure 55: *Diuris chryseopsis* Golden Moth**

**Figure 56: *Drosera auriculata* Flowering Tall Sundew**

**Figure 57: *Brunonia australis* Blue Pincushion**

**Figure 58: Field of Buttercups in Spring at The Cutting**