

KINGS ROAD, KINGLAKE WEST

BOTANICAL ASSESSMENT

2016/17

By Roger Cook B Sc (Biol), Dip Bus Studies,
Technical Adviser for Habitat Land Management.



KINGS ROAD BOTANIC REPORT

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Photo: 1 *Dipodium roseum* (Rosy Hyacinth-orchid) on Kings Roadside



Photo: 2 Southern end of Kings Rd from the Whittlesea-Kinglake Road

SUMMARY

Kings Road contains sections of high quality indigenous vegetation with a diversity of indigenous species from the remnants of a forest vegetation community interspersed with medium and low indigenous quality sections and exotic plantings along more cleared areas. Relatively low levels of invasive weeds coupled with the link to the adjoining high quality and biodiverse Stony Creek Reserve confirms it as having significant roadside vegetation.

AIM

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

INTRODUCTION/ASSESSMENT PURPOSE

This is the first known botanical assessment of this estimated two hectares of Kinglake West roadside vegetation. The assessment includes vegetation structure, species composition, EVC's, locations of any 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.

BACKGROUND

Location

The Kinglake district is set in the southern slopes of the Great Dividing Range in Central Victoria. Kings Road is located centrally within Kinglake West which itself is 11 km west of the central Kinglake township and 17 km north of the nearest service centre township of Whittlesea. Kings Road is 1.78 km long and north-west off of the main Whittlesea-Kinglake Road, Kinglake West. It is within a few kilometres of Kinglake National Park, Joey Creek Conservation Reserve, Mt Disappointment Conservation Reserve, and directly adjacent to Stony Creek Conservation Reserve. It is situated at approximately 525 metres above sea level. See site map at Figure 1 below.



Figure 1: Aerial map of Kings Road, Kinglake West

History

Kinglake district is within the traditional land of the Kulin Nation with Wurundjeri people to the south and Taungurong people to the north, so Kings Road would possibly have been within an area of interaction between the two peoples.

Their specific habitation of this area is still yet to be made known or understood although the Kinglake district, as the area is known today, would have been a desirable place to visit at certain times of the year possibly for trading, ceremonies, and there would have been use of much of the flora (and fauna) for food, clothing, medicine, weapons, and possibly traditional firestick farming as practised widely. There is much conjecture on the lost opportunities to learn from Aboriginal fire management and 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 the author takes this opportunity to include the known Koori (Aboriginal) use of many of the plants in this area. See Appendix 4 (Koori/Aboriginal Use of Flora) for more detail.



Figure 2: Pre 1750 Kings Rd area Forest EVC's from Biodiversity Index Map.

The above Figure 2 shows the Kings Road area as a mosaic of forest types including Damp Forest, Herb-rich Foothill Forest, and Shrubby Wet Forest. From the second half of the 1800's, like much of Kinglake district, the Kings Road area was cleared and settled for agricultural purposes and possibly some logging for timber, construction, and palings, with the subsequent apparent alteration of the vegetation mix from Damp Forest to today's remnants of original vegetation mostly along roadsides, on some private properties, and conservation reserves amongst the mainly developed areas.

The Kings Road area was later further subdivided into mainly small to medium sized blocks of 1-5 acres as existing today. Mrs King, whose family name was apparently given to the road, was still living in an old house in the area until recent times.

The 2009 bushfires were catastrophic for the Kinglake district generally and affected this area with vegetation burnt particularly on the western side but with no homes destroyed in Kings Road.

Ecological burning of roadsides has been successfully attempted in recent years along the middle eastern section with good results in fire protection and regeneration of indigenous groundflora (see photos 3 & 4 below)



Photo: 3 Ecological burning of Kings roadside



Photo: 4 Ecological burning of Kings roadside

Flora values

This location situated on the southern slopes of the Great Dividing Range influences the vegetation communities contained. Kinglake West Mean Annual Rainfall is 1039.5mm (BOM Kinglake West 1990-2016 and nearby Wallaby Creek 1092mm from 1884-2016). Where rainfall exceeds 900 mm *Eucalyptus* forests are commonly tall (over 30m) with a dense understory of small trees, especially in sheltered valleys. Kinglake sits on the boundary of the *Highlands Southern Fall* and *Highlands Northern Fall* Bioregions 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.

Desktop assessment using the Department of Environment Land Water & Planning's (DELWP) *Biodiversity Interactive Maps* (BIM) online tool suggested that **Pre-1750 EVC's** were a mosaic of Damp Forest (EVC 29), Herb-rich Foothill Forest (EVC 23), and Shrubby Wet Forest (EVC 201) as shown in Figure 2.

Whereas in Figure 3 below, **BIM for 2005** show the white areas as Depleted, the pale green as Damp Forest (EVC 29), and the others as mosaics of Damp Forest, Herb-rich Foothill Forest (EVC 23), and Shrubby Wet Forest (EVC 201).

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.

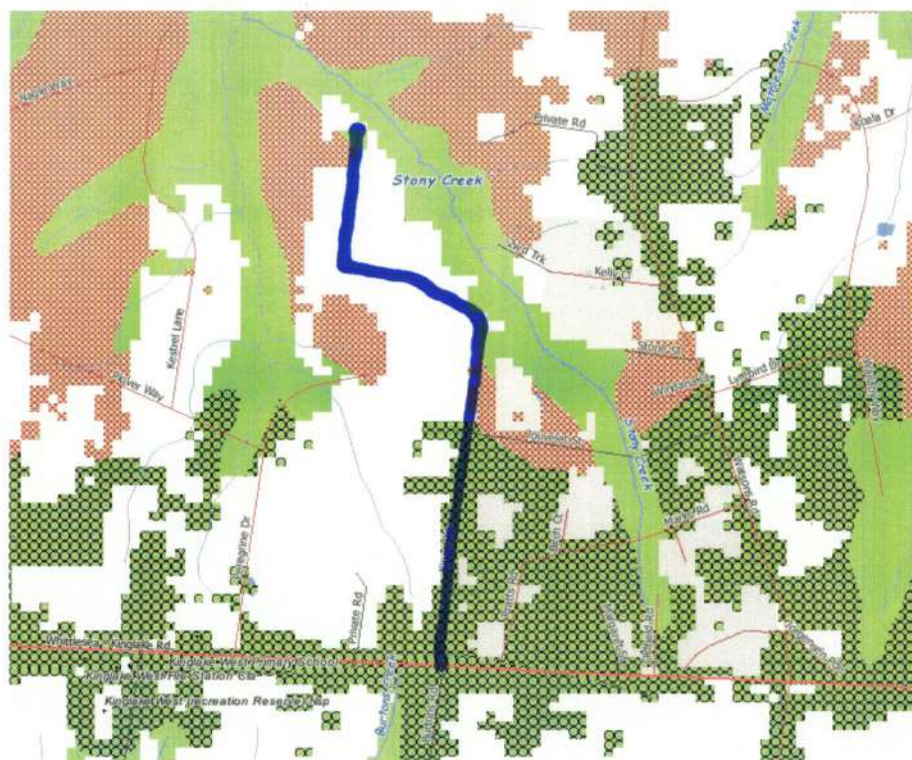


Figure 3: 2005 Kings Rd area EVC's from Biodiversity Index Map

Kings Road still retains large sections of remnant vegetation along the roadsides although clearing and intense mowing/slashing has stripped away much of the biodiversity in other large sections of the roadside. Even there, patches of Pink Bells (*Tetratheca ciliata*), Pink Heath (*Epacris impressa*), Thrift-leaved Triggerplant (*Stylidium armeria*), orchids, sedges, lilies, and indigenous grasses persist in some of these areas surviving the current vegetation management.



Photo: 5 Pink Bells (*Tetratheca ciliata*) clump on north-western roadside.

Relevant Authorities and Strategies

Local Government

Although Kinglake straddles five local government areas, much of the district including Kings Road, Kinglake West is within the boundaries of and thus administered by Murrindindi Shire Council (MSC). MSC have recognised Kings Road significance by supporting this Botanic Assessment.

Clause 21.05 of the Murrindindi Planning Scheme sets the priorities for environmental protection in the Shire. Objective 3 of this local planning policy *Biodiversity and Native Vegetation* includes the strategy to “retain, protect and enhance native vegetation, remnant vegetation areas, large old paddock trees and revegetation areas.” This is supported by the MSC Rural Roadside Management Plan (2014-18).

Water Catchment

There is no reticulated water supply system in Kinglake district, however, it straddles two catchments/authorities, Goulburn Broken Catchment Management Authority (GBCMA) and Port Philip and Westernport Catchment Management Authority (PPWCMA). Kings Road falls within the GBCMA being just north of the catchment divide and thus within the GB Regional Catchment Strategy 2012-2019.



Goulburn Broken Catchment Management Authority 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.

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. Clause 12.01 of the P&E Act seeks 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 permitted clearing regulations. The FFG and the Native Vegetation Clearing Regulations are currently under review and their linkages to the Victorian Planning Provisions and the draft Victorian Biodiversity plan.

Federal Government

The Environment Protection Biodiversity Conservation Act, 1999 (EPBC), contains protections for matters of national environmental significance including certain vegetation communities, flora, and fauna. This includes the Nationally Threatened/Critically Endangered *Pomaderris vacciniifolia* (Round-leaf Pomaderris) found in the district.

METHODS

This report was compiled by fieldwork mainly in Spring and Summer 2016/17 using visual assessment, field guides research, and report writing. Additional information was gathered via personal communications with some residents and other stakeholders. Vegetation Quality Assessments were assisted by using VicRoads Roadside Vegetation Assessment sheets.

As the roadside was the focus of the study, most adjacent private properties were not visited so off road species listed are mainly those found in the adjacent conservation reserve.

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

Disclaimer

Plant identification by flowers was mainly during Spring and Summer which covered most species although follow up is suggested during autumn and winter flowering for other species including for some tree species which may be more difficult due to height, lack of flowers and fruit, burnt bark from recent fires, and the ever present possibility of hybrids.

RESULTS

This botanic assessment identified approximately 100 indigenous and 37 exotic flora species from trees through shrubs, ground flora, grasses, and ferns in a structure along and beside this roadside fitting many of the elements of the EVC mosaic of a Damp Forest, Herb-rich Foothill Forest, and Shrubby Wet Forest including immediate surrounds particularly

Vegetation Quality Assessment

Assisted by using VicRoads Roadside Vegetation Assessment sheets (Fig. 4), indicates the high, medium and low quality indigenous vegetation sections of the roadside with the higher quality mainly along the western and central eastern side,

Connectivity

The connectivity of the roadside to the adjacent rural and semirural properties and Stony Creek Reserve adds to the habitat and biodiversity value as can be seen by the aerial photo in Figure 1. Multi storey vegetation cover is extensive for approximately one third of the road, particularly on the western side and the middle section of the eastern side (see Photos 6 and 7)



Photo: 6, Looking south on middle of the eastern roadside at Land for Wildlife



Photo: 7

Much less so at the northern section where the roadsides have either been cleared and vigorously slashed/mowed with complementary extensive clearing of much of the adjoining properties and/or planted with scattered native and exotic tree and shrub species as shown below in Photos 8 and 9.



Photo: 8 northern roadside looking south to Stony Creek Conservation Reserve.



Photo: 9 northern roadside looking north from Stony Creek Conservation Reserve

2005 EVC's represented along the roadside: Damp Forest, Herb-rich Foothill Forest, and Wet Shrubby Forest. See Figures 2 and 3 for more detail.

Trees

Significant indigenous tree cover along the southern end with higher density on the western side including *Eucalyptus cypellocarpa* (Mountain Grey Gum), *Eucalyptus obliqua* (Messmate), *Eucalyptus radiata* (Narrow-leafed Peppermint), and *Acacia melanoxylon* (larger Blackwoods). The similar indigenous tree cover from the Stony Creek Conservation reserve south along the eastern side is interspersed with *Pinus radiata* (Monterey Pine), and other exotic tree species

North of the Reserve, on the western side there are scattered plantings of *Eucalyptus* species interspersed with *Grevillea* sp, *Callistemon* sp, and exotic shrub species, and is relatively treeless on the eastern side.

Shrubs

Wattle shrubs such as *Acacia dealbata* (Silver Wattle), *Acacia obliquinervia* (Hickory Wattle), abundant *Acacia melanoxylon* (Blackwood), *Acacia mucronata* var *longifolia* (Narrow-leaf Wattle), *Acacia verticillata* (Prickly Moses), *Cassinia aculeata* (Dogwood/Common Cassinia), *Coprosma quadrifida* (Prickly Currant-bush), *Coprosma hirtella* (Rough Coprosma), *Daviesia ulicifolia* (Gorse Bitter-pea), *Goodenia ovata* (Hop Goodenia), *Hedycarya angustifolia* (Austral Mulberry), *Lomatia fraseri* (Tree Lomatia), *Olearia argophylla* (Musk Daisy-bush), *Olearia lirata* (Snowy Daisy Bush), *Pimelea axiflora* (Bootlace Bush), *Pittosporum bicolor* (Banyalla), abundant *Polyscias sambucifolia* (Elderberry Panax), *Prostanthera lasianthos* (Victorian Christmas Bush), *Pomaderris aspera* (Hazel Pomaderris), *Pomaderris elachophylla* (Tiny-leafed Pomaderris), *Pomaderris vacciniifolia* (Round-leaf Pomaderris), *Pultenaea scabra* (Rough Bush-pea), *Pultenaea muelleri* (Mueller's Bush-pea), *Rubus parvifolius* (Native Raspberry), *Sambucus gaudichaudiana* (White Elderberry), and *Spyridium parvifolium* (Dusty Miller).



Photo: 12 Fruiting *Polyscias sambucifolia* (Elderberry Panax) on western Kings Roadside.

Groundflora (including Lilies and Orchids)

Diversity includes Orchids *Chiloglottis* spp (Bird Orchids), *Dipodium roseum* (Rosy Hyacinth-orchid), and *Thelymitra media* (Tall Sun Orchid), also *Acaena novae-zelandiae* (Bidgee-

Widgee), *Acrotiche serrulata* (Honey Pots), *Amperea xiphoclada* (Broom Spurge), *Asperula conferta* (Common Woodruff), *Burchardia umbellata* (Milkmaids), *Dianella admixta* (Black Anther Flax-lily), *Dianella tasmanica* (Tasman Flax-lily), *Dichondra repens* (Kidney-weed), *Drosera peltata* (Tall Sundew), *Epacris impressa* (Common/Pink Heath), *Geranium potentilloides* (Soft



Photo: 11 *Xerochrysum leucopsideum* (Satin Everlasting) on eastern middle roadside.

Cranes-bill), *Gonocarpus tetragynus* (Common Raspwort), *Helichrysum luteoalbum* (Jersey Cudweed), *Hypericum gramineum* (Small St Johns Wort), *Lagenifera stipitata* (Bottle Daisy), *Lomandra filiformis* ssp *filiformis* (Wattle Mat-rush), *Lomandra longifolia* var *longifolia* (Spiny-headed Mat-rush), *Mentha laxiflora* (Forest Mint), *Olearia erubescens* (Moth Daisy-bush), *Oxalis perennans* (Wood Sorrel), *Pimelea curviflora* (Curved Rice-flower), *Plantago debilis* (Shade Plantain), *Plantago varia* (Variable Plantain), *Ranunculus glabrifolius* (Shining Buttercup), *Rumex brownii* (Swamp Dock), *Stackhousia monogyna* (Creamy Candles), *Stellaria flaccida* (Forest Starwort), *Stylidium armeria* (Thrift-leaved Trigger Plant), *Tetratheca ciliata* (Pink Bells), *Thysanotus pattersonii* (Twining Fringe-lily), *Urtica incisa* (Scrub Nettle), *Veronica* sp (Speedwell), *Viola hederaceae* (Ivy-leaf Violet), *Wahlenbergia stricta* (Tall Bluebell), and *Xerochrysum leucopsideum* (Satin Everlasting).



Photo: 13 *Gahnia sieberiana* (Red-fruited Saw-sedge) on northern Kings Roadside.



Photo: 14 *Themeda triandra* (Kangaroo Grass) on middle western Kings Roadside.

Grasses and Grass-like Forms

Austrostipa spp (Spear Grasses), *Microlaena stipoides* (Weeping Grass), *Poa ensiformis* (Purple-sheathed Tussock Grass), *Poa morrissii* (Velvet Tussock Grass), *Poa sieberiana* (Grey Tussock-grass), *Rytidosperma* spp (Wallaby Grasses), *Tetrarrhena junceus* (Forest Wire-grass), *Themeda triandra* (Kangaroo Grass), other sedge and grass-like lifeforms include *Gahnia sieberiana* (Red-fruited Saw-sedge), and *Lepidosperma laterale* (Variable Sword-sedge).



Photo: 15 *Clematis glycinoides* (Forest Clematis) on south western Kings Roadside.

Climbers

Billardiera scandens (Apple-Berry) *Cassytha* sp (Dodder), *Clematis aristata* (Mountain Clematis), *Clematis glycinoides* (Forest Clematis), and the twining creeper *Comesperma volubile* (Love Creeper).

Ferns

Apart from the widespread Bracken Fern (*Pteridium esculentum*), ferns are mostly found in the adjoining Stony Creek Conservation Reserve such as *Asplenium bulbiferum* (Mother Spleenwort), *Blechnum nudum* (Fishbone Water Fern), *Calochlaena dubia* (False Bracken), *Histiopteris incisa* (Batwing Ferns), and *Lindsaea linearis* (Screw Fern), Treeferns?



Photo: 16 *Histiopteris incisa* (Bat's Wing Fern) in Stony Creek Conservation Reserve.

Fungi, lichens, mosses, and mistletoes

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

Habitat

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 conservation reserves. There are also a few trees along the roadside that contain hollows. Wildlife observed is listed below in Fauna.

Indigenous Fauna

Flora as habitat is very important so fauna sightings are included in this assessment. Assisted by cameras set up by Landcare and local residents, a wide variety of animals have been observed (see photos 16 and 17 below). Birdlife including Powerful Owl, King Parrot, Eastern Yellow Robin, Golden Whistler, and Yellow-tailed Black Cockatoo, also Long-nosed Bandicoot, Echidna, Mountain Brush-tailed Possum, Brush-tailed Phascogale, Bush Rat, Agile Antechinus, Sugar Glider (see UGLN website for more photos and details).



Photo: 17 *Phascogale tapoatafa* (Brush-tailed Phascogale)



Photo: 18, *Perameles nasuta* (Long-nosed Bandicoot)



DISCUSSION

Rare or Threatened Species

Many of the species along this road are listed as Protected Flora in Victoria under the FFG Act, including *Acacia mucronata* var. *mucronata*, *Acacia obliquinervia*, *Acacia verticillata*, *Cassinia aculeata*, *Epacris impressa*, *Helichrysum luteoalbum*, *Lagenophora stipitata*, *Olearia argophylla*, *Olearia erubescens*, *Olearia lirata*, *Olearia myrsinoides*, *Prostanthera lasianthos*, *Pomaderris vacciniifolia*, *Senecio* spp, *Stylidium armeria*, *Thysanotus pattersonii*, *Xerochrysum leucopsideum*, all Orchids eg *Caladenia* sp, *Chiloglottis* spp, *Dipodium roseum*, *Gastrodia sesamoides*, *Microtis* spp, *Pterostylis longifolia*, *Thelymitra media*, and all ferns other than *Pteridium esculentum* (Bracken). This limited protection only applies to public land except for *Pomaderris vacciniifolia* which is also Nationally Threatened and protected by the federal EPBC Act with significant penalties. It is found in the conservation reserve and, until recently, on the western roadside until cut down by vigorous mowing by persons unknown .

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. However, the evolutionarily developed characters of indigenous vegetation appear to have assisted survival of these processes and contributed to the roadside biodiversity as have previous carefully regulated and monitored roadside burns (see photos) apparently achieved their objectives of reduced fire risk and regeneration of indigenous flora.

Pest Plants

High threat weed species for this district include Broom, Blackberry, Spanish Heath, and Holly, all of which were found along this road. Increased attention by the Upper Goulburn Landcare Network using Conservation Volunteers Australia, Green Army, specialist contractors, Kinglake Landcare members, other volunteers, and MSC in recent years have drastically reduced these high threat weed species on the Kings Roadside and in Stony Creek Reserve. Re-emergent Blackberry and Holly was observed in the southwestern section and Broom will be a threat from adjacent land along the south-west and middle western sections. Invasive Spanish Heath was being sprayed out in the middle western section at the time of observation.

Pest Animals

Rabbits, Foxes and Sambar Deer have all been sighted.

Dumping

Roadside dumping appears to be relatively limited. However, green waste and soil dumping (see Photo 18) is often the cause of weed infestations from succulents and garden escapees such as *Agapanthus* sp (see Photo 19) which can become quite invasive. Soil disturbance including soil excavation can similarly cause weed infestation.



Photo: 18 Dumped Garden waste on Kings Roadside.



Photo: 19 *Agapanthus* spp. on eastern Kings Roadside.

RECOMMENDATIONS

Community/Residents

The level of awareness of their vegetation community by local residents/landowners in the district is varied 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 should be considered.

It is suggested that State and local government give continuing support to community groups such as Landcare 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. Local government is the closest level of government to the people and the managing authority of local roads such as Kings Road, so there appears to be a need for further cooperative advice to residents through workshops, and sponsoring community initiatives such as Landcare flora and fauna walks, workshops, and botanical tours to raise the level of awareness of local residents. Also, consideration could be given to expanding the limited green waste delivery at the Kinglake Transfer Station at peak bushfire periods to an all year round free service to further reduce illegal dumping and also reduce 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

Recent 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 apparently been accompanied by sufficient resources to enable that to effectively happen, especially for rural shires with large areas of responsibility and limited

growth areas compared to many urban local governments with either established facilities or growth areas with complementary significant developer funding.

Parks Victoria manages nearby Kinglake National Park and a scarcity of resources for community education, weed control etc. has a limiting effect on their ability to more effectively protect and enhance the flora and fauna of the district, and thus indirectly connectivity with Kings Road.

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

Road maintenance, and particularly limited funding of vegetation maintenance of the adjoining VicRoads (Whittlesea-Kinglake Road) can also affect Kings Road including its habitat connectivity.

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

Indigenous Flora

<i>Acacia dealbata</i>	Silver Wattle
<i>Acacia melanoxylon</i>	Blackwood
<i>Acacia mucronata</i> var <i>longifolia</i>	Narrow-leaf/Variable Sallow Wattle
<i>Acacia obliquinervia</i>	Mountain Hickory Wattle
<i>Acacia verticillata</i>	Prickly Moses
<i>Acaena novae-zelandiae</i>	Bidgee-widgee
<i>Acrotriche serrulata</i>	Honey Pots
<i>Amperea xiphoclada</i>	Broom Spurge
<i>Asperula conferta</i>	Common Woodruff
<i>Asplenium bulbiferum</i> #	Mother Spleenwort
<i>Austrostipa muelleri</i>	Wiry Spear-grass
<i>Billardiera scandens</i>	Common Apple-berry
<i>Blechnum nudum</i> #	Fishbone Water-fern
<i>Burchardia umbellata</i>	Milkmaids
<i>Caladenia</i> sp	Orchid
<i>Calochlaena dubia</i>	False Bracken
<i>Cassinia aculeata</i>	Dogwood/Common Cassinia
<i>Cassytha</i> sp	Dodder
<i>Chiloglottis</i> sp 1	Bird Orchid
<i>Chiloglottis</i> sp2	Bird Orchid
<i>Clematis aristata</i>	Austral/Mountain Clematis
<i>Clematis glycinoides</i>	Forest Clematis
<i>Comesperma volubile</i>	Love Creeper
<i>Coprosma hirtella</i> #	Rough Coprosma
<i>Coprosma quadrifida</i>	Prickly Currantbush
<i>Davesia ulicifolia</i>	Gorse Bitter-pea
<i>Dianella admixta</i>	Black Anther Flax-lily

<i>Dianella tasmanica</i>	Tasman Flax-lily
<i>Dichondra repens</i>	Kidney-weed
<i>Dipodium roseum</i>	Rosy Hibiscus-orchid
<i>Drosera peltata</i>	Tall Sundew
<i>Epacris impressa</i>	Common/Pink Heath
<i>Eucalyptus cypellocarpa</i>	Mountain Grey Gum
<i>Eucalyptus obliqua</i>	Messmate
<i>Eucalyptus radiata</i>	Narrow-leafed Peppermint
<i>Eucalyptus regnans</i> #	Mountain Ash
<i>Gahnia sieberiana</i>	Red-fruited Saw-sedge
<i>Gastrodia sesamoides</i>	Cinnamon Bells/Potato Orchid
<i>Geranium potentilloides</i>	Soft Crane's-bill
<i>Gonocarpus tetragynus</i>	Common Raspwort
<i>Goodenia lanata</i>	Trailing Goodenia
<i>Goodenia ovata</i>	Hop Goodenia
<i>Grevillea</i> sp var	Planted?
<i>Hedycarya angustifolia</i> #	Austral Mulberry
<i>Helichrysum luteoalbum</i>	Jersey Cudweed
<i>Histiopteris incisa</i> #	Bat's Wing Fern
<i>Hypericum gramineum</i>	Small St John's Wort
<i>Lagenophora stipitata</i>	Common Bottle Daisy
<i>Lepidosperma laterale</i>	Variable Sword-sedge
<i>Lindsaea linearis</i> #	Screw Fern
<i>Lomandra filiformis</i> ssp <i>filiformis</i>	Wattle Mat-rush
<i>Lomandra longifolia</i> var <i>longifolia</i>	Spiny-headed Mat-rush
<i>Lomatia fraseri</i> #	Tree Lomatia
<i>Mentha laxiflora</i> #	Forest Mint
<i>Microlaena stipoides</i>	Weeping Grass
<i>Microtis</i> spp	Onion-orchids
<i>Olearia argophylla</i>	Musk Daisy-bush
<i>Olearia erubescens</i>	Moth Daisy-bush
<i>Olearia lirata</i>	Snowy Daisy-bush
<i>Olearia myrsinoides</i>	Silky Daisy-bush
<i>Oxalis perennans</i>	Wood Sorrel
<i>Pimelea axiflora</i>	Bootlace Bush
<i>Pimelea curviflora</i>	Curved Rice-flower
<i>Pittosporum bicolor</i>	Banyalla
<i>Plantago debilis</i>	Shade Plantain
<i>Plantago varia</i>	Variable Plantain
<i>Poa ensiformis</i>	Purple-sheathed Tussock Grass
<i>Poa morrisii</i>	Velvet Tussock-grass
<i>Poa sieberiana</i>	Grey Tussock-grass
<i>Polyscias sambucifolia</i>	Elderberry Panax

<i>Pomaderris aspera</i>	Hazel Pomaderris
<i>Pomaderris elachophylla</i>	Tiny-leafed Pomaderris
<i>Pomaderris vacciniifolia</i>	Round-leaf Pomaderris
<i>Prostanthera lasianthos</i>	Victorian Xmas Bush
<i>Pteridium esculentum</i>	Austral Bracken
<i>Pterostylis longifolia</i>	Tall Greenhood
<i>Pultenaea scabra</i>	Rough Bush-pea
<i>Pultenaea muelleri</i> var <i>muelleri</i>	Muellers Bush-pea
<i>Ranunculus glabrifolius</i>	Shining Buttercup
<i>Rubus parvifolius</i> #	Native Raspberry
<i>Rumex brownii</i>	Swamp Dock/Slender Dock
<i>Rytidosperma</i> spp	Wallaby Grasses
<i>Sambucus gaudichaudiana</i> #	White Elderberry
<i>Senecio odoratus</i>	Scented Groundsel
<i>Solanum aviculare</i> #	Kangaroo Apple
<i>Spyridium parvifolium</i>	Dusty Miller
<i>Stackhousia monogyna</i>	Creamy Candles
<i>Stellaria flaccida</i>	Forest Starwort
<i>Stylidium armeria</i>	Thrift-leaved Triggerplant
<i>Tetratheca ciliata</i>	Pink Bells
<i>Tetrarrhena juncea</i>	Forest Wiregrass
<i>Thelymitra media</i>	Tall Sun-orchid
<i>Themeda triandra</i>	Kangaroo Grass
<i>Thysanotus pattersonii</i>	Twining Fringe-lily
<i>Urtica incise</i> #	Scrub Nettle
<i>Veronica</i> sp	Speedwell
<i>Viola hederacea</i>	Ivy-leaf Violet
<i>Wahlenbergia stricta</i>	Tall Bluebell
<i>Xerochrysum leucopsidium</i>	Satin Everlasting

Exotic Flora

<i>Acetosella vulgaris</i>	Sheep Sorrel
<i>Anagallis arvensis</i>	Scarlet Pimpernel
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass
<i>Agapanthus praecox</i> ssp <i>orientalis</i>	Agapanthus
<i>Centaurea erythraea</i>	Common Centaury/Pink Stars
<i>Cirsium vulgare</i>	Spear Thistle
<i>Crocus x crocosmiiflora</i>	Montbretia
<i>Cyperus eragrostis</i>	Cut-drain Sedge
<i>Dactylis glomerata</i>	Cocksfoot
<i>Delairea odorata</i>	Cape Ivy
<i>Ehrharta erecta</i>	Veldt Grass
<i>Erica lusitanica</i>	Spanish Heath (on roadside only)

<i>Fumaria</i> sp	Fumitory
<i>Galium</i> sp	Cleavers
<i>Genista monspessulana</i>	Montpellier Broom/Cape Broom
<i>Grevillea</i> sp var/hybrid	Planted?
<i>Hedera helix</i>	English Ivy
<i>Holcus lanatus</i>	Yorkshire Fog
<i>Hypochaeris radicata</i>	Cats-ears
<i>Ilex aquifolium</i>	Holly
<i>Myosotis sylvatica</i>	Wood Forget-me-not
<i>Phalaris</i> sp	Canary Grass
<i>Pinus radiata</i>	Monterey Pine
<i>Pittosporum undulatum</i>	Sweet Pittosporum
<i>Pittosporum tenuifolium</i> var	James Stirling Pittosporum
<i>Plantago lanceolata</i>	Narrow Plantain/Ribwort
<i>Plantago major</i>	Greater Plantain
<i>Prunella vulgaris</i>	Self-heal
<i>Prunus laurocerasus</i>	Cherry Laurel
<i>Prunus</i> sp	Cherry Plum
<i>Romulea</i> sp	Onion Grass
<i>Rubus fruticosus</i> spp agg	European Blackberry spp
<i>Rubus laciniatus</i>	Cut-leaf Blackberry
<i>Sonchus</i> spp	Sow-thistle
<i>Taraxacum officinale</i>	Dandelion
<i>Trifolium repens</i> var <i>repens</i>	White Clover
<i>Watsonia bulbifera</i>	Bulbil Watsonia

- found within 1 km of Kings Road

FERNS AND ALLIES

Aspleniaceae

Asplenium bulbiferum#

Mother Spleenwort

Blechnaceae

Blechnum nudum#

Fishbone Water-fern

Dennstaedtiaceae

Histiopteris incisa#

Bat's Wing Fern

Pteridium esculentum

Austral Bracken

Dicksoniaceae

Calochlaena dubia#

False Bracken

Lindsaceae

Lindsaea linearis#

Screw Fern

CONIFERS

Pinaceae

**Pinus radiata*

Monterey Pine

MONOCOTYLEDONS

Liliaceae/Agapanthaceae

**Agapanthus praecox* ssp *orientalis*

Agapanthus

Asparagaceae

Lomandra filiformis ssp *filiformis*

Wattle Mat-rush

Lomandra longifolia var *longifolia*

Spiny-headed Mat-rush

Thysanotus pattersonii

Twining Fringe-lily

Colchicaceae

Burchardia umbellata

Milkmaids

Cyperaceae

**Cyperus eragrostis*

Drain Flat-sedge

Gahnia sieberiana

Red-fruited Saw-sedge

Lepidosperma laterale

Variable Sword-sedge

Gentianaceae

**Centaurium erythraea*

Common Centaury/Pink Stars

Hemerocallidaceae

Dianella admixta

Black-anthered Flax-lily

Dianella tasmanica

Tasman Flax-lily

Iridaceae

**Crocasmia X crocosmiiflora*

Montbretia

**Watsonia meriana* var *bulbillifera*

Bulbil Watsonia

**Romulea* sp

Onion Grass

Orchidaceae

Caladenia sp

Orchid

Chiloglottis sp 1

Bird Orchid

Chiloglottis sp 2

Bird Orchid

Dipodium roseum

Rosy Hibiscus-orchid

Gastrodia sesamoides

Cinnamon Bells/Potato Orchid

Microtis spp

Onion-orchids

Pterostylis longifolia

Tall Greenhood

Thelymitra media

Tall Sun-orchid

Poaceae

* *Anthoxanthum odoratum*

Sweet Vernal-grass

Austrostipa muelleri

Wiry Spear-grass

* *Dactylis glomerata*

Cocksfoot

* *Ehrharta erecta*

Veldt Grass

* *Holcus lanatus*

Yorkshire Fog

Microlaena stipoides

Weeping Grass

* *Phalaris* sp

Canary Grass

Poa ensiformis

Purple-sheathed Tussock-grass

Poa morrissii
Poa sieberiana
Rytidosperma spp
Themeda triandra
Tetrarrhena juncea

Velvet Tussock-grass
 Grey Tussock-grass
 Wallaby Grasses
 Kangaroo Grass
 Forest Wire-grass

DICOTYLEDONS

Adoxaceae

Sambucus gaudichaudiana#

White Elderberry

Aquifoliaceae

**Ilex aquifolium*

Holly

Araliaceae

**Hedera helix*

English Ivy

Polyscias sambucifolia

Elderberry Panax

Asteraceae

Cassinia aculeata

Dogwood/Common Cassinia

**Cirsium vulgare*

Spear Thistle

**Delairea odorata*

Cape Ivy

Helichrysum luteoalbum

Jersey Cudweed

**Hypochaeris radicata*

Cat's-ears/Flatweed

Lagenophora stipitata

Common Bottle-daisy

Olearia argophylla

Musk Daisy-bush

Olearia erubescens

Moth Daisy-bush

Olearia lirata

Snowy Daisy-bush

Olearia myrsinoides

Silky Daisy-bush

Senecio odoratus

Scented Fireweed

Sonchus spp.

Sow-thistle

**Taraxacum officinale*

Dandelion

Xerochrysum leucopsideum

Satin Everlasting

Boraginaceae

**Myosotis sylvatica*

Wood Forget-me-not

Campanulaceae

Wahlenbergia stricta

Tall Bluebell

Caryophyllaceae

Stellaria flaccida

Forest Starwort

Celastraceae

Stackhousia monogyna

Creamy Candles

Clusiaceae

Hypericum gramineum

Small St John's Wort

Convolvulaceae

Dichondra repens

Kidney Weed

Droseraceae

Drosera peltata

Tall Sundew

Elaeocarpaceae

Tetratheca ciliata

Pink Bells

Ericaceae

Acrotriche serrulata

Honey Pots

Epacris impressa

Common/Pink Heath

**Erica lusitanica*

Spanish Heath

Euphorbiaceae

Amperea xiphoclada

Broom Spurge

Fabaceae

Daviesia ulicifolia

Gorse Bitter-pea

**Genista monspessulana*

Montpellier Broom/Cape Broom

Pultenaea muelleri var. *muelleri*

Muellers Bush-pea

Pultenaea scabra

Rough Bush-pea

**Trifolium repens* var. *repens*

White Clover

Fumariaceae

Fumaria sp

Fumitory

Geraniaceae

Geranium potentilloides

Soft Crane's Bill

Goodeniaceae

Goodenia lanata

Trailing Goodenia

Goodenia ovata

Hop Goodenia

Haloragaceae

Gonocarpus tetragynus

Common Raspwort

Lamiaceae

Mentha laxiflora#

Forest Mint

Prostanthera lasianthos

Victorian Christmas-bush

**Prunella vulgaris*

Self-heal

Lauraceae

Cassytha sp

Dodder

Mimosaceae

Acacia dealbata

Silver Wattle

Acacia melanoxylon

Blackwood

Acacia mucronata var. *longifolia*

Narrow-leaf/Variable Sallow Wattle

Acacia obliquinerva

Mountain Hickory Wattle

Acacia verticillata

Prickly Moses

Monimiaceae

Hedycarya angustifolia#

Austral Mulberry

Myrtaceae

Eucalyptus cypellocarpa

Mountain Grey-gum

Eucalyptus obliqua

Messmate

Eucalyptus radiata

Narrow-leafed Peppermint

Eucalyptus regnans#

Mountain Ash

Oxalidaceae

Oxalis perennans

Pittosporaceae

Billardiera scandens

Pittosporum bicolor

**Pittosporum undulatum*

**Pittosporum tenuifolium* var

Plantaginaceae

**Plantago lanceolata*

**Plantago major*

Plantago debilis

Plantago varia

Veronica sp

Polygalaceae

Comesperma volubile

Polygonaceae

**Acetosella vulgaris*

Rumex brownii

Primulaceae

**Anagallis arvensis*

Proteaceae

**Grevillea* sp var

Lomatia fraseri

Ranunculaceae

Clematis aristata

Clematis glycinoides

Ranunculus glabrifolius

Rhamnaceae

Pomaderris aspera

Pomaderris elachophylla

Pomaderris vacciniifolia

Spyridium parvifolium

Rosaceae

Acaena novae-zelandae

**Prunus cerasifera*

**Prunus laurocerasus*

**Rubus lacianatus*

Rubus parvifolius

**Rubus fruticosus* agg

Rubiaceae

Asperula conferta

Coprosma hirtella#

Coprosma quadrifida

**Galium* sp

Wood Sorrel

Common Apple-berry

Banyalla

Sweet Pittosporum

James Stirling Pittosporum

Narrow Plantain/Ribwort

Greater Plantain

Shade Plantain

Variable Plantain

Speedwell

Love Creeper

Sheep Sorrel#

Swamp Dock/Slender Dock

Scarlet Pimpernel

Planted?

Tree Lomatia

Austral/Mountain Clematis

Forest Clematis

Shining Buttercup

Hazel Pomaderris

Tiny-leafed Pomaderris

Round-leaf Pomaderris

Dusty Miller

Bidgee-widgee

Cherry Plum

Cherry Laurel

Cut-leaf Blackberry

Native Raspberry

European Blackberry Species

Common Woodruff

Rough Coprosma

Prickly Currant-bush

Cleavers



Solanaceae

Solanum aviculare

Stylidiaceae

Stylidium armeria

Thymeleaceae

Pimelea axiflora

Pimelea curviflora

Urticaceae

Urtica incisa#

Violaceae

Viola hederacea

* - Exotic Flora

- found within 1 km of Kings Road

Kangaroo Apple

Thrift-leaved Trigger-plant

Bootlace Bush

Curved Rice-flower

Scrub Nettle

Ivy-leaf Violet

APPENDIX 2 – FAUNA SPECIES

Mammals

Mountain Brushtail Possum
Common Brushtail Possum
Long-nosed Bandicoot
Common Wombat
Koala (Stony Creek Reserve)
Sugar Glider
White Striped Freetail Bat
Echidna
Swamp Wallaby
Grey Kangaroo
*Fox
Brush-tailed Phascogale
*Rabbit
Agile Antechinus

Reptiles/Amphibians

Common Froglet
Brown Tree Frog
Victorian Smooth Froglet
Red-bellied Black Snake
Lowlands Copperhead Snake
Garden Skink
Blotched Blue Tongued Lizard
Pobblebonk Frog

Birds

Australian Raven
*Blackbird
Brown Goshawk
Brown Headed Honeyeater
Brown Quail
Boobook Owl
Black Faced Cuckoo Shrike
Crimson Rosella
Dusky Woodswallow
Golden Whistler
Grey Fantail

Birds continue

Gang Gang Cockatoo
Galah
Grey Shrike Thrush
Yellow Rumped Thornbill
*Indian Myna
King Parrot
Little Thornbill
Laughing Kookaburra
Magpie
Nightjar sp.
Pied Currawong
Painted Quail
Powerful Owl
Restless Flycatcher
Sacred Kingfisher
Satin Flycatcher
Silvereye
Scarlet Robin
Striated Thornbill
Varied Sittella
Superb Blue Wren
Sulphur Crested Cockatoo
Tawny Frogmouth
Willy Wagtail
White-browed Scrub-wren
White-eared Honeyeater
White-throated Treecreeper
Wedge-tailed Eagle
Wood Duck
White-winged Chough
Yellow-tailed Black Cockatoo

*Denotes introduced taxa

*Sambar Deer
*Red Foxes

APPENDIX 4 – KOORIE (Aboriginal) USE OF FLORA

Many of the plants found around Kings Road area are species used by Aboriginal people across Victoria. From Beth Gott's Use of Victorian Plants by Koories, in the Flora of Victoria Volume 1, detailed below are uses of these local species:

-for fibre, adhesives, and implements

Acacia spp bark for buckets; *Acacia dealbata* resin for adhesives, inner bark for string, bark for buckets, and wood for axe handles; *Acacia melanoxylon* inner bark for string, wood for woomeras, shields, and throwing sticks, and bark infusion for rheumatic joints; *Acacia verticillata* bark for string fishing lines; *Banksia* spp. cones for fire carriers; *Exocarpos cupressiformis* (Ballart) used for bullroarers; *Dianella* spp for basketmaking; *Eucalyptus* spp. (especially stringybarks) inner bark for string, bags, and nets, and suitable species for heavy spears and digging tools; *Hedycarya angustifolia* (Djelwuck) wood for firedrills and spear ends; *Juncus* spp. stems for baskets and string; *Lepidosperma* spp. leaves for baskets; *Lomandra longifolia* leaves for baskets and net bags; *Melaleuca* spp. paperbark for swaddling; *Pimelea axiflora* bark as string for fine nets and bootlaces; *Poa ensiformis* leaves and stems for string and baskets; *Pomaderris aspera* wood for pegs stretching animal skins; *Prostanthera lasianthos* (Corranderk) stems for fire drill

and for food, medicine, and fish-poisons from all parts of plants including seeds, flowers, roots, and leaves - *Acacia dealbata* gum for food and also applied to sores and wounds, and bark infusion for indigestion; *Acrotriche* spp small drupes eaten or soaked in water or sucked for nectar; *Arthropodium* spp tubers probably eaten; *Banksia* spp flowers steeped in water for nectar; *Billardiera* spp berries eaten raw; *Burchardia umbellata* tubers eaten; *Cassytha* spp edible fruit, probably eaten; *Coprosma* spp. berries eaten raw; *Cyathea australis* and *Dicksonia antarctica* heart of the stems, and *Cyathea* stalks of young leaves as a tonic; *Eucalyptus* spp. flowers for nectar, sugary lerps on some spp, seed soaked and ground, and gum for toothache; *Exocarpos* spp succulent fruiting pedicel, eaten raw; *Exocarpos cupressiformis* sap as cure for snakebite (Tasmania?); *Geranium* spp. tubers for food; *Helichrysum luteoalbum* (in Qld) leaf infusion for general sickness; *Lomandra* spp. flowers for nectar; *Orchidaceae* tubers of most species eg *Gastrodia sesamoides*, 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; and *Urtica incisa* leaves and young stems cooked (in SA), poultices of leaves and stems for sprains (and in NSW as a poultice for rheumatism).



REFERENCES

Flora of Victoria Vol 1 Introduction. Edited by D.B.Foreman & N.G.Walsh. Inkata Press. 1993.

Flora of Victoria Vol 2 Ferns and Allied Plants, Conifers and Monocotyledons. Edited by N.G.Walsh and T.J. Entwisle. Inkata Press. 1994.

VICFLORA Flora of Victoria (Online), Royal Botanic Gardens Foundation Victoria. 2017.

Flora of Melbourne – a Guide to the Indigenous Plants of the Greater Melbourne Area. 4th Edition. Marilyn Bull. Hyland House Publishing . 2014

Native Trees and Shrubs of South-eastern Australia. Leon Costermans. Reed New Holland. 2009.

Bush Invaders of Southeast Australia. Adam Muyt. R.G&F.J. Richardson. 2001.

Weeds of the Southeast Australia – an Identification Guide for Australia. F.J & R.G Richardson & R.C.H Shepherd. R.G.&F.J.Richardson. 2006/7.

Biodiversity Interactive Maps Department of Environment Land Water & Planning (DELWP)

Kinglake: a Collected History of the Kinglake District 1861-2011. Compiled by Deidre Hawkins of Kinglake Historical Society. 2013.

Deviation Road, Kinglake - Botanical Assessment 2015/16. Roger Cook, Habitat Land Management for Upper Goulburn Landcare Network.

ABZECO Threatened Species Management Plan for Kinglake National Park. 2010.

Recovery of Victorian Rare or Threatened Plant Species after the 2009 Bushfires. Arn Tolsma et al. DSE 2012.

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