Surf Coast Shire Rapid Roadside Vegetation Assessment Methodology.

BeaconEcological

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1 INTRODUCTION

Roadsides often contain native vegetation that contributes to Victoria's biodiversity. Within some areas of the Surf Coast Shire, native vegetation within the road network may be the only native vegetation remaining in the landscape, providing connection between fragmented and otherwise isolated patches of native vegetation. In some cases, native vegetation within roadsides is considered critical habitat for the survival of threatened flora and fauna (DELWP 2018).

The Surf Coast Shire recognises the importance of these environmental values on roadsides in its *Rural Roadside Management Vision:*

> *To effectively and co-operatively manage a network of road reserves by incorporating the values of different user groups, integrating fire prevention, flora and fauna diversity, safety & cultural/heritage values and recognising that the function of roads is to provide access and transportation across the landscape.*

In 1997, the Surf Coast Shire commissioned a mapping project and subsequent production of *Remnant Roadside Vegetation of the Surf Coast Shire* (Moulton, Trengove and Clark 1997) to assist with the management of ecological values on roadsides. *Remnant Roadside Vegetation of the Surf Coast Shire* (Moulton, Trengove and Clark 1997) split roadsides into sections with short descriptions and species lists to describe vegetation. Sections were also assigned a conservation rating of Low, Medium or High based on points assigned to various categories including *Roadside Width, Fauna Habitat, Regeneration, Wildlife Corridor, Weed Cover, Site Disturbance and Rare Species.*

In 2018 this mapping was reviewed, and an updated methodology developed which included the mapping of ecological values and production of a GIS layer to be shared on Surf Coast Shire mapping systems as detailed in this document.

1.1 PROJECT AIM

The key outcome of the project is to provide guidance to Surf Coast Shire staff on the potential planning and statutory requirements that may arise from works on roadside reserves. As such the assessment methodology and has been designed with this in mind.

2 METHODOLOGY

All roads were assessed during 2019 and early 2020. Assessments within the Victorian Volcanic Plain was undertaken in November (Spring) prior to any roadside slashing to enable effective assessment of grassland communities. Native vegetation was mapped when it met the definitions of *remnant patch* or *scattered tree* as defined below as per the *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP 2017):

Patch

A patch of native vegetation is:

- An area of vegetation where at least 25 per cent of the total perennial understorey plant cover is native, or
- Any area with three or more native canopy trees where the drip line of each tree touches the drip line of at least one other tree, forming a continuous canopy.

Scattered tree

A scattered tree is:

- A native canopy tree that does not form part of a patch.

Mapping was undertaken using a tablet and an app called Konect. Native vegetation was mapped as polygons (remnant patches) and points (scattered trees) (Image 1). The date of collection was also noted.

Image 1. Screenshot of Konect

2.1 MAPPED ROADS

All roads within the Surf Coast Shire were mapped as per Figure 1 except when the following applied:

- VicRoads managed roads.
- Parks Victoria managed roads.
- Residential areas where the speed limit is less than 80 kilometres an hour.

2.2 PATCHES

Polygons: Polygons were mapped to the edge of native vegetation as best as possible. In some instances, long areas of mapped vegetation with occasional crossovers were mapped as one polygon across crossovers. Also, large areas of relatively intact vegetation were sometimes mapped as one polygon across both roadsides. Polygons have been drawn as best as possible taking in to account the zoom limits of the app and stumpy fingers of the assessor.

Conservation Status: Patches were assigned a Conservation Status based on the following criteria:

- *Very High:* Polygon supports habitat for nationally significant species or communities. A planning permit with offsets and a referral under the *Environment Protection and Biodiversity Conservation Act 1999* is likely required for any works occurring in these areas.

- *High:* Polygon supports relatively intact native vegetation. A planning permit and offsets is likely required for any works occurring in this area.

- *Medium:* Polygon supports modified vegetation with greater than 25% cover of native vegetation. One or more structural components are likely to be modified or absent. A planning permit and offsets is likely required for any works occurring in this area.

- *Low:* Area supports degraded vegetation with less than 25% vegetative cover of native species. A planning permit may be required for any works occurring in this area, however offsets are unlikely.

Species Lists*:* A species list was recorded for all mapped patches of vegetation. Plant taxonomy follows the Victorian Biodiversity Atlas (VBA) (DELWP 2020). Species lists were generally recorded from the vehicle with occasional short walks. Species lists provide a general list of species in patches and are not considered exhaustive. Note that species lists may be assigned to multiple patches of vegetation which have similar species composition, however not all species may be in all patches with the same species list.

Photos: Photos were taken periodically and assigned to the nearest polygon if available. Photos were generally taken when there was a change in vegetation type or quality.

Descriptors: Patches of vegetation were also assigned descriptors as detailed below. Note that a modified description for trees and shrubs has been taken from the Vegetation Quality Assessment:

- Trees: Woody plants greater than five metres in height (This can include canopy and non-canopy species).

- Shrubs: Woody plants between one metre and five metres in height.
- Groundcover Species: Vegetation less than one metre in height.

Structure

- *Relatively intact structure:* Vegetation supports greater than 10% cover of each life form of Trees, shrubs and groundcover species.
- *Native species mostly trees only:* An overstorey of native trees is present over a generally absent shrub and groundcover layer (Less than 10% vegetative cover for each).
- *Trees absent (native species mostly shrubs and ground cover):* Less than 10% cover of trees over a cover of shrubs and groundcover species.
- *Trees and shrubs absent (Native species mostly ground cover):* Vegetation is dominated by ground cover species. Cover of trees and shrubs is generally less than 10%.
- *Native shrubs present only:* Typically, a dense cover of native shrubs with less than 10% cover of understorey species. Emergent trees may be present but typically with a cover of less than 10%.
- *Native trees with a slashed understorey:* Native trees are present with the understorey generally slashed and shrub layer generally absent or reduced.

Overstorey

Overstorey referred to Eucalypts and Allocasuarina species only. If these species were absent then *No eucalypt cover* was selected. Cover of trees such as Blackwood *Acacia melanoxylon* and Black Wattle *Acacia mearnsii* were not considered overstorey.

- *Good health overstorey cover:* Canopy trees are generally in good health with a healthy cover of leaves present.
- *Moderate health overstorey cover:* Canopy trees displaying some signs (30% to 70%) of missing leaves and leaves present with some signs of disease or decline.
- *Poor health overstorey cover:* Canopy trees have greater than 30 % cover of leaves missing and leaves present often have signs of disease or decline.
- *Tree cover pruned for powerlines:* Trees have been pruned for overhead powerlines.
- *No overstorey cover:* Cover of overstorey species is effectively absent.

Shrubs

- Scattered shrub layer <50% cover: Greater than 50% vegetative cover of native shrubs.
- Dense shrub layer >50% cover: Less than 50% cover of native shrubs.

Understorey

Understory diversity indicates the number of species observed within a 30 metre stretch of roadside. Note that some polygon species lists may have a high number of groundcover species recorded but still have a low diversity as the polygon maybe be large and dominated by one or two species with additional species scattered throughout roadside or the composition changes gradually but with generally maintaining low diversity.

- Diverse understorey Greater than 15 understorey species present.
- Moderately diverse understorey 5 to 15 understorey species present
- Low diverse understorey < 5 understorey species
- Natives absent: Native absent selected when there is less than 1% cover of native species. In some instances native understory may not be selected as part of the *Structure* description but scattered native plants may still be present.
- Semi aquatic native species within low lying areas (includes drainage lines)

Weed Description Statement

- Negligible weed cover <1%
- Low weed cover 1-10%
- Moderate Weed Cover 11-50%
- Understorey dominated by weed cover >50%

Ecological Vegetation Class (EVC)

The EVC that best characterises the mapped vegetation was assigned to the polygon.

2.3 SCATTERED TREES

Point Data: Scattered trees were mapped as point data with the health of the tree assigned as per the descriptions below. The tree species was also noted.

- *Healthy:* Canopy trees are generally in good health with a healthy cover of leaves present.
- *Moderate:* Canopy trees displaying some signs (30% to 70%) of missing leaves and leaves present with some signs of disease or decline.
- *Poor:* Canopy trees have greater than 30 % cover of leaves missing and leaves present often have signs of disease or decline.

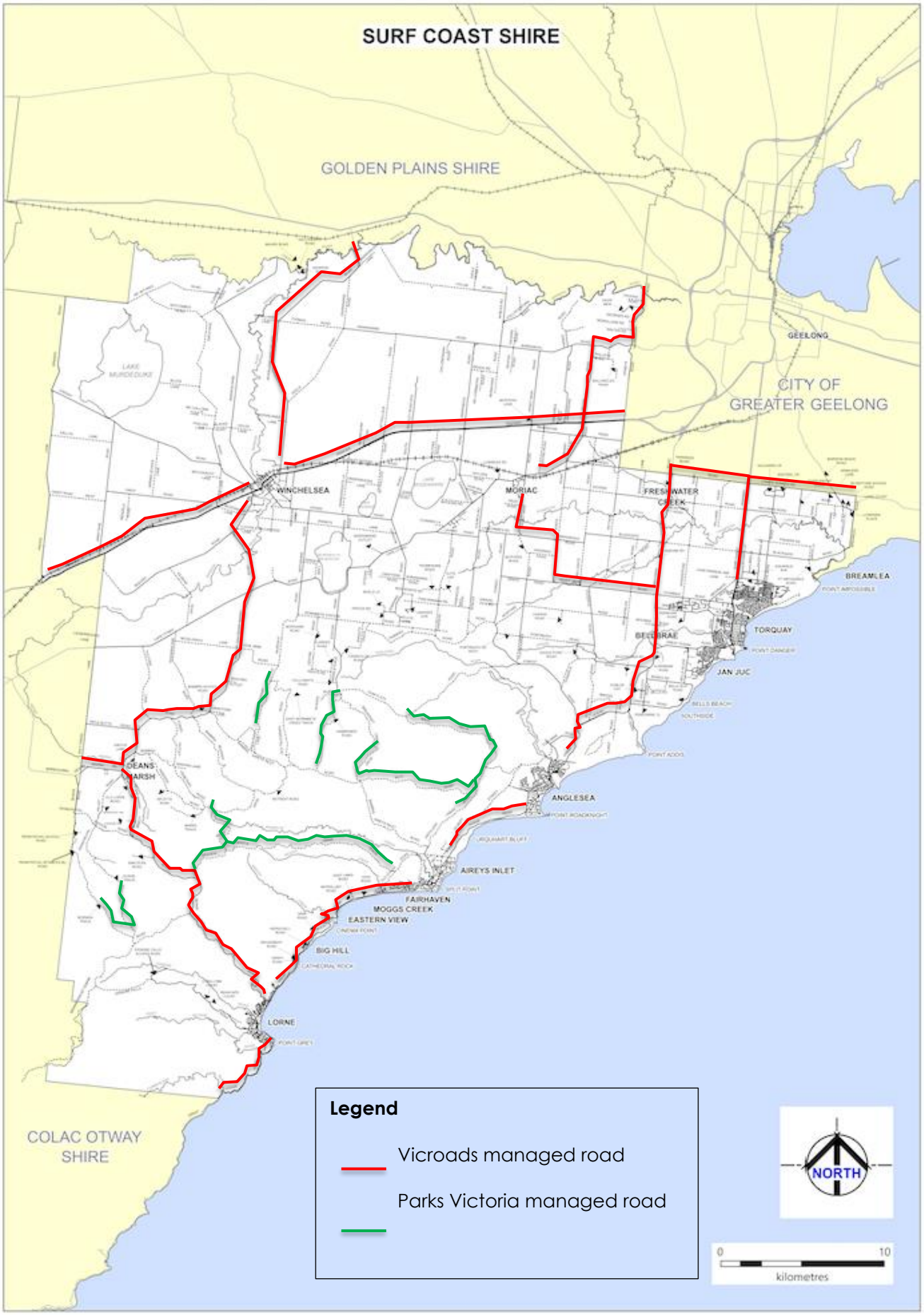
- *Dead:* Only dead trees with a diameter at breast height of greater than 40 centimetres were mapped.

2.4 LIMITATIONS

The majority of vegetation was mapped while driving a vehicle slowly and walking small areas of roadside. As such, some vegetation, particularly patches of native grassland may not be mapped. Note that patches of Austral Bracken *Pteridium esculentum* were not mapped as this vegetation type can typically be considered exempt in *Clause 52.17-7 Table of exemptions: Regrowth*

FIGURES

FIGURE 1. MAPPED ROADSIDES



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