Northern Grampians Shire Council

Roadside Vegetation Management Plan

2008 - 2011

Adopted by Council
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ISBN

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This Northern Grampians Shire Roadside Vegetation Management Plan is subject to change throughout the consultation process based on feedback, new information and further consideration of issues.

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A copy of this publication is available at www.ngshire.vic.gov.au.

The purpose of the Roadside Vegetation Management Plan (RVMP) is to provide a framework for consistent and strategic management of roadsides across the Northern Grampians Shire (NGS). The RVMP focuses on improving the management of remnant native vegetation located on roadsides whilst also ensuring a safe and efficient transport network and utility and service corridor.

The RVMP outlines the significance and values of roadside vegetation, identifies the existing rules and regulations governing roadside use and provides roadside vegetation management guidelines to be followed by all roadside users including landholders, community groups, utility service providers and council staff. It also identifies a number of actions for council and partner agencies to implement to improve roadside management practices.

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1.1 Structure of the plan

The plan has five key sections:

Section 1: **Introduction**
Section 2: **Management, Framework and Legislation**
Section 3: **Guidelines for the Community**
Section 4: **Guidelines for Council**, **Technical Services Staff and Service Providers**
Section 5: **Summary of Actions**

Sections 3 and 4 provide landholders, community groups and road managers more certainty about the existing rules and regulations governing roadside use and also, for the first time, provide a framework for consistent and strategic management of roadsides across the Northern Grampians Shire (NGS). This knowledge will assist with achieving the roadside management plans objectives outlined in Section 1 and meeting the legislative requirements described in Section 2.

1.2 What area does this Plan cover?

The Northern Grampians Shire (NGS) Roadside Vegetation Management Plan (RVMP) covers all rural roads within the shire under the care of the Northern Grampians Shire Council (Map 1). Only a few selected roads inside town boundaries have been included (because they generally do not contain native vegetation roadside communities). The conservation value of unused roads have not been classified so have not been included.

The Plan focuses on the management of remnant (native) vegetation located on roadsides, outlining the significance of roadside vegetation and recognising opportunities to protect and enhance its values. It does not cover roads that are not the Northern Grampians Shire Council's responsibility to manage. This includes roads managed by Vicroads.

The Northern Grampians Shire is located in central western Victoria about 230 km north-west of Melbourne. It has an area of 5,903 square kilometres and a population of over 13,000. It consists of the major towns of Stawell, St Arnaud and Halls Gap. Other towns include Great Western, Glenorchy, Marnoo, Navarre and Stuart Mill.

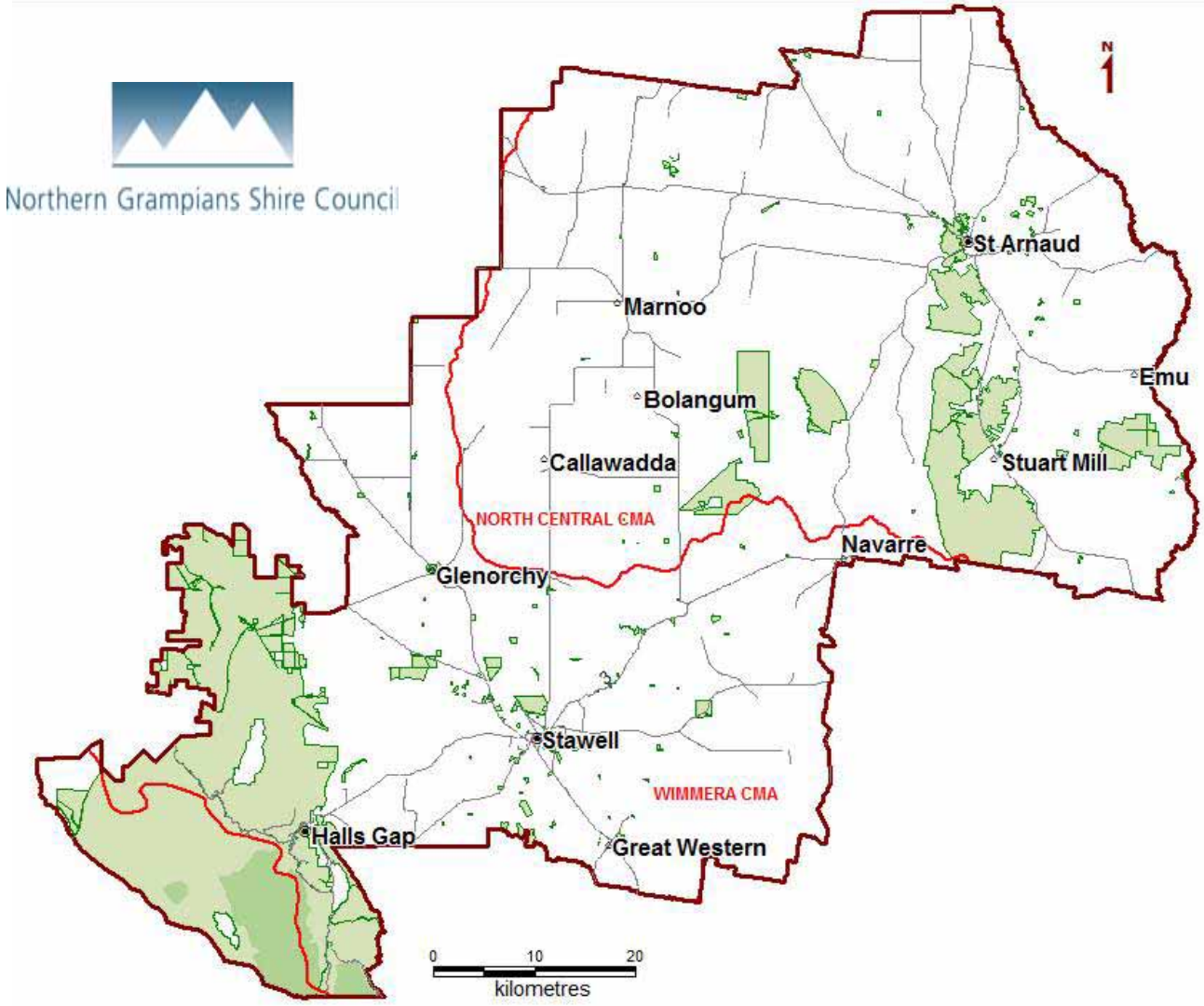
It is bordered by the Grampians National Park to the west and is home to the St Arnaud Range National Park.

The local economy is based on a diverse range of industries such as agriculture, tourism, wine production and gold mining.

The region encompasses a diversity of microclimates and environments and has a very livable climate with four distinct climatic conditions. The environment comprises of rich fertile soils, dryland areas, mountain ranges, large scale open plan pastoral areas, parks and lakes.

The Northern Grampians Shire is well advanced in Landcare programs with revegetation and other projects aimed at improving water quality, increasing biodiversity, minimising erosion and salinity, as well as providing education programs for better farm management. The Shire pays particular attention to the retention and protection of land as the principle asset of production for sustainable agriculture. The Shire recognises the significant role that indigenous roadside vegetation has in a landscape context and is committed to the conservation and enhancement of this valuable asset.

1 Introduction



Map 1: The Northern Grampians Shire extends across the North Central and Wimmera Catchment Management Authorities

1 Introduction

1.3 Natural Resources of the Northern Grampians Shire

Biogeographic regions (Bioregions) capture the patterns of ecological characteristics in the landscape, providing a natural framework for recognising and responding to biodiversity values. The Northern Grampians Shire is predominantly covered by the Greater Grampians, Wimmera and Goldfields bioregions, with a small patch of the Victorian Volcanic Plains bioregion in the west, and a patch of the Central Victorian Highlands bioregion south of Stawell (Refer Map 2).

The region is well represented by National and Regional Parks, State Forests, Flora reserves and the like. The two most well known are the Grampians National Park and St Arnaud Range National Park.

Greater Grampians Bioregion

The Greater Grampians bioregion in the region's north is dominated by the striking parallel ranges and valleys which comprise the Grampians National Park, and retains substantial areas of native vegetation (the former NRE, 1997). The Grampians is home to more than 800 vascular plant species - almost 1/3rd of Victoria's entire indigenous flora - of which about 20 occur nowhere else. For example, the shrubby banksia species on several rocky peaks, previously considered to be *Coast Banksia (Banksia integrifolia)*, was described in 1981 as a distinct species *Rock Banksia (Banksia saxicola)*. Flame Grevilia (*Grevilia dimorpha*) is only known elsewhere from Mt Cole, while the distinctive Shiny Tea-tree (*Leptospermum nitidum*) is common in the area but otherwise occurs only in Tasmania. Other endemic species include Grampians Gum *(Eucalyptus alpina)*, Grampians Bauera *(Bauera sessiliflora)*, Grampians Thryptomene *(Thryptomene calycina)*, Grampians Bossiaea *(Bossiaea rosmarinifolia)*, Grampians Parrot-pea *(Dillwynia oreodoxa)*, *Trymalium* spp. and Mount Byron Bush-pea *(Pultenaea patellifolia)*.

Of the tree species, stringybarks (chiefly Brown stringybark *(Eucalyptus baxteri)* and Messmate *(Eucalyptus obliqua)* are most common on the hills, but open-forests vary from box types on the flats to taller forests (including gums) with dense understoreys in deeper sheltered gullies. Some 28 species of wattles occur in most places throughout the Grampians (Source – Costermans)

Wimmera Bioregion

Wimmera is typified by flat to gently undulating plains in the east, with black and grey cracking clay soils.

Plains Woodland, Plains Grassy Woodland, Plains Grassland, Red Gum Wetland and Grassy Woodland are the dominant ecosystems. The western part is typified by ancient stranded beach ridges interspersed with clay plains (where there are a mixture of swamp, lakes, lagoons and lunettes in the south) with cracking clay soils and red texture contrast soils The vegetation on these less fertile plains is dominated by Heathy Woodland and Shallow Sands Woodland.

Buloke Woodlands are a typical and threatened group of vegetation communities in the Wimmera bioregion. This community is structurally dominated by Buloke (*Allocasuarina luehmannii).*

Occasionally other species like Slender Cypress Pine (*Callitris gracilis*) and Grey Box (*Eucalyptus microcarpa)* are locally dominant.

The name 'Buloke Woodlands' is intended to encompass a number of closely related woodland communities with broadly similar names and facing similar levels of threats throughout the bioregions. Buloke Grassy Woodland is a widely recognised name for this community.

This community has been reduced in distribution and is still threatened by land clearance, grazing, weedicide application, fertiliser drift and inappropriate fire management.

The plains are also home to a number of ecologically and socially significant lakes and wetlands, including the Avon Plains Lakes.

Goldfields Bioregion

Goldfields is dominated by dissected uplands (predominantly a northerly aspect) of Lower Palaeozoic deposits. Metamorphic rocks have formed steeply sloped peaks and ridges. A variety of relatively poor soils are dominant with yellow, grey and brown texture contrast soils and minor occurrences of friable earths.

The area covered by this region in the Shire extends from St Arnaud over the northern foothills of the Pyrennees Ranges, south and west through Navarre and Callawadda toward Stawell.

Box Ironbark Forest, Heathy Dry Forest and Grassy Dry Forest ecosystems dominate the lower slopes or poorer soils. The granitic and sedimentary (with Tertiary colluvial aprons) terrain is dominated by Grassy Woodlands much of which has been cleared. Occasional low-lying corridors of alluvial valleys between the uplands are dominated by Low Rises Grassy Woodland and Alluvial Terraces Herb-rich Woodland ecosystems.

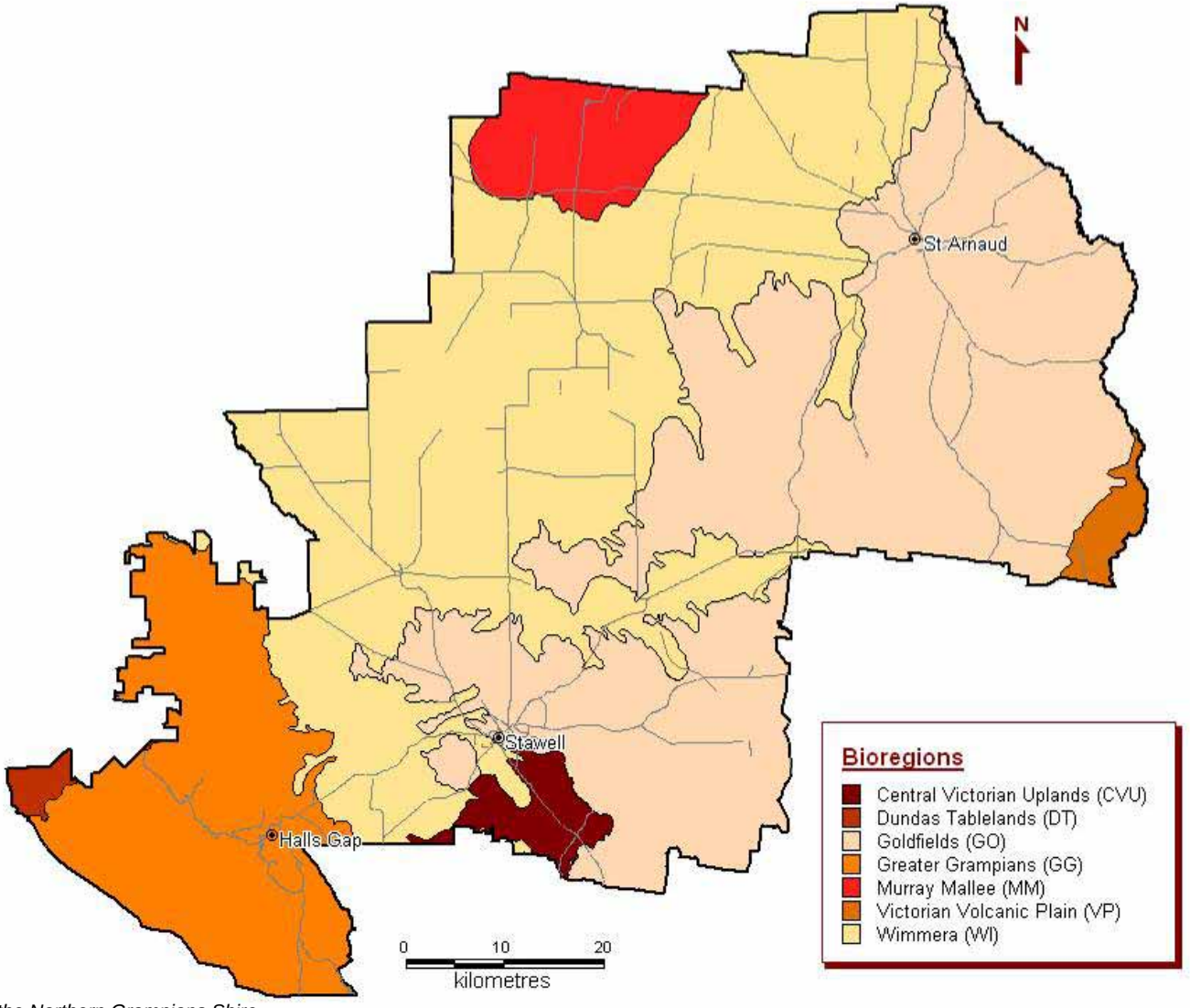
The Goldfields bioregion is dominated by Box-Ironbark Forest but also had large areas of Dry Foothill Forest Complexes, Inland Slopes Woodland Complexes, Plains Grassy Woodland Complexes and Herb-rich Woodland Complexes.

Endemic flora species of the Goldfields bioregion include several orchids, Narrow Goodenia, Whorled Zieria and Goldfields Grevillea.

River Catchments

The Northern Grampians Shire is drained by three major river catchments – the Wimmera River in the west, the Avon Richardson in the middle and the Avoca River in the east. These catchments provide the focus for the protection of environmental assets in the region.

1 Introduction



Map 2: Bioregions across the Northern Grampians Shire

1 Introduction

1.4 Why is it important to protect our roadside reserves?

In its Regional Catchment Strategy, the North Central CMA says that less than 13% of pre-settlement vegetation has been retained across the region, and that in the Murray Mallee and Wimmera bioregions this figure can be as low as 0.5%. Wimmera CMA's Regional Catchment Strategy identifies a similar scenario with approximately 85% of native vegetation cleared across the region since European settlement.

Native vegetation communities on land that was most easily occupied for agriculture – the natural grasslands, grassy woodlands and wetlands – are most poorly represented in the current landscape.

Within the Northern Grampians Shire, probably 70% of the land has been cleared of native vegetation for agriculture, primarily cropping and improved pasture (grazing). This has irreversibly modified the landscape, contributing to almost total loss of some native vegetation types, i.e., Creekline Grassy Woodland, Plains Woodland and Alluvial Terraces Herb-rich Woodland.

Often roadsides are a last refuge for flora and fauna in the landscape with the three main drivers for protecting roadside vegetation being:

- native vegetation along road reserves often represents some of the best examples of vegetation community's that have otherwise disappeared or have been substantially degraded elsewhere on private land or in public reserves (State Forest, etc)
- Roadsides contain very high numbers of EPBC and FFG listed Rare or Threatened Species populations of both flora and fauna
- Many roadsides provide vital linkages and networks for wildlife movement between core habitat areas
- Remnant vegetation on roadsides also provides a store for unique genetic resources of flora and fauna
- They are sources of seed for a high percentage of revegetation activities
- Roadside vegetation also provides protection for livestock and crops on adjoining properties and can assist in erosion control.

Important functions of roadsides include:

- locations for service assets
- wildlife habitat
- biological diversity
- important historic, cultural and natural landscape values
- locations for fire control lines
- windbreaks and shelter belts
- stock routes
- access for pedestrians, cyclists and horse riders
- aesthetic amenity

1.5 Threats to roadside reserves

Despite the ecological, economic and social values of roadside vegetation it is highly exposed to both incremental and total loss of quality and extent. Although there are various broad ecological threats, the fastest acting and most widespread threats are related to human activities.

1 Introduction

Due to roadsides narrow linear nature they are more susceptible to the encroachment of farming activities, urban development, timber extraction (firewood collection), road maintenance and construction works, inappropriate fire prevention activities (raking and burning leaf litter and mulch) and the installation and maintenance of services. All these activities directly threaten the quality and viability of roadside vegetation and may reduce the value of services provided to the whole community.

Appendix 1 lists all threats that have been included in the roadside assessments. These threats can now be clearly identified, understood and managed into the future to ensure better outcomes for roadside vegetation. Examples of common roadside threats include:

- Altered hydrology – Drainage of wetlands and the flooding of dryland
- Animal pests – Hares, Foxes, Indian miner's or other feral species
- Cultivation – For crops or pasture
- Firebreak construction – ploughing or ripping
- Grazing – Sheep, cattle and goats
- Poor management, planning or engineering – Site specific conflicts, loss of biodiversity
- Salinity – Salt scalds, and/or tree health and death
- Weed invasion – Transported in from other areas by road, garden escapees

Rabbit warren on roadside

Abandoned vehicle on roadside

Weed infestation on roadside

1.6 General principles for the protection of remnant vegetation on roadsides

The strategic actions in this plan reflect the following management principles for the protection of remnant vegetation on roadsides.

This plan follows the principle objectives and guidelines in:

- Victoria's Biodiversity Strategy (1997)
- Victoria's Native Vegetation Framework (2002), and the
- North Central Native Vegetation Plan (2006)

In short these priorities are, from most important:

- To protect existing remnant vegetation from loss or degradation
- To enhance degraded remnants to restore quality, and
- To revegetate to replace some of the lost diversity.

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In relation to clearing of native vegetation the net gain principles apply, which are:

- to **retain** existing native vegetation and **avoid** clearance where feasible
- to **minimise** disturbance to flora, fauna and biodiversity where vegetation clearance is unavoidable, and
- where clearing is necessary, through appropriate **offsets**.

There are a number of other important characteristics to consider:

- prevent the decline in value of vulnerable, rare or threatened (VROT) species populations and critical fauna habitat
- enhance critical habitats and VROT species populations
- improve landscape connectivity and viability

It is recommended that all roadside native vegetation works in Northern Grampians Shire adhere to the Best Practice Management Guidelines, including:

- considering regeneration over revegetation
- allowing for wetlands protection and enhancement
- incorporating wildlife, especially threatened species, habitat into plans
- rare, threatened or locally significant flora and fauna
- Weed management
- Fire management

Threats to roadside reserves can impact on native flora and fauna values

1.7 The project, the assessment process and the outcome

1.7.1 Northern Grampians Shire Roadside Vegetation Management Plan

The Northern Grampians Shire Council's Roadside Vegetation Management Plan was developed between October 2006 and January 2008, and was undertaken by Council with assistance from the North Central Catchment Management Authority and Wimmera Catchment Management Authority, with funding and support from the Federal Government's Natural Heritage Trust Program.

The NGSC RVMP forms part of a larger roadside management project within the North Central CMA region. It was extended by agreement with the Wimmera CMA to also cover roadsides in that region so that Northern Grampians Shire has access to consistent and compatible data across both regions.

Information from the Shire of Stawell Roadside Management Plan (1994) and the Wimmera Roadside Management Strategy (2000) was reviewed and, where relevant, included in current RVMP. Existing data held by the Wimmera CMA on roadside conservation status was also reviewed and included in the database.

The goal of this project is to improve the condition and extent of native vegetation on roadsides (and other linear reserves) by developing and implementing a high quality Roadside Vegetation Management Plan for Northern Grampians which provided up-to date vegetation mapping and data, and a consistent level of content and detail.

The development of the RVMP was conducted in three main stages (Figure 1):

- The first stage involved the assessment of roadside vegetation condition and the formulation of conservation value mapping carried out by the NCCMA for the municipality. This was undertaken by the Centre for Environmental Management (CEM) who were appointed by Council, with the support of the CMAs, in October 2006.
- The second stage involved a review of the existing roadside management plan and re-formatting into a standard template.
- Stage three involved wide community and stakeholder consultation seeking comment and endorsement of the plan, incorporating relevant comments into the final plan and submitting the plan for Council approval.

High conservation roadsides occur on route towards Grampians National Park

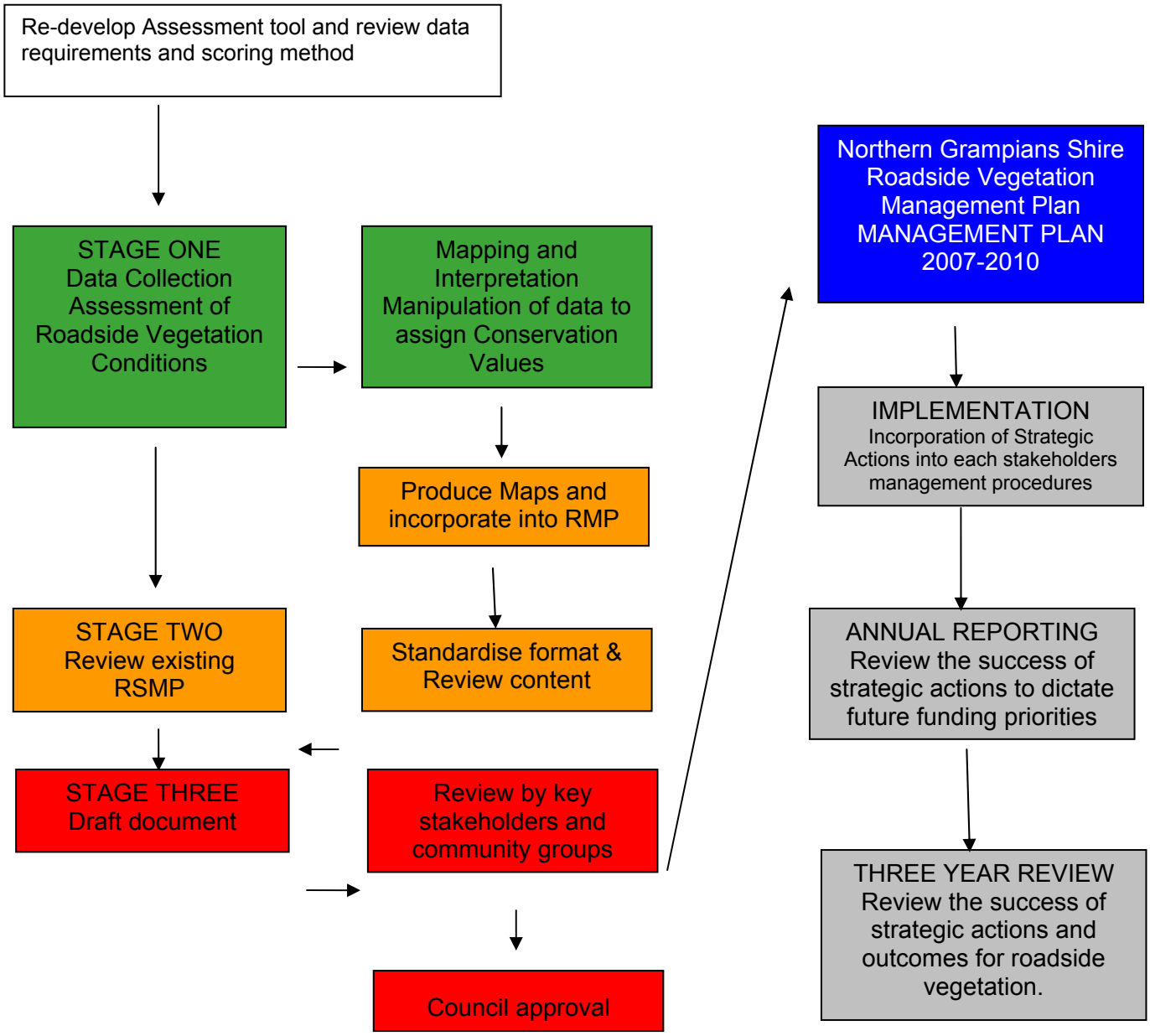

Figure 1: Summary of the processes involved in the development of the Northern Grampians Shire Council's Roadside Vegetation Management Plan.

1.8 Roadside assessments and conservation values

In order to effectively manage the road reserve network across the Northern Grampians Shire an assessment of roadside vegetation condition and other values was completed on all Shire-managed roadsides by environmental consultants from the Centre for Environmental Management (CEM).The information collected provides the basis for determining Roadside Conservation Values. Other uses of the data relate to strategic management of environmental assets and base line monitoring information to identify change over time as well as strategic landscape management requirements such as connectivity for wildlife movement or invasive species control.

1 Introduction

Collect Data
Field assessments

→

Analyse Data
Interpretation and scoring

→

Incorporate Data into Management Plan
Informs strategic actions etc

1.8.1 The assessment tool

The new Roadside Conservation Assessment database was developed by the North Central Catchment Management Authority (Figure 2 & 3). This involved reviewing existing tools and methods of data capture for roadside assessment and incorporating the best aspects of these into a new MS Access database application. The application has radically changed the way roadside assessments are carried out and the value of the data post-assessment.

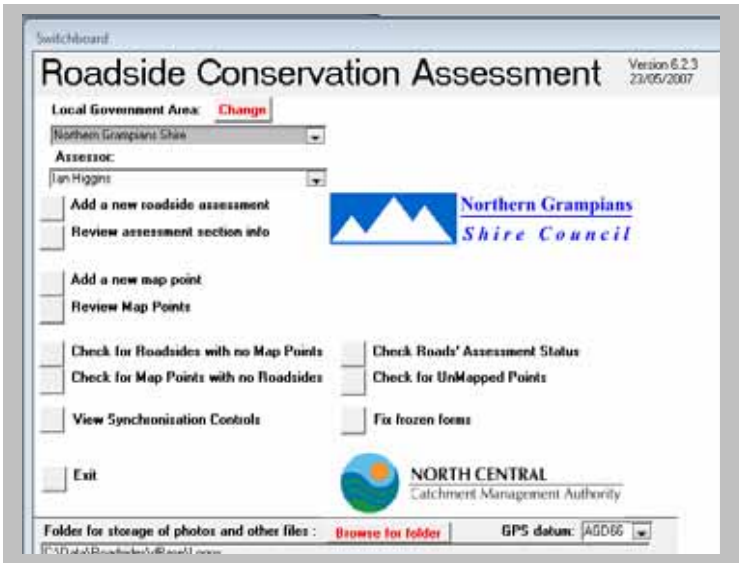

Figure 2: Roadside Conservation Assessment database

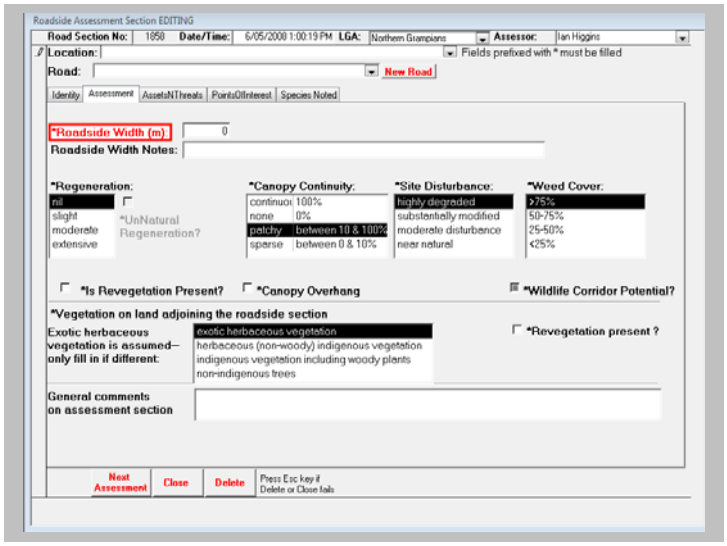

Figure 3: Roadside Conservation Value using the Roadside Conservation Assessment Database

Once the location details are completed (under identity, not shown) the vegetation and habitat assessment is completed (details shown). Other information (assets, points of interest and species notes) is completed as required. This information provides the foundation for determining Roadside Conservation Values, producing GIS mapping and informed roadside management.

1.8.2 Roadside conservation values

The method used to determine the conservation value of roadside vegetation has been developed with reference to the principals and criteria outlined in Victoria's Native Vegetation Management Framework: A Framework for Action (DNRE, 2002). The final conservation values used generally align with conservation significance values. This method combines both vegetation status and vegetation condition information in the determination of conservation significance. Other values such as threatened species are also included in the process. Using this approach allows the management of roadside vegetation to be achieved in accordance with current policies and standards. The final categories for roadside conservation values are exotic (or degraded treeless vegetation), low, medium and high. The low value sub category scattered trees has also been included for enhanced application.

1.8.2.1 Vegetation status

Across Victoria all EVC's have been allocated a Bioregional Conservation Status (see Victoria's Native Vegetation Management Framework: A Framework for Action (DNRE, 2002)). This is derived by assessing information regarding the depletion (or loss) of vegetation cover (specific to each vegetation type within each bioregion), the level and type of threats to existing remnants, the impact of further clearing or loss and the contribution of different vegetation types to other significant species conservation. Roadside assessment data provides information to determine the type and conservation status of vegetation for each roadside section. This information is not relevant where the section is determined to be exotic (degraded treeless vegetation) or scattered (small or medium) trees.

1.8.2.2 Vegetation condition

The roadside vegetation assessment scoring method, outlined in Table 1, provides the framework to derive a condition score from the assessment data collected. The level of detail in the field assessments provides enough information to determine an indicative minimum condition or quality score. The method used to determine vegetation condition requires appropriate values to be placed on vegetation attributes that account for differences in condition specific to different vegetation types. The vegetation (EVC) groups used are Forest, Woodland, Mallee, Shrubland and Grassland (or other non-woody vegetation types). This approach allows a more accurate assessment of vegetation condition and subsequent conservation value. Attributes used to determine vegetation condition are soil (site) disturbance, weed cover, understorey, regeneration, canopy continuity, large trees, organic litter, logs and adjoining vegetation. The assessment criteria, their interpretation and general approach to scoring vegetation condition are modeled on other vegetation condition assessment approaches.

ROADSIDE VEGETATION ASSESSMENT						
Assessment Attribute	**Assessment Criteria**	**Score**				
SOIL DISTURBANCE (20)	Highly degraded					0
	Substantially modified					3
	Moderate disturbance					10
	Near natural					20
WEED COVER (11)	>75%					0
	50-75%					1
	25-50%					4
	<25%					7
Non-weedy site	<5%					11
	EVC Groups	**Forest**	**Woodland**	**Grassland***	**Mallee**	**Shrubland***
HABITAT VALUES (10)	Biotic soil crusts	1	2	3	1	1
	Ground flora	4	4	5	4	4
	Shrubs	4	3	2	4	4
	Trees	1	1	-	1	1
REGENERATION (3)	Nil	0	0	-	0	0
	Slight	1	2	-	1	1
	Moderate	3	3	-	3	3
	Extensive	2	1	-	2	2
CANOPY CONTINUITY (4)	None 0%	0	0	-	0	2
	Sparse between 0 to 20%	1	1	-	1	2
	Patchy between 20 to 90%	2	4	-	2	4
	Continuous 90 to 100%	4	2	-	4	4
HABITAT VALUE (5)	Old, large trees	5	5	-	5	-
HABITAT VALUE (3)	Leaf mulch / litter	3	3	-	3	3
HABITAT VALUE (2)	Woody debris	2	2	-	2	2
ADJOINING VEGETATION (2)	Exotic herbaceous vegetation	1	1	1	1	1
	Herbaceous (non-woody) indigenous vegetation	1	1	2	1	1
	Woody indigenous vegetation	2	2	1	2	2
	Non-indigenous trees	1	1	1	1	1
Total Score = 60 * = Score standardised						

Table 1: Roadside Vegetation Assessment

The values placed on attributes have been modified to account for the different structural characteristics of various vegetation types. The maximum possible score for any vegetation type is 60.

1.8.2.3 Significance framework (combining status and condition)

The combination of status and condition information is achieved through a modified significance framework that has been developed using principals outlined in Victoria's Native Vegetation Management Framework: A Framework for Action (DNRE, 2002). In applying these methods the final Roadside Conservation Value is a comprehensive representation of asset values (Table 2). This allows strategic management, comparable results, and clearly identifies whole of landscape priorities. The result from combining just status and condition can also be modified by other values. This information relates to rare or threatened species.

DETERMINING ROADSIDE CONSERVATION VALUES

ROADSIDE CONSERVATION VALUE (Significance)	BIODIVERSITY ATTRIBUTES			
	VEGETATION TYPES		Or THREATENED SPECIES (sections)	Or SIGNIFICANT POINTS
	Conservation Status	Condition Range/Score		
HIGH (Very high)	Endangered	≥0.4	Roadside sections with threatened species recorded	Significant point (assume 25m buffer)
	Vulnerable	≥0.5		
	Rare	≥0.5		
(High)	Endangered	<0.4		
	Vulnerable	0.3 - <0.5		
	Rare	0.3 - <0.5		
	Depleted	≥0.5		
MEDIUM	Vulnerable	<0.3	Degraded Treeless sections with threatened species recorded	
	Rare	<0.3		
	Depleted	0.3 - <0.5		
	Least Concern	≥ 0.5		
LOW	Depleted	< 0.3		
	Least Concern	< 0.5		
(Scattered trees)	- (all)	N/A		
Degraded Treeless Vegetation	- (all)	N/A (no trees recorded)		

Table 2: Roadside Conservation Value (RCV)

RCV is the outcome of combining Bioregional EVC status, vegetation condition and other values. The modified significance framework is based on the categories used in Victoria's Native Vegetation Management Framework: A Framework for Action (DNRE 2002).

1.8.2.4 The GIS Roadside Conservation Management Tool

The Roadside Conservation Management Tool is a GIS (geographic information system) based set of map layers developed by the North Central Catchment Management Authority. These layers provide convenient access to assessment data and the Conservation Value and Management Response information (see section 1.8.3 for management response details). The Conservation Value map (layer) displays the outcome of applying the above method. The functionality of the final map product allows simple access to detailed information that supports and explains the values displayed. The Roadside Conservation Value is displayed using four categories. The categories used represent a simplified conservation significance result.

High Conservation Value (red) indicates significant ecological assets are present, i.e., endangered vegetation and/or threatened species (section length records). The vegetation condition may be low when the vegetation status is endangered. As the vegetation status decreases (from endangered through to depleted) the minimum condition score required to make the section high conservation value increases. Scattered trees (large trees / endangered EVC) are also high conservation value. Scattered trees are groups of trees with less than 20% canopy cover. There may also be significant sites (points) present.

Medium Conservation Value (orange) also indicates significant ecological assets, however these are not currently in the same critical range as high conservation value sites. Vulnerable and rare vegetation of medium conservation value is at the lower end of the condition range. Vegetation condition may be higher for depleted vegetation than on other high conservation value roadsides where the vegetation is of endangered, vulnerable or rare status. Exotic sections with threatened species present over the section length are also medium conservation values. Scattered trees (large trees / vulnerable and rare EVC's) are also medium conservation value. There may also be significant sites (points) present.

Low Conservation Value (green) indicates ecological assets that are depleted or least concern status and although the condition may be low, the score range for this category includes higher condition sites. Scattered trees (large trees / depleted and least concern EVC's) are also low conservation value. The sub category scattered tree (small and medium trees) across all EVC status classes is also low conservation value. There may also be significant sites (points) present.

Exotic / Degraded Treeless Vegetation (light green) indicates almost no native vegetation exists (below 25% understorey cover with no canopy cover). There may be significant sites (points) present.

The following map sample (Figure 4) provides an example of the final Roadside Conservation Values map product. The final roadside conservation value, threatened species point locations (overlay), weed points and photo points are displayed. This tool allows straightforward access to the information used to create the final product.

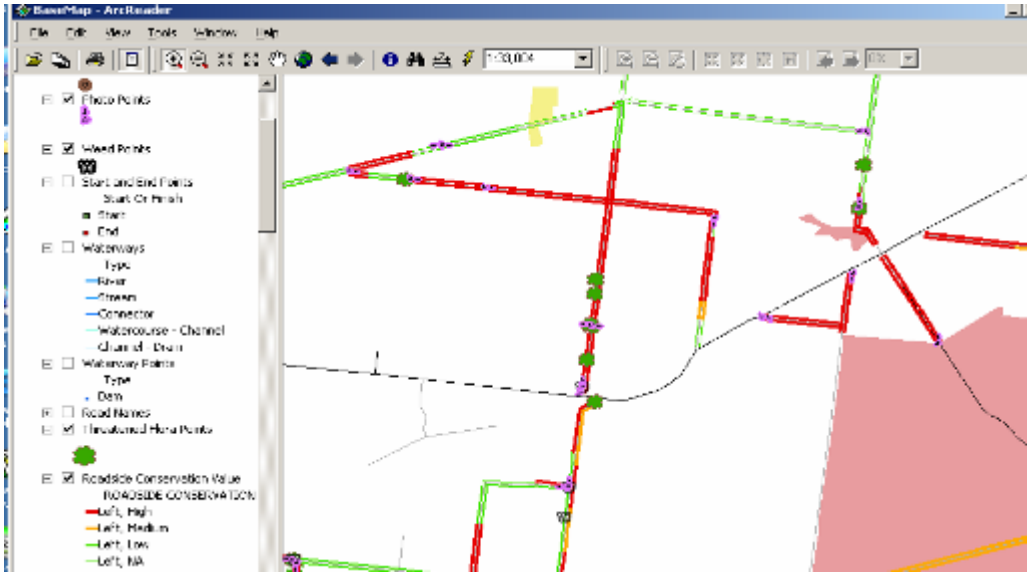

Figure 4: Example of part of the Roadside Conservation Value Map

1.8.2.5 Examples of roadside conservation values

Examples of roadside conservation values are provided in Table 3 below:

HIGH	**Bioregional EVC \ Status** Riverina Plains Woodland \ Endangered **Vegetation Condition** Near natural to moderate disturbance, up to 50% introduced species. All structural layers of the EVC present with up to two modified. Score range = ≥40 **Significant Species or Other Value** Species may be present over section length Significant sites may be present	
HIGH	**Bioregional EVC \ Status** Grassy Woodland \ Endangered **Vegetation Condition** Moderate to substantial disturbance, up to 75% weed cover, All structural layers modified with up to two missing. Score range = >20 - <40 **Significant Species or Other Value** Species may be present over the section length Significant sites may be present	
HIGH	**Bioregional EVC \ Status** Sandstone Ridge Shrubland \ Least Concern **Vegetation Condition** Near natural to substantial disturbance, less than 75% weed cover, up to two structural layers in the EVC missing or all degraded. Score range = >20 **Significant Species or Other Value** Species must be present over the section length This example: Acacia williansonii - Whirrikee wattle Acacia flexifolia - Bent-leaf wattle Goodenia benthamiana - Small-leaf Goodenia Significant sites may be present	

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MED	**Bioregional EVC \ Status** Creekline Grassy Woodland \ Vulnerable (or Rare EVC) **Vegetation Condition** Moderate to substantial disturbance, up to 75% introduced species, up to two structural layers in the EVC may be missing or all degraded. Score range = >20 - <50 **Significant Species or Other Value** None present over section length Significant sites may be present	
MED	**Bioregional EVC \ Status** Box-Ironbark \ Depleted **Vegetation Condition** Moderate disturbance, up to 50% introduced species, one structural layer in the EVC may be missing or modified. Score range = >30 - <50 **Significant Species or Other Value** None present over section length Significant sites may be present	
LOW	**Bioregional EVC \ Status** Sandstone Ridge Shrubland \ Least Concern **Vegetation Condition** Moderate to substantial disturbance, up to 75% introduced species, up to two structural layers in the EVC may be missing or all degraded. (This EVC \ Status combination has a wide score range and includes higher condition sites as low value. This is low conservation significance not condition) Score range = >20 - <50 **Significant Species or Other Values** None present over section length Significant sites may be present	

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LOW	**Bioregional EVC \ Status** Any combination (significance not applied) **Vegetation Condition** Substantially modified to highly degraded, >75% weed cover, few trees recorded. Indicator of scattered trees Score range = <20 **Significant Species or Other Overlay** None Present over section length Significant sites may be present	
EXOTIC	**Bioregional EVC \ Status** Any combination **Vegetation Condition** Highly degraded, weed cover over 75%, minimal (less than 5%) native vegetation present. Indicator of **degraded treeless vegetation** Score range = <20 **Significant species or Other Overlay** None present over section length Significant sites may be present	

Table 3: Description of classes used to display the conservation value of roadside vegetation with example images.

1.8.3 Roadside Vegetation Management Zones

Roadside management zones have been developed to simplify the complexity of management issues related to roadside vegetation. These zones have been defined using roadside conservation values (conservation significance) and vegetation condition. This process groups sites across all significance classes into a set of management response categories that provide a clear indication; across as many management issues as possible, for as many users as possible, the level of management authority and actions required.

Three primary vegetation management response zones have been used. These are restrictive, conditional and minimal. For enhanced management application both the restrictive and minimal categories are further divided into sub categories within each zone. The application of these zones and sub categories allows the user to quickly identify the appropriate management action\s required.

The minimal management response zone identifies sites with the lowest level of management response required. All roadsides are subject to regulations governing their management, however some sites involve more regulations than others. This zone includes three sub categories. They are exotic (or degraded treeless vegetation – following DSE, 2007), scattered trees and very low condition native vegetation. Although differences exist in the precise management of each zone (see details in Management Guideline tables in sections 3 and 5) generally they are all characterised by the minimal nature of the legislative requirements governing native vegetation management.

Exotic sites are the lowest sub category level of this group (minimal 3). For these sites no native vegetation issues are present (i.e., no trees present with more than 75% weed cover or planted non-indigenous native vegetation). Management decisions about these sites regarding many activities will be governed by other relevant legislation. If native vegetation is present at the site it is likely to fit into one of the following sub categories. There may be significant sites (points) present that require special management attention

Scattered trees are the next sub category level (minimal 2). Small and medium scattered trees (groups of trees with less than 20% canopy cover with less than 25% understorey cover) are the asset currently identified and are subject to native vegetation clearance controls. However, for the purpose of management many decisions not involving damaging or removal of trees, will not involve native vegetation issues. There may be significant sites (points) present that require special management attention.

Very low condition native vegetation is the highest sub category level (minimal 1). These sites contain native vegetation (including shrubs, grasses and herbs) which is subject to controls. For the purposes of management, however these sites are regarded as minimal and many activities will be able to be managed without disturbing native vegetation. There may be significant sites (points) present that require special management attention.

The conditional management response zone identifies sites with a higher level of complexity in management response required. All these sites contain native vegetation (including shrubs, grasses and herbs) and are subject to controls. All management decisions in these sites need to consider native vegetation and other relevant Acts. Management of activities in this zone should be approved subject to permit or other conditions. These sites may have threatened species and threatened vegetation communities present. There may be significant sites (points) present that require special management attention.

1 Introduction

Restrictive management response zones identify sites with the highest level of management complexity and response required. All these sites contain native vegetation (including shrubs, grasses and herbs) and are subject to controls. Two sub categories have been identified, however there is little different between these categories as far as everyday management requires. Many of these sites have threatened species and threatened vegetation communities present. There may be significant sites (points) present that require special management attention.

The management response zones and sub categories provide a framework for making decisions about the management of roadsides relevant to many users with different requirements. However, for some management requirements conservation significance remains the primary management reference.

MANAGEMENT RESPONSE FRAMEWORK		REMNANT PACTCH			SCATTERED TREES (small/medium)	EXOTIC / DEGRADED TREELESS VEGETATION
		VEGETATION SIGNIFICANCE				
		HIGH	MEDIUM	LOW		
VEGETATION CONDTION RANGE (0-60) (Score Class 0-6)	≥60 (6)					
	50<60 (5)					
	40<50 (4)					
	30<40 (3)					
	20<30 (2)					
	10<20 (1)					
	1-<10 (0)					

Introduction

MANAGEMENT RESPONSE	MANAGEMENT POLICY AND FRAMEWORK
RESTRICTIVE 1	**Native Vegetation** -Road Management Act -NVR Controls -Environmental Protection Overlays -Signage -Works Monitoring and tightly defined works zone -Site Maintenance -OTHER RELEVENT ACTS
RESTRICTIVE 2	**Native Vegetation** -Road Management Act -NVR Controls -Environmental Protection Overlay -Works Monitoring and tightly defined works zone -Enhancement works -OTHER RELEVENT ACTS
CONDITIONAL	**Native Vegetation** -Road Management Act -NVR Controls -Vegetation Protection Overlay -Permitted Activity Monitoring -OTHER RELEVENT ACTS
MINIMAL 1 / 2	**Very Low Condition Native Vegetation / Scattered Trees** -Road Management Act -NVR Controls (generally tree issues only) -OTHER RELEVENT ACTS
MINIMAL 3	**Exotic (Degraded Treeless Vegetation)** -Road Management Act -OTHER RELEVENT ACTS

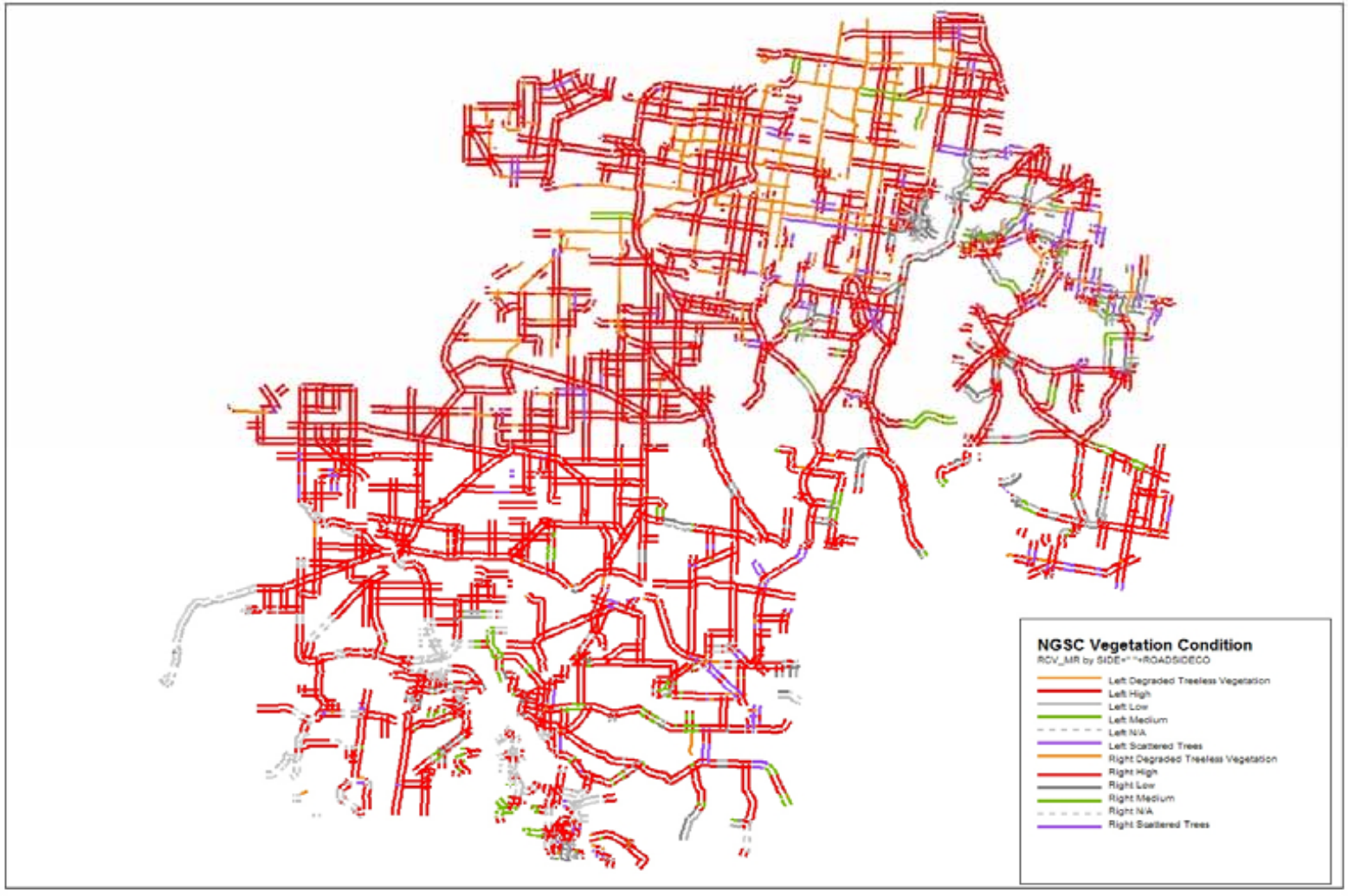
1.8.4 Unscored aspects of the roadside assessments

Additional information relevant to strategic management of road sections was also collected during the assessments (Table 4). This information is not considered in the initial condition scoring process, however the information is useful for the management of these reserves and can be used to further refine management actions and responses to specific issues. For example information relating to threats can be used to identify all road sections where a particular threat is operating, i.e., firebreak construction. This information can then assist in determining appropriate and strategic responses to eliminate the threat to roadside assets. Similar information relating to invasive species may also be used to identity protection strategies for threatened species populations or threatened communities.

INFORMATION	DESCRIPTION
Revegetation	Roadside plantings (only recorded when appropriate species are used)
	Adjoining land plantings (only recorded when appropriate species are used)
Canopy Overhang	Canopy overhang recorded as yes/no, canopy must be overhanging the road pavement
Wildlife corridor potential?	Yes/no
Threats	Altered hydrology
	Animal pests (other than rabbits or livestock)
	Burning
	Cultivation
	Dumping of fill
	Erosion
	Fertiliser application/nutrient run-on
	Firebreak construction
	Gardening/horticulture
	Grazing
	Herbicide application
	Invertebrate pests
	Livestock-pugging/ trampling/ compaction
	Mowing/slashing
	Mistletoe
	Non-indigenous species introduction
	Pesticide application (other than herbicide)
	Rabbit infestation
	Ripping
	Road construction
	Rubbish dumping
	Salinity
	Sedimentation/ siltation
	Soil, sand, gravel or rock removal/extraction
	Timber removal (fallen)
	Tree/shrub lopping/ pruning/ felling/ removal
	Utility construction – Drains, Pipe lines, Power lines, Channels, Other
	Vehicle parking/compaction
	Waterlogging
Roadside Width	Recorded as the width of the road reserve from the road edge to the fence
Notable Weeds	Recorded as points of interest or over section length
BioSites (signed)	Recorded as points of interest (start point and end point of this feature)
Photos	Taken at the start of many sections or at any other point if required
Cultural Points	Recorded as point of interest

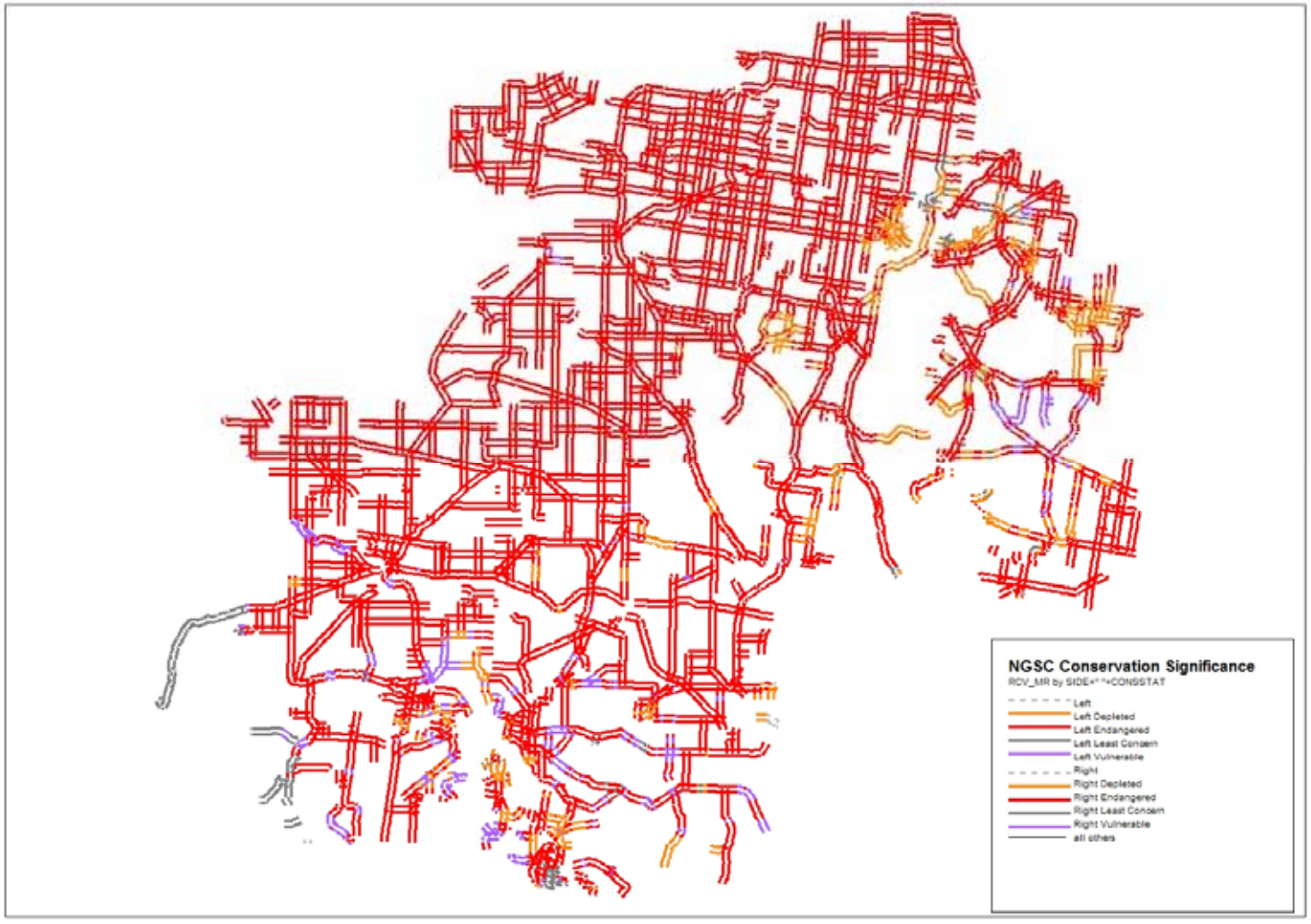
Table 4: Data collected during the field survey that was not used to generate a condition score but which may have various management uses.

Introduction



Map 3: Roadside Conservation Value Overlay: The condition of roadside vegetation within the municipality has been plotted on a map that is designed to be used in conjunction with management guidelines contained within this document.

Introduction



Map 4: Roadside Conservation Significance Map indicates the presence of native vegetation on roadsides regardless of condition.

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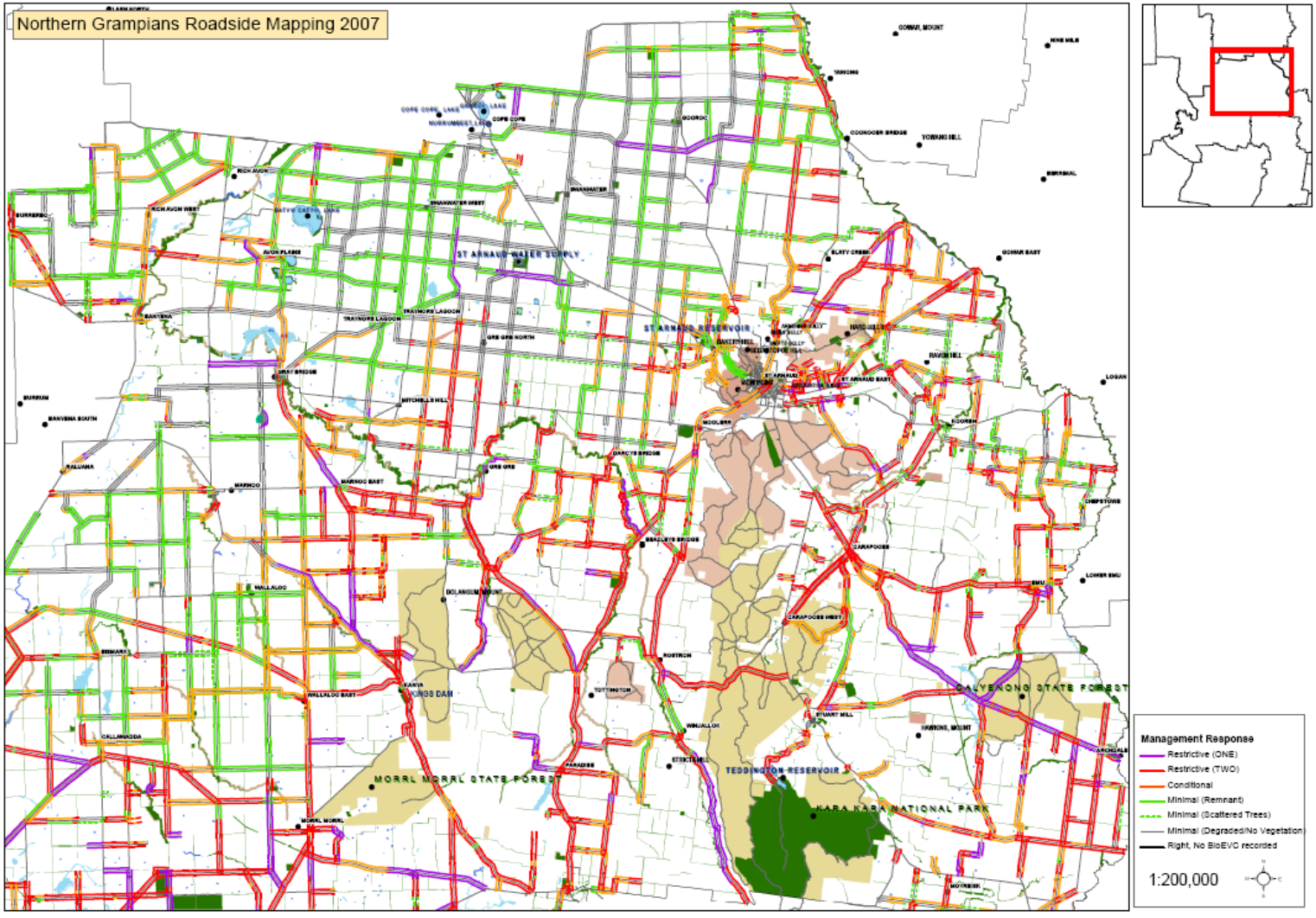
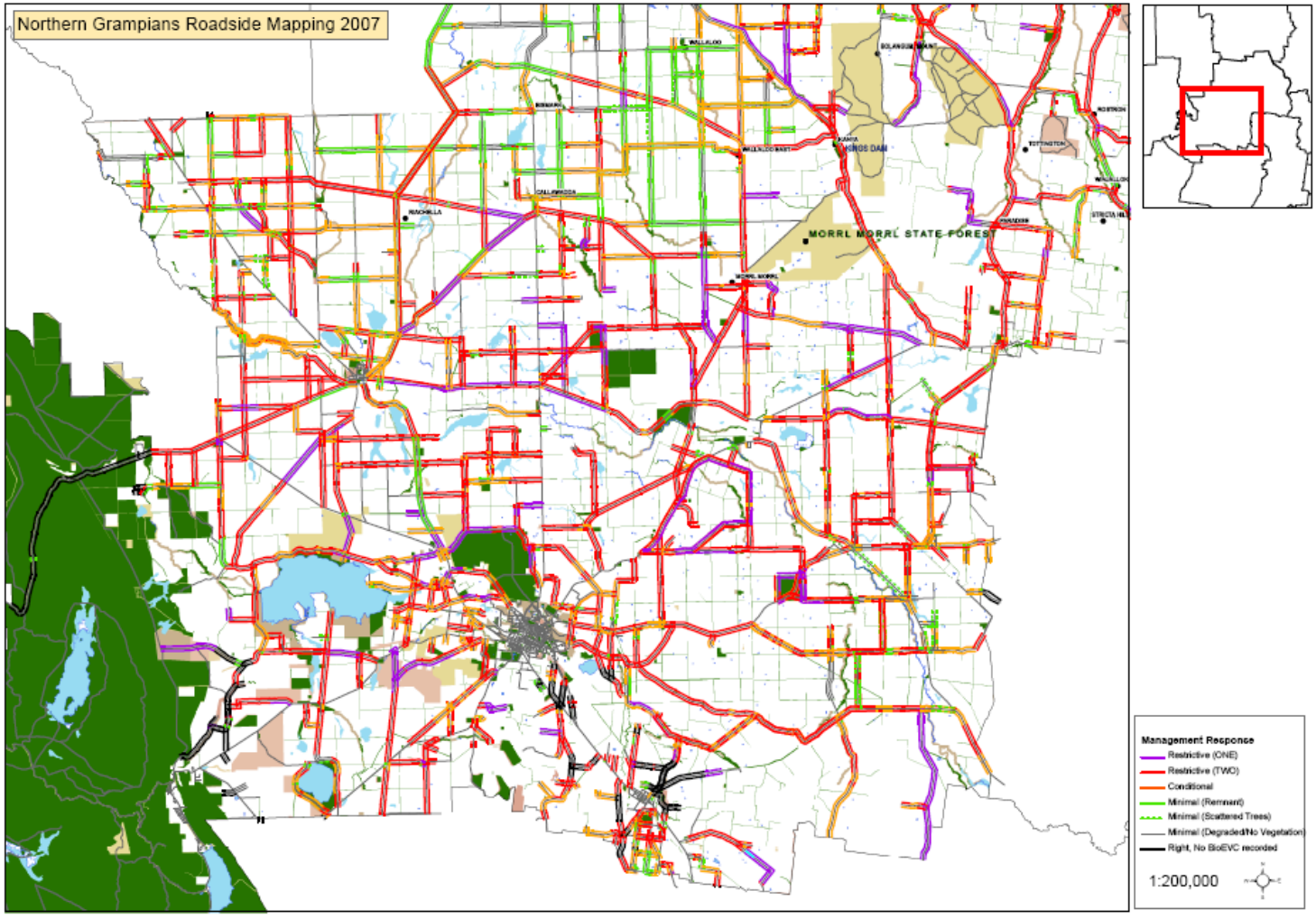


Map 5: Management Response indicates the level of risk associated with each roadside section – Northern Section

Introduction

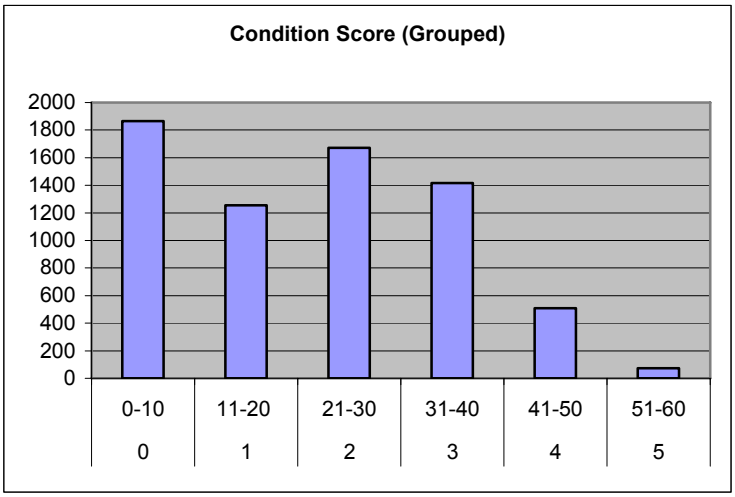


Map 6: Response indicates the level of risk associated with each roadside section – Southern section

1.7.3 Summary of data collected

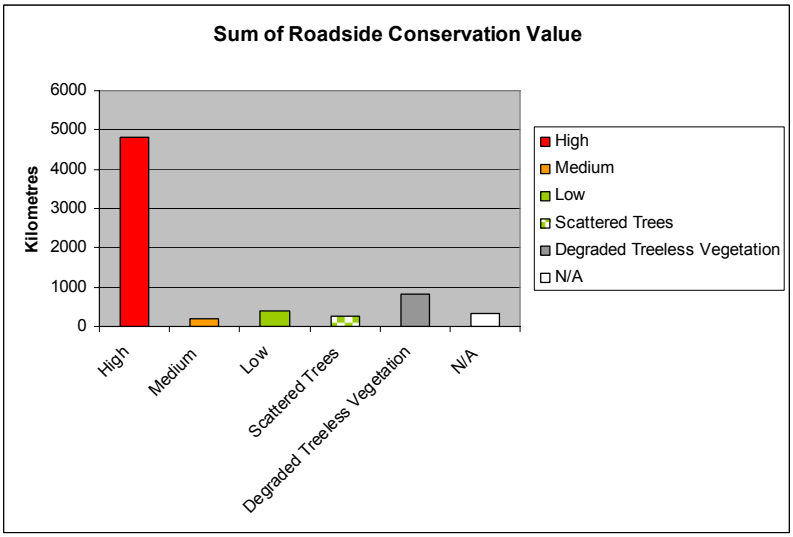
The size of the Northern Grampians road network and the split of Conservation Values. The road network in the NGSC totals about 4339 km in length (i.e., 8678 km of roadsides). Of the 6790 km of roadsides assessed (the balance being urban roads or highways and other roads managed by another agency), 4814 km have a High Conservation Value, 201 km medium and 393 km low – the balance was assessed as scattered trees, degraded treeless vegetation or as not having any applicable conservation significance (e.g. non-native vegetation) (Figures 5 -7).

Figure 5: Summary of Roadside Condition Scores



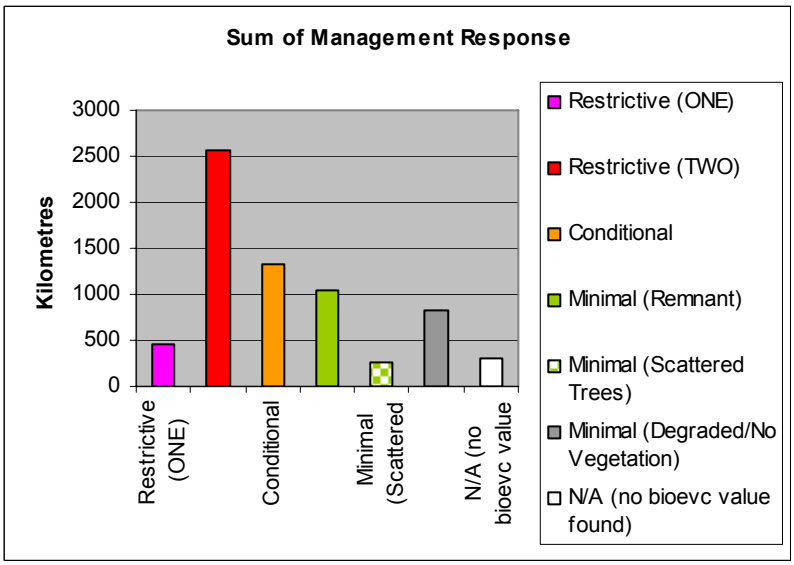
Score class	Score range	Kilometres
0	0-10	1870
1	11-20	1260
2	21-30	1670
3	31-40	1420
4	41-50	510
5	51-60	70

Figure 6: Summary of Roadside Conservation Value



Roadside Conservation Value	Kilometres
High	4810
Medium	200
Low	390
Scattered Trees	250
Degraded Treeless Vegetation	820
N/A	320

Figure 7: Summary of Roadside Management Response



Management Response	Kilometres
Restrictive (ONE)	460
Restrictive (TWO)	2570
Conditional	1320
Minimal (Remnant)	1050
Minimal (Scattered Trees)	250
Minimal (Degraded/No Vegetation)	820
N/A (no bioevc value found)	320

With strategic management, many of these roadsides have potential to increase in quality - some to a very high quality. Some management techniques could include:

- enhancement through planting of understorey species
- a reduction in weed cover
- retaining fallen timber
- removal of grazing to allow natural regeneration (Note: grazing may be required to maintain the health of grasslands or grassy woodlands through Summer and Autumn).

Sheep grazing on the roadside can both hinder and help the regeneration of native roadside vegetation, highlighting the importance of strategic roadside management

2.1 Strategic objectives and strategies

We will ensure that growth in urban and rural settings is sustainable and responsible by:

- Providing clear direction in respect to land use development and management;
- Facilitating responsible development management practices;
- Increasing community awareness of land management issues;
- Ensuring developments are environmentally responsive;
- Utilising and expecting good design practice in accordance with adopted and approved guidelines or policy.

We will identify, acknowledge and respect places of local heritage and cultural significance by:

- Conserving and interpreting heritage places and local history;
- Undertaking activities and events which promote the cultural significance of the area;
- Utilising and promoting Council's significant heritage assets for the benefit of the community;
- Working collaboratively with the indigenous community.

We will preserve, protect and enhance our natural environment by:

- Recognising and protecting native flora and fauna;
- Preserving native forests through the responsible management of adjacent development;
- Enhancing biodiversity through appropriate planting programs within the Shire's parklands, streets and bushland reserves;
- Developing responsible, environmental management practices;
- Utilising innovative and effective waste minimization practices;
- Utilising and expecting ecologically sustainable practices both in the Shire's operations and within the community;
- Encouraging the sustainable use and re-use of natural resources focusing on energy and water.

2.2 Mission statement

- The Northern Grampians Shire Council Mission Statement for the management of road reserves is as follows:

Council's aim is to protect, maintain and enhance the conservation values of roadsides whilst accommodating specified legitimate activities on roadsides – *taken from Shire of Stawell Roadside Management Plan (1994)*.

Activities which are legitimate, under certain circumstances, include:

- The location of utility services
- Fire prevention and control works
- Location of stack-sites
- Drainage
- Movement of stock
- Removal of timber under permit
- The construction of signs, wayside stops, lookouts and information bays for roadusers
- Exploratory drilling

Council aims to provide long-term commitment to ensure that there is a **visible** and **measurable improvement to priority roadside reserves** throughout the municipality in terms of:

- safety
- quality, viability and quantity of native flora and fauna
- best management practices
- land degradation
- aesthetics

2.3 Council's role

Northern Grampians Shire Council is responsible for all local roads within the municipality and VicRoads is the responsible authority for all main roads and state highways. Under the *Local Government Act* 1989 the Northern Grampians Shire is responsible for the care and management of 'public highways' and roads defined under section 205. The *Road Management Act (2004)* sets out the roles and responsibilities of road managers.

Council will, in consultation with other reserve authorities, manage road reserves to:

- provide safe transport corridors
- ensure safe property access
- protect service assets
- minimise fire impact
- protect and enhance biodiversity values
- protect cultural, amenity and heritage values.

2.4 Objectives

Within the context of maintaining its legislative responsibilities, the objectives of the Northern Grampians Shire Council for the management of roadsides are to:

- ensure that key stakeholders are aware of this plan and to encourage their participation and commitment to its implementation
- encourage the adoption of best practices by all land managers – including to continue to develop and implement environmentally sensitive road construction and maintenance practices
- encourage the control and reduction of the spread, and where possible, the eradication of priority pest plants.
- maintain and enhance biodiversity values
- improve the condition of priority roadsides by maintaining, and where feasible, restoring indigenous vegetation communities
- ensure the safe function of roads
- protect the road formation
- protect service assets located on roadsides
- protect cultural and heritage values
- prevent further land degradation on linear reserves and improve water quality
- maintain and enhance the visual amenity and landscape qualities of roadsides
- minimise the risk and impact from fire, and to address the conflicting issues of fire protection and conservation
- control pest animals and vermin where responsible.

2.5 Implementation

2.5.1 Administration

After adoption of this plan, Council will consider whether the Roadside Vegetation Management Plan should become a *"Reference Document"* in the Northern Grampians Shire Council Planning Scheme.

In that instance and in order to implement this Plan, the following actions and amendments to the Planning Scheme will be required. These amendments to the Planning Scheme will then be placed on public exhibition in order to comply with the *Local Government Act*, 1989 and the *Planning and Environment Act*, 1987:

- The Vegetation Protection Overlay will be amended to incorporate the Roadside Conservation Values embodied in this Plan. Very High, High and Medium Conservation Value Roadsides will be incorporated into the Vegetation Protection Overlay. The overlay will clearly identify protected areas and provide a legislative context to conserve the character of significant landscapes. A third schedule will be produced to clarify the nature and significance of the vegetation to be protected by the overlay. It will also set out the Permit requirements.
- The Environmental Significance Overlay will be altered to provide further protection to specific sites of value within Very High, High or Medium Conservation Value roadsides when more detailed information becomes available. Among other things this overlay provides more stringent controls over routine maintenance works and development
- Until such time as planning scheme amendment is undertaken, this plan will continue to be implemented as considered appropriate by the Council, or a relevant committee of Council

2.5.2 Community Education

The Northern Grampians Shire community is an important stakeholder in roadside management. It is local people who live alongside and commute through these reserves. Across the municipality locals, both individually and through community groups such as Landcare, have driven conservation efforts; signage of significant flora and fauna sites, wildlife corridors and revegetation efforts.

These efforts have played a significant role in conserving values at the site level and also contribute more broadly towards conservation at the landscape level.

Community consultation and education are key components of the NGSC RVMP

Although the ultimate protection of significant areas is dependent on local people caring for and maintaining them, often it can be the same people contributing to the degradation of these values.

At the site level management of roadsides is frequently a personal and emotive issue. Within the community roadsides have many often competing or conflicting values. These values vary from traditional ones like stock movement and infrastructure to broader environmental and social issues like biodiversity and aesthetics.

Guidelines for the community, construction and maintenance workers and utility service providers

There is a need to improve community awareness of roadside management issues and the role the community can play in the appropriate management of those issues. A number of organisations with well established community networks - such as Field Naturalist Clubs, Landcare, Waterwatch or Land for Wildlife - are very active and provide valuable forums for the dissemination of information relating to the management of roadsides.

DSE, DPI (Department of Primary Industries) and CMA's (Catchment management Authorities) also work closely with these organisations to disseminate relevant environmental management information.

Relatively simple measures such as the installation of appropriate signage can help increase community awareness and recognition of high conservation value roadsides within the Shire.

Appendix 2 displays the context and legal framework for the management of native vegetation on roadsides.

Community and Government partnerships are required to solve landcare issues which impact on roadsides – as seen by this joint rehabilitation venture between North Central CMA and the Kooreh Landcare Group

3.1 Preface

Guidelines for the community, construction and maintenance workers and utility service providers section provides a description of issues, outlines management techniques and strategic actions directly related to how these groups carry out activities and works on roadsides within the Northern Grampians Shire.

Relevant roadside management issues include:

- Fire management
- Protection of native flora and fauna
- Farming and associated activities
- Pest plants
- Pest animals
- Pest insects.
- Road maintenance and construction
- Cultural and heritage values

3.2 Aims

- To create a sense of custodianship of roadsides.
- To increase awareness of duty of care principles and best practices.
- To integrate works on farms with works on roadsides with emphasis on catchment priority areas.
- To ensure that all vegetation/habitat on roadsides is given maximum protection by examining alternative locations for fire control lines and when developing fire risk prevention strategies.
- To increase awareness of the importance of remnant grassland vegetation located on roadsides.
- To ensure that all works comply with this plan.
- To ensure that prior to any works being undertaken the Roadside Conservation Value of the road is know (Roadside Conservation Value Map) and the significance understood on a local, regional, state and national level (Conservation Significance Rating / presence of EPBC species and communities).
- To ensure the principle of' Net Gain' and 'Offsets' is applied where vegetation is removed/lost
- To ensure service providers are complying with all relevant codes and guidelines.
- To promote best practices in biodiversity management as part of all road works.

3.3 Relevant legislation, policies and strategies

Refer to Appendix 2 for a list of relevant legislation, policies and strategies to roadside vegetation management.

3.4 Fire management

Goal: **To manage roadside vegetation to minimise fire threat to life and property and for the conservation of flora and fauna.**

3.4.1 General

Roads and roadsides are important tools for the prevention and suppression of fires. Roads are vital access points for fire fighters as well as evacuation routes for people trying to escape threatened areas. Roads can also act as physical firebreaks to help prevent the spread of some low intensity fires.

- Under Section 43 of the *CFA Act*, 1958 it is the Council's responsibility to '*take all practicable steps to prevent the occurrence of fires on, and minimise the danger of the spread of fires on, any road under its care and management*'.
- Indigenous flora conservation and fire prevention works can be complementary if appropriate methods are used and planning and coordination are undertaken.
- Promote fuel reduction practices which protect and enhance native vegetation (including regeneration) and prevent the growth of exotic species.
- Control exotic grass by slashing where necessary but do not slash when noxious and environmental weeds are in or are about to seed.
- Avoid damage to significant flora and fauna and wildlife corridors where possible.
- Slashing (with written permission from council) is the only legal method of biomass reduction. This should be timed to ensure seed set by native species. Do not slash where native trees, shrubs or revegetation occurs.
- Plan to utilise Low Conservation Value roadsides or cleared private land free from vegetation (inc. grassland and derived grassland vegetation) for fire control lines.
- Include the Roadside Conservation Value of roadsides, sites of rare, threatened and significant flora and fauna and suggested wildlife corridors, on the municipal fire prevention plan.

Firebreaks must be approved by Council and included in the MFPP

Roadside vegetation can assist with fire suppression.

3.4.2 Landholders

Victoria has recently adopted a new approach to native vegetation provisions in the planning scheme. Any works requiring the removal, lopping or destruction of native vegetation must obtain a

permit from the Northern Grampians Shire and may need to be referred to DSE for approval under Section 55 of the Planning and Environment Act 1987, unless exemptions apply.

- Some roadsides are subject to planning overlays and local planning policy

Road Management Act

Under the *Road Management Act* (2004) Landholders must have written permission from Northern Grampians Shire Council (or other responsible road management authority, e.g., VicRoads) before undertaking any **works** (including existing uses) on roadsides. Some exemptions may apply for works giving driveway access to an arterial road, or for mowing of part of the roadside, or for minor works as defined by the Act where these works do not impact on traffic.

Works must comply with any conditions required by the road authority and all relevant legislation and policies. Fire prevention work must be included in the MFPP. The Municipal Fire Prevention Officer is responsible for ensuring proposed fire prevention works complies with the principles of this plan and to have it included in the MFPP.

When providing consent for the works on the road reserve in accordance with the Road Management Act (2004) Council, as the coordinating road authority, will consider the following principals

- Fire prevention works are to be consistent with the MFPP.
- Ploughing encourages the establishment of annual exotic weeds with potentially high fuel loads.
- Location of fire control lines for private benefit should be on private land rather than on public land.
- Herbicide spraying of firebreaks on Very High, High or Medium Conservation Value roadsides is not permitted unless included in the MFPP and approved by Council.
- Landholders:
  - obtain written permission before any works are carried out on roadsides.
  - Spray, slash or plough fuel reduced corridors around fixed assets and **inside fence-lines**.
  - Avoid raking and burning leaf mulch and small woody debris in piles. Appropriate controlled burns are the preferred method for removing this material.

3.4.3 Fire prevention agencies

Fire brigades may undertake all fire prevention works on roadsides provided they are in accordance with the proposed MFPP without obtaining a permit.

- The Environment Officer and the MFPO will monitor and evaluate fire prevention works every three years to determine the effectiveness of works in terms of both the vegetation quality and fire management.
- Encourage the participation of local environmental groups in future fire prevention planning.
- Where native vegetation is present the responsible person will, (unless otherwise directed by the MFPO or in the case of an identified plant community requiring specific management), limit fuel reduction burns to:
  - 2-5 year minimum rotational period between burns for Grasslands. Grasslands need to be burnt or have biomass reduction, **consult with DSE prior to undertaking any works in Grasslands**
  - 2-5 year minimum rotational period for Low Conservation Value roadsides
  - 10 years minimum rotational period for Medium Conservation Value roadsides
  - 15 years minimum rotational period for Very High, High Conservation Value roadsides.
- Fuel reduction burns may be undertaken annually in line with the aims of the MFPP where no native vegetation exists on Low Conservation Value roads.

- Ensure fire control lines are contiguous to those in adjoining municipalities where appropriate.
- Sign post Municipal Fire Prevention breaks.
- Contractors are required to undertake activities in accordance with the policies and guidelines contained in this Plan.
- Plan fire prevention works (or as directed by the Municipal Fire Prevention Plan) along fire control lines to extend from the shoulder of the road to the table drain, or where there is no clearly defined drain, extend work for:
  - 2 metres from the shoulder on Very High & High Conservation Value roads
  - 3 metres from the shoulder on Medium and Low Conservation Value roads. On sites identified as very weedy, work may extend to the fence line.

The following activities need to be referred to DSE for approval under Section 55 of the *Planning and Environment Act* 1987, unless under exemption:

- Ploughing or grading on Very High, High or Medium Conservation Value roadsides.
- Works on sites of rare, threatened or significant flora and fauna, areas of revegetation or existing and proposed wildlife corridors in the Municipal Fire Prevention Plan.

3.4.4. Integrated Fire Management Plan

Led by the CFA, the State funded Integrated Fire Management Plan (IFMP) project aims to bring all agencies and organisations responsible for fire management in Victoria together to develop a consistent fire management planning framework to help create a safe environment for all Victorians. The IFMP project, which commenced in 2005, has been the subject of extensive consultation. When completed, it is expected that the implementation will have regard to aspects of fire management including the prevention of, preparing for, responding to, and recovery from fire. This implementation may therefore influence how roadsides are managed in the future.

Strategic actions fire management

Priority	Action	Agency responsible	Time frame	Key performance indicator
High	Develop the Municipal Fire Prevention Plan in line with the objectives of the NGSC RVMP.	NGSC MFPO	On-going	Alignment of the MFPP and NGSC RMP.
High	Review municipal strategic firebreaks located on High and Medium Conservation Value roadsides and where possible relocate them to Low Conservation Value roadsides.	CFA MFPO NGSC	6 months	Reference to location of firebreaks in the MFPP.
High	Ensure the Fire Prevention Committee and MFPO have access to the quality rating of all roadsides.	NCCMA	As reviewed	The inclusion of Roadside Conservation Value into the MFPP
Medium	Continue to encourage relocation of private firebreaks to Low Conservation Value roadsides or private land.	CFA MFPO	Ongoing	Reduction of ploughed firebreaks on Medium, and High Conservation Value roadsides.

Priority	Action	Agency responsible	Time frame	Key performance indicator
Medium	Provide assistance for reinstatement of indigenous vegetation (mostly understorey) on firebreaks along Medium and High Conservation Value Roadsides.	NCCMA NGSC	Ongoing	Completion of rehabilitation projects.
Medium	Undertake broad community education to: • Encourage fire prevention practices that minimize damage to native vegetation, • Explain the role and benefits of firebreaks and how they should be maintained and positioned for greatest benefit, and • Encourage landholders to locate firebreaks on private land where suitable.	CFA MFPO	3 years	Production and distribution of pamphlets, newspaper articles related to the connection between native vegetation and firebreaks.
Medium	Where appropriate, and where supported by DSE, remove roadside trees which have been severely damaged by fire to improve the environmental amenity of the roadside.	NGSC	As required, and subject to funding	Improved roadside amenity

Roadside vegetation recovering from past fire event

3.5 Native flora and fauna

Goal: **To recognise that native vegetation on roadsides is an important asset that should be protected and enhanced**

- to serve as a framework for further re-establishment of indigenous vegetation

- to maintain rare, threatened or significant vegetation communities and flora/fauna species

3.5.1 Rare/threatened/significant vegetation communities and flora/fauna species

Background

Two significant values of roadside vegetation are: 1) the protection and maintenance of threatened communities, such as Grasslands and Box-Gum Grassy Woodlands and 2) Rare and threatened flora and fauna populations. Both of these values require specific protection strategies and on-going management to remain.

- Any work that impacts threatened flora and fauna species and vegetation communities listed under the EPBC Act 1999 requires a permit from Environment Australia.
- Under the *Flora and Fauna Guarantee Act 1988* rare, threatened and significant flora and fauna are protected.
- Appendix 3 & 4 contain a list of the significant fauna and flora species (under the *EPBC Act 1999*, Victorian Bioregional 1A species, Victorian Conservation Status and *FFG Act 1988*) which are threatened in the NGS or in adjoining areas and that constitute **high priority for action**.
- Action Statements describe Victoria's threatened plant and animal species listed under the Flora and Fauna Guarantee Act 1988, and actions that have been and will be taken to conserve them. These documents are available at www.dse.vic.gov.au.

Strategic actions

Priority	Action	Agency responsible	Time frame	Key performance indicator
High	Continue to identify and record the location of significant flora and fauna with local community groups and landholders.	LC NGSC	On going	Addition of records to data base
High	Ensure all contractors and service providers are aware of the roadside quality and sites of significance before any works commence	NGSC	On going	Distribution of the RVMP to contractors and service providers
Medium	Signpost (Very High) & High Conservation Value roadside sections with the standard RCAC "significant roadside vegetation" signs.	DSE LC NGSC	3 years (subject to funding)	Signs erected.
Medium	Encourage fencing of significant vegetation that occurs in isolation on Low or Medium Conservation	LC NCCMA DSE	On going	Fencing undertaken.

Priority	Action	Agency responsible	Time frame	Key performance indicator
	Value roadsides.			
Medium	Assess and map unused road reserves.	NCCMA DSE	3 years (subject to funding)	Existing data updated with new information.
Medium	Encourage the maintenance of stock proof fencing on private land adjacent to Very High, High or Medium Conservation Value roadsides.	NGSC NCCMA DPI LC	On going	Reduced occurrence of incidental stock on roadsides.
Medium	Incorporate Very High, High and Medium Conservation Value roadside in the VPO and make appropriate changes to the NGSC Planning Scheme.	NGSC	2 years	Adjustments made to the VPO.
Low	Identify and review significant barriers for the movement of fauna, associated with roads, such as crossing points with major streams or rivers. Consider engineering solutions to facilitate movement of fauna across the landscape	NGSC NCCMA DSE	3 years	Barriers identified and works undertaken to reduce impacts.

3.5.2 Restoration and revegetation works

Background

Council actively encourages plans to re-establish indigenous vegetation by Landcare groups or individuals, although, where feasible it is preferable to protect the roadside and allow the area to regenerate naturally.

- High priority will be given to rehabilitation works along roadsides where rare or threatened flora or fauna exist or where the roadside forms a corridor linkage or strategic habitat.
- All plantings must include understorey with the exception of grasslands. Understorey is important for natural pest control, providing wildlife habitat and biodiversity, protecting and enriching the soil. Native grasslands create smaller fuel loads.
- Where possible, linkages should be created with remnants on adjoining property to contribute to the development of strategic wildlife corridors
- Prior to any restoration or revegetation works being undertaken, plans must be submitted to the Council's Department of Infrastructure eight weeks prior to proposed works. These plans will be referred to all relevant agencies to determine compliance with relevant codes of practice. If no response is received within 28 days it will be assumed that the agency has no objection to the project. Plans will be approved providing the proposed works comply with the following:
  - on a High Conservation Value Roadside enhancement planting and site repair works are permitted but generally they should be left to regenerate naturally
  - no interference occurs with any current or proposed service provision, the project is compatible with various roadside codes of practice and guidelines and all services are identified
  - proposed weed control methods are appropriate

- proponents can ensure adequate maintenance levels for a minimum 2 year period from time of planting
- long term maintenance requirements have been identified and planned for
- appropriate indigenous plants are being used (local provenance and composition of plants)
- all intact native vegetation is protected
- no existing native grasslands will be removed, damaged or replaced with native trees or shrubs
- the proponent has checked whether the site is on a register for grassland remnants
- seed is collected from adjacent indigenous vegetation where feasible. *Refer to 2.4.5 Seed Removal for guidelines and permit information*
- plants planted on private land do not cause an obstruction for road users i.e. encroach upon any road at a height of less than 3 metres.

Revegetation guidelines

- Natural regeneration (in certain circumstances) is the preferred method of revegetation.
- Where environmental degradation (erosion, weed invasion) may occur or natural regeneration is unlikely supplementary plantings or direct seeding is recommended.
- Species used must represent the pre 1750 EVC that occurred in that location.
- Collect seed from nearby remnants where possible.
- Revegetation must allow for adequate access for emergency vehicles where appropriate.
- Revegetation must comply with best management practice revegetation guidelines
- All plants must include understorey with the exception of grasslands
- Where possible, revegetation works should be targeted at roadsides where rare or threatened flora or fauna exist or where the roadside forms a corridor linkage or strategic habitat

Strategic actions

Priority	Action	Agency responsible	Time frame	Key performance indicator
Medium	Roadside revegetation projects reflect the recommendations of the NGSC RVMP.	NGSC	Ongoing	Compliance of restoration works to the guidelines in the NGSC RVMP.

3.5.3 Vegetation removal and clearance for safety and machinery access

Background

- Under the Native Vegetation Retention Controls (Section 52.17 of the Victoria Planning Provisions (VPP's)), a permit is required to remove, destroy or lop native vegetation (subject to some exemptions). Any application for a permit to remove vegetation will be reviewed in the light of the Roadside Conservation Value Map, Vegetation Protection Overlays and the registers of rare and threatened or significant flora or fauna. Applications may need to be referred to DSE under the new provisions in the planning scheme (2006 amendments).
- Prior to the removal of indigenous vegetation obtain seed for revegetation (depending on season) from the vegetation to be removed.
- Prune trees using the three-cut method. Never 'prune' trees using earthmoving equipment.
- Prior to the removal of vegetation contact local seed collectors that may want to harvest the seed.
- Material should not (where possible) be pushed onto the roadside smothering remnant vegetation.
- Machinery should avoid the roadside reserve as far as practical.
- Always fell timber in a direction that minimises damage to surrounding vegetation.

- A 5 metre (maximum) height clearance is suitable for all roads.
- Refer all applications to remove native vegetation from roadsides to DSE for comment or approval other than routine maintenance tasks. Routine tasks include the trimming of vegetation between the road verge and outer invert of the table drain and removal of unsafe trees from this area.

Strategic actions

Priority	Action	Agency responsible	Time frame	Key performance indicator
High	Create awareness amongst the community with respect to the limitations on clearing of vegetation for fencelines, particularly on with (Very High), High and Medium Conservation Values that are within a designated VPO require a planning permit from the Council.	NGSC	On going	Permits are being applied for.
High	Raise awareness amongst Shire staff of the importance of roadside vegetation management with the help of DPI/DSE, WCMA and NCCMA	NGSC	On going	Completion of 'roadside vegetation awareness' training sessions.
High	Prepare environment management plans for all major road construction or realignment projects and include in relevant contract specifications	NGSC	On going	Development of Environmental Management Plans.
Medium	Define stockpile sites with signage and record on GIS database.	NGSC	2 Years	Inclusion of stockpiles into database.

Large machinery access is important, however, consideration needs to be given to the size and design of new machinery.

Vegetation removal along roadsides requires a permit from the NGSC.

3.5.4 Tree trimming

Background

Tree trimming requests on rural roads shall be treated as follows, when request received:

- Inspection to be undertaken by a Council Arborist or delegated Council employee.
- When it is necessary to provide a wider clear passage to cater for the movement of farm machinery, Council will (subject to the cost being able to be met within Council's budget limits) remove the obstructing timber to provide a clear width between tree trunks of 7 metres maximum only, and height of 5 metres for unsealed roads or up to 1.5m outside the seal edge and height of 5 metres for sealed roads. Where a greater clearance is required, Council will consult with DSE to establish an appropriate allowable clear width for safe vehicle passage before removing the obstructing timber.
- As a general policy the removal of trees from roads which have never previously been cleared will be discouraged.
- Council will allow additional trees to be removed on roads, which already allow passage of machinery only where it is considered to be absolutely essential.
- Council will retain as much of the original tree cover still remaining in the municipality as possible, and will encourage the planting of native species wherever possible.

Strategic actions

Priority	Action	Agency responsible	Time frame	Key performance indicator
Medium	Ensure that Council's customer request system integrates the objectives of the NGSC RVMP.	NGSC	On going	Works undertaken reflect the desired outcomes.

NGSC has a works request system in place for the removal of overhanging vegetation on roadsides.

3.5.5 Seed removal and harvesting

General

Council recognises that it is often difficult to obtain native plant seed, particularly understorey plants which may have been cleared from much of their former range. Roadside vegetation is an increasingly important source of seed for revegetation activities which occur across the region.

The collection of seed must be undertaken in a way that protects future seed supply and minimises roadside degradation. Seed collection which is not undertaken at the required standard threatens future seed collection and the long-term viability of important remnants.

Guidelines for Seed Removal and Harvesting

Permits from DSE are required to harvest wild flowers and foliage or collect seed from protected species (species listed under schedule 1 of the FFG act 1988), however, not all Victorian plant species are listed and no permit is required to collect non-listed species (other than landholder / managers consent)

Harvesting non-protected native plant seed

- Permission must be obtained from the relevant landholder/manager to access any site to collect seed. In the case of roadsides, the Northern Grampians Shire Council is the point of contact for permission to access the land.
- The FloraBank Seed Collection guidelines are generally referred to as standards for any seed collection activities and should be understood and implemented. Available at www.florabank.org.au.
- Seed collection on Parks Victoria managed roads, DSE Forestry Victoria roads or Council roads adjacent to these reserves requires consent from the respective land manager. In these circumstances a 'C' license will also be required from DSE for payment of royalties on the seed collected prior to any collection activities being undertaken.

Collecting Protected Flora under the FFG Act 1988

- Permission must be sought from the landholder to access any site to collect seed. In the case of roadsides, the Council is the point of contact for permission to access the land.
- Under the guidelines of the *FFG Act* (1988) you must obtain a Protected Flora Licence or Permit from DSE's Research Co-ordinator for species listed under schedule 1 of the FFG act (1988).
- Plants for which a permit is required include ferns, daisies, heaths, orchids and most acacias, peas and grevilleas. A complete list can be found on the DSE website. Application forms or further information about protected flora can be obtained from DSE Regional Offices, by calling the Customer Service Centre on 136 186 or at www.dse.vic.gov.au.
- In most cases species with no significant conservation status, but, are listed for protection, licence or permit applications are successful. However, DSE may place conditions on the licence or permit, such as restricting the amount of protected flora that can be taken, the area from which it can be taken or the collection methods that can be used. Conditions on a licence or permit serve to avoid or minimise the loss of protected flora or to make good any disturbance caused.
- Where listed species have a significant conservation status (i.e., vulnerable or endangered) a permit is unlikely to be granted without substantial reasons.

Collecting Protected Flora under the EPBC Act 1999

The responsibility for referring an action related to the *EPBC Act (1999)* lies with the person proposing to take that action. A local government is only obliged to refer an action that the local government itself proposes to take. It is not responsible for referring the actions of other proponents.

- For a comprehensive summary of the listed species refer to Appendix 4.
- For further information regarding permit applications contact the local DSE office.
- It is extremely unlikely that a permit would be granted for these species without highly significant reasons.

Strategic actions

Priority	Action	Agency responsible	Time frame	Key performance indicator
High	Ensure that seed collection on roadsides is done in a way that is ecologically sustainable, and that damage to the natural environment is minimised.	NGSC DSE DEH Community Commercial collectors	On going	Issue seed collection guidelines with "letters of permission"

Seed collection along roadsides is allowed but a permit is required in some instances (e.g Acacias).

3.6 Farming and associated activities

3.6.1 Cropping, haymaking and bee keeping

Goal: Encourage activities which are consistent with the objective of this plan and which comply with all relevant road management guidelines and policies

Cropping
- Cropping on all roadsides is prohibited

Haymaking
- Haymaking on all roadsides is prohibited

Bee keeping
- Bee keeping on all roadsides is prohibited

3.6.2 Stock movement

Goal: To allow normal farm operation to proceed in line with Local Law Number X whilst recognising the roadside quality.

Droving, Driving and Grazing Stock

Droving
- For the purpose of this plan, droving means movement of stock to a specific destination usually outside the municipal boundary and often taking longer than a day.
- Droving requires a permit from Council in accordance with the NGSC General Law 2005.

Driving
- For the purpose of this plan, driving of stock means routine or occasional movement of stock from one paddock to another during a day in association with everyday farming practices.
- Driving stock does not require a permit, except where required by the NGSC General Law 2005.

Grazing
- For the purpose of this plan, grazing means where stock is confined for an extended period by means of a barrier (e.g. electric fencing) for the purpose of depasturing the road reserve
- Grazing is prohibited on all roadsides

Contact the relevant DSE office whenever droving or driving of stock is required to be undertaken through sections of roads marked with Significant Roadside Vegetation Signs or as Bio-sites.

15. Livestock

a) A person shall not allow any livestock under his or her ownership care or control to wander in an uncontrolled manner onto any road.

b) Any livestock found wandering in an uncontrolled manner on any roads may be impounded by an Authorised Officer of the Council.

16. Droving of Livestock

a) A person who owns or is in charge of livestock and proposes to drive that livestock through or to a location in the Municipal District shall not do so unless he or she has first obtained a permit

b) In determining whether to issue a permit the Chief Executive Officer shall have regard to:

i. the number and type of livestock to be driven.

ii. the most direct or practicable route from the point of departure to the destination in through or within the Municipal District

iii. whether the proposed numbers and type of livestock can be driven safely along the proposed route

iv. whether the proposed numbers and type of livestock can be driven along the proposed route without causing damage to any part of a road

v. whether there can be adequate supervision of livestock whilst they are camped overnight

vi. whether there are provided appropriate number of approved reflective signs and/or flashing lights necessary whilst livestock are camped over night or at the beginning and end of the herd whilst traveling along any road.

vii. whether the livestock are capable of traveling a distance each day determined by the Chief Executive Officer or his/her delegate

viii. the completion by the applicant of a signed declaration confirming that the livestock are fit, healthy, free from disease and exotic plant seeds and are capable of traveling the relevant distance

c) Livestock may be driven on roads in the municipal district at any time by a person who is the holder of a permit pursuant to sub clause (a) between one hour after sunrise and one hour before sunset on any day unless the permit specifies other times.

d) The Chief Executive Officer or his/her delegate may specify roads in the municipal district to be used for the droving of livestock. Any such specified route shall be clearly indicated in an attachment to the permit.

e) Any route specified pursuant to sub clause (b) shall not be departed from unless the consent in writing of the Chief Executive Officer or his/her delegate is obtained.

f) The owner or occupier of a farm within the Northern Grampians Shire may drive livestock on roads in the municipal district without a permit providing:

i. the livestock are driven to or from a farm within the municipal district;

ii. the livestock are driven to or from the farm by the most direct practicable route;

iii. an appropriate number of persons are available at all times whist the livestock are driven on the road to ensure the stock are kept under control and;

iv. approved warning devices are available ahead of and behind the herd.

v. Livestock campsites do not encroach on sensitive roadside areas

Roadsides provide an avenue for stock movement

Strategic actions

Priority	Action	Agency responsible	Time frame	Key performance indicator
High	Enforce permit application for droving on roadsides.	NGSC	On going	Permits being issued.
Medium	Review the NGSC General Law 2005 with the aim to recognise the vegetation quality of roadsides and to reflect the policy outlined in this plan	NGSC	In conjunction with the next scheduled review of the General Law	Adjustments made to the General Law 2005

3.6.3 Firewood collection

Goal:	To protect important habitat trees, whether living, dead, standing or fallen.

Background

Dead and fallen timber on a roadside can provide a source of food and shelter for wildlife including reptiles, mammals, birds and insects but it can also present a fire hazard. Council aims to achieve a balance between these conflicting demands.

- Under current legislation a permit is required from DSE after the NGSC has issued a letter of approval to collect firewood.
- Firewood collecting permits are not issued for roadsides with a Very High, High or Medium Conservation Value rating except where timber has fallen as a result of storm damage and has no habitat value.
- No firewood collecting permits are issued for roadsides recognised as Habitat Corridors or signposted Significant Roadsides or Biosites.
- On Low Conservation Value roads, firewood collecting permits may be issued for fallen timber only provided it has limited habitat value.
- Check the Roadside Vegetation Conservation Map to ascertain habitat value before applying for a permit.
- Firewood collection is not permitted on declared roads managed by VicRoads.

Fallen timber enhances biodiversity and is vital to the health of remnant vegetation

Strategic actions

Priority	Action	Agency responsible	Time frame	Key performance indicator
High	Prohibiting firewood collection and timber harvesting on (Very High) / High or Medium Conservation Value roadsides and manage firewood collection on Low Conservation Value roadsides through the current permit system.	NGSC	On-going	Firewood collection restricted
Medium	Fallen timber and dead trees are not to be removed from roadsides unless specified in the MFPP or a permit has been obtained from the DSE	DSE	On going	An increase in fallen timber on Medium/High/ Very High Conservation Value roadsides.

3.6.4 Fencing

Goal: Minimise vegetation removal especially in high quality areas.

Background

Under the New (2006 amendments) Native Vegetation Retention Controls permits are required when vegetation removal is beyond the minimum extent necessary. The landholder should seek advice from the NGSC regarding the definition of '**the minimum extent necessary** of native vegetation' removal permissible (VPP's Clause 52.17 – Rural Activities).

- If a fence construction necessitates the removal of any vegetation located in an area covered by a Vegetation Protection Overlay (a (Very High) or High Conservation Value roadside), a permit may be required from the Council.
- Ensure that all old fencing materials are stored off the roadside reserve.
- Where possible, fenceline maintenance and construction should be accessed from private land.
- A permit is **not** required when a landholder needs to:
  - remove any vegetation that is on a farm fence line or farm property boundary
  - cut back any limbs or branches that are directly overhanging a fence or other structure.

Strategic actions

Priority	Action	Agency responsible	Time frame	Key performance indicator
High	Encourage fencing to allow for buffering of roadside vegetation by providing incentives.	NCCMA	On going	Funding sought from incentive programs.

Fenceline vegetation can provide shelter for stock.

The health of roadside vegetation is under threat from continued removal and thinning of roadside vegetation.

3.6.5 Sand, soil and gravel extraction

Goal: To control removal of sand, soil and gravel from roadside reserves.

Background

- Sand, Soil & Gravel Extraction are prohibited on all road reserves

3.6.6 Drainage of land

Goal: Minimise the impact of excess water to the roadside reserve.

Background

- Ensure natural drainage courses are maintained through best land management practices.
- Prevent farm irrigation water from flowing on the roadside

Strategic actions

Priority	Action	Agency responsible	Time frame	Key performance indicator
Medium	Discourage off farm drainage practices impacting on road structure or roadside vegetation.	NGSC	On going	A reduction in the number of reported incidents.

3.6.7 Storage

Goal: **To remove all refuse, fencing materials or other rubbish from roadside reserves.**

Background

- Storage of refuse, fencing materials or chemicals is prohibited on roadside reserves under the *Litter Act* 1987.

Strategic actions

Priority	Action	Agency responsible	Time frame	Key performance indicator
Medium	Increase public awareness of the *Litter Act* 1987 in regard to the storage of significant amounts of refuse, fencing material or chemicals.	NGSC	On going	Removal and reduction of refuse from roadsides.

Storage of tyres on roadside.

3.6.8 Litter

Goal: **To reduce the amount of roadside littering that occurs, and maintain minimal litter on roadsides.**

Background

- Under the Environment Protection Act 1970, and Litter Act 1987, littering is illegal.
- Illegal dumping of rubbish or garden waste, or the intentional or unintentional throwing/dropping of litter from a vehicle is illegal. The person identified as being responsible for the litter being dumped on a roadside can incur fines and be made to clean up the litter.
- Council or VicRoads are responsible for the management of litter on public roads, depending on who is responsible for the management of a particular road.
- The Environment Protection Authority (EPA) has a **Litter Report Hotline 1800 352 555** for reporting litter offences, including litter thrown from vehicles.

- Community groups can adopt a section of road and maintain it clear of litter and weeds. Contact Council for further information.

Strategic actions

Priority	Action	Agency responsible	Time frame	Key performance indicator
Medium	Promote community involvement in maintaining clean roadsides	NGSC EPA	On going	Visual improvement of the amount of litter on roadsides. Increase in community participation in roadside clean up programs

Litter on roadsides can detract from the visual appeal

3.7 Pest plants

Goal: **To prevent new outbreaks of problem weeds, to control existing problem weeds and increase the coverage of native vegetation on roadsides.**

Background

Roadsides are generally narrow, linear reserves. This makes them more susceptible to degrading processes and threats, such as, the spread of weeds from adjacent land, from road maintenance activities and from the dumping of garden refuse. Weed invasion is also encouraged by the disturbance of soils from burning (if inappropriately undertaken), clearing, grazing and preparation of firebreaks (ploughing, raking up leaf litter and small woody debris) that may occur illegally on roadside reserves. Weed invasion is the single most wide spread and damaging threat to roadside vegetation.

What is a weed?

- Declared noxious weeds in Victoria are plants that have been proclaimed under the *CaLP Act* 1994. These plants cause, or have the potential to cause, environmental or economic harm. There are four categories of noxious weeds under the *CaLP Act* 1994:
  - State Prohibited Weeds
  - Regionally Prohibited Weeds
  - Regionally Controlled Weeds
  - Restricted Weeds.

Who is responsible? (please note that the Victorian Government is currently undertaking a reading of the* Catchment and Land Protection Act *1994 to clarify who is responsible for the management of the various categories of declared noxious species on roadsides. Although the current State interpretation of the Act may alter, Council's position is as follows)

- Under the *CaLP Act* 1994, Landowners must take all reasonable steps to:
  - prevent the spread of *regionally controlled weeds* on roadsides adjoining their property (provided the roadside is not part of a declared road e.g. freeway or highway)
  - eradicate *regionally prohibited weeds* and prevent the growth and spread of *regionally controlled weeds* located on their land
  - landholders also have responsibility for weed control on all licensed unused road reserves. Refer to Appendix 2 - *Key Areas of Responsibility*
- *Regionally prohibited weeds* are to be eradicated by VicRoads (declared roads – highways, freeways declared roads – main roads) and DSE (all other road types).

Under the *Catchment and Land Protection Act* 1994:

- Responsibility for the control of noxious weeds on roadside depends both on roadside tenure and type of weed.
- All *state* and r*egionally prohibited* weeds must be eradicated.
- The growth and spread of all *regionally controlled* weeds must be prevented.

The NCCMA Noxious Weed Review

Over 2006 the North Central Catchment Authority has been reviewing the listing of plants as weeds (the noxious weed review). This has involved wide community and stakeholder consultation. This has resulted in the listing of some plants for the first time as declared weeds. At the time of preparation of this plan the review was not complete; however the information in this section will be updated in light of the findings of the review process once complete.

Weeds of National Significance

Other changes to Weed listings have occurred at the federal level with a number of new weeds declared Weeds of National Significance (WoNS). This process is under constant revision as priorities change and new information comes to light – refer DPI information notes for current listings.

Weed Management

Many weed invasions can be kept under control by maintaining or creating conditions that favor indigenous vegetation instead of introduced species. This entails preserving a healthy cover of indigenous vegetation and avoiding excessive disturbance so that opportunities for invasive plants to establish are limited (Muyt 2001). Table 5 lists the weed management responsibilities for the different road classifications.

- Landcare groups are encouraged to pursue weed control funding through local state and federal programs.
- Recognise that dumping garden waste, ploughing, grading and grazing of roadsides can all contribute to weed invasion and spread.
- Cultivation as a weed control measure is prohibited.
- The highest priority is to control weeds on Very High and High Conservation Value roadsides.
- Plan to implement weed control programs jointly with adjacent landholders, other public land managers and the Council.
- In order to contain predominantly exotic grasses on Low Conservation Value roads slashing is the only legal (Road Management Act 2004) and appropriate control method.
- On (Very High) and High Conservation Value Roadsides:
  - consult DSE for best control method
  - treat small outbreaks and isolated patches first
  - isolate the major infestation and work towards the center
  - give consideration to undertaking a revegetation program to prevent other weeds invading
  - including short and long term revegetation
  - monitor and apply follow up treatment as required.
- Plan weed control programs for implementation at optimum treatment times. This will vary for different weed species; however, generally removal should correspond with non-flowering or seeding times.
- Slashing to control exotic grasses should be carried out at a time specified by the Council or DSE. Avoid areas of regenerating indigenous vegetation unless this conflicts with the Municipal Fire Prevention Plan.

Table 5: Summary of weed management responsibilities for the different road classifications.

Weed Category (and Level of Control)	Area of Land	Responsibility
State Prohibited (Eradication)	All land including private	DSE/DPI
Regionally Prohibited (Eradication)	Declared Roads [1] (highways)	VicRoads
	Declared Roads (main roads)	VicRoads
	Undeclared Roads (local roads)	DSE/DPI
	Unlicensed Unused Road Reserves	DSE/DPI
	Licensed Unused Road Reserves	Lessee
Regionally Controlled (Prevent growth and spread)	Private land	Landowner or Lessee
	Declared Roads [1] (highways)	VicRoads
	Declared Roads (main roads)	VicRoads
	Undeclared Roads (local roads)	Adjacent Landowner or Lessee *
	Unlicensed Unused Road Reserves	DSE/DPI
	Licensed Unused Road Reserves	Lessee

Weed control is important to maintain healthy remnant vegetation on roadsides. Prickly Pear (Opuntia ssp)

A selection of common weeds found on roadsides.

* At the time of preparing this report the issue of responsibility for regionally controlled weeds is in the process of change, however the arrangements and costs associated with any shift in responsibility is yet to be agreed.

3.7.1 Herbicides

- Before using herbicides on roadsides investigate all alternative methods and their comparative effectiveness for the control of weeds as indiscriminate use of herbicides can lead to extensive damage to native vegetation.
- Use only non-residual herbicides to control weeds on roadsides.
- Use herbicides in a manner that limits damage to native vegetation.
- Limit the use of herbicides and only use herbicides when other control methods are not suitable, such as in areas that are:
  - around road furniture and signs
  - in and around stockpile sites and dump sites
  - inaccessible to other practices.
- Herbicide application using a rope-wick applicator, or back-pack to spot-spray is preferred.
- Contact Council prior to the use of a broadacre spray. Generally not an acceptable practice on roadsides.
- Read the product label and follow all label instructions carefully before using any herbicide
- Under Victorian legislation users of certain agricultural chemicals are required to obtain an Agricultural chemical user permit (ACUP) or work under the direct supervision of an ACUP holder.
- Use herbicides in a manner that prevents damage to native vegetation and wildlife. Only use sprays on targeted weed species (spot spraying), never blanket spray.
- All contractors are to be appropriately licensed by either the Department of Human Services or the Department of Primary Industries.
- Train staff in the appropriate use and application of herbicides.
- Herbicides with the active ingredient glyphosphate are preferred to control weeds on roadsides.
- Avoid spraying indigenous vegetation.
- Work from areas of low weed infestation towards more densely infested sections or from high value roadside vegetation to low.

3.7.2 Weed removal and disposal

- Dispose of weeds in a cleared area or to a disposal site designated by Council.
- Do not remove weeds in seed from an infested site. Transport of weed seeds is an offence under the *CaLP Act* 1994. Permits are rarely issued.
- A permit is required from DSE prior:
  - to removal of soil, sand, gravel or stone containing (or likely to contain) noxious weeds
  - to disposal of weeds containing seeds capable of germinating.

3.7.3 Vehicle and machinery hygiene

- Under The *CaLP Act* 1994 Sect. 71 a person needs:
  - to ensure they maintain vehicle hygiene when moving any equipment or machinery onto or along a roadway.
  - to obtain a permit from DPI to remove or sell soil, sand, gravel or stone which could result in the transference of noxious weeds.
  - to obtain a permit from DPI to deposit on land a noxious weed or the seeds of a noxious weed.
- Under the CaLP Act 1994, Part 8 Division 2 – Section 71, 'no machinery implements or other equipment may be moved onto a road without first taking reasonable precautions to ensure the equipment is free from the seeds of any noxious weeds' or any other part of a noxious weed which is capable of growing.
- Work machines from clean areas to weed infested areas to reduce weed travel.

3.7.4 Slashing

- Do not slash native trees, shrubs or revegetation.
- Control grass by slashing but do not slash when noxious or environmental weeds are in flower.
- Slash from the least affected to the most affected sites in weed infested areas.

Unauthorised slashing (or other potentially harmful activities) is prohibited in designated Significant Native Vegetation areas.

3.7.5 Environmental weeds

Environmental weeds are non-indigenous species (sometimes Australian natives) that invade local indigenous vegetation. Table 6 lists the most common Environmental Weeds in the municipality. Some of these weed species are **not** declared under the *CaLP* Act 1994 but under this plan removal programs for these species will be incorporated into maintenance programs.

Botanical Name	Common Name	Status
Acacia baileyana	Cootamundra Wattle	Undeclared
Acacia iteaphylla	Flinders Ranges Wattle	Undeclared
Acacia longifolia	Sallow or Coast Wattle	Undeclared
Acacia saligna	Golden Wreath Wattle	Undeclared
Allium triquetrum	Angled Onion	Undeclared
Asparagus asparagoides	Bridal Creeper or Smilax	Undeclared
Briza maxima	Shall Grass	Undeclared
Chrysanthemoides monilifera	Bitou Bush / Boneseed	Declared
Cortaderia selloana	Pampas Grass	Undeclared
Cotoneaster glaucophyllus	Large-leaf Cotoneaster	Undeclared
Cotoneaster pannosus	Silver-leaf Cotoneaster	Undeclared
Crataegus monogyna	English Hawthorn	Undeclared
Cytisus scoparius	English Broom	Undeclared
Disa bracteata	South African Weed-orchid	Undeclared
Echium plantagineum	Paterson's Curse	Declared
Erica lusitanica	Portuguese Heath	Undeclared
Foeniculum vulgare	Fennel	Undeclared
Fraxinus angustifolia ssp. *angustifolia*	Desert Ash	Undeclared
Freesia leichtlinii	Freesia	Undeclared
Gazania linearis	Gazania	Undeclared
Genista monspessulana	Cape Broom	Undeclared
Hedera helix	English Ivy	Undeclared
Hypericum perforatum	St John's Wort	Declared
Juncus acutus	Spiny Rush	Declared
Ligustrum lucidum	Broad-leaf Privet	Undeclared
Lonicera japonica	Japanese Honeysuckle	Undeclared
Lycium ferocissimum	African Boxthorn	Declared
Marrubium vulgare	Horehound	Declared
Moraea flaccida	One-leaf Cape Tulip	Declared
Moraea miniata	Two-leaf Cape Tulip	Declared
Nassella neesiana	Chilean Needle Grass	Undeclared
Oxalis pes-caprae	Oxalis or Sour Sob	Undeclared
Phalaris aquatica	Phalaris	Undeclared
Pinus radiate	Radiata Pine	Undeclared
Prunus cerasifera	Cherry Plum	Undeclared
Rosa rubiginosa	Briar Rose	Undeclared
Rubus spp.	Blackberry	Declared
Salix spp.	Willow species	Undeclared
Schinus molle	Peppercorn Tree	Undeclared
Tradescantia fluminensis	Wandering Jew	Undeclared
Ulex europaeus	Gorse or Furze	Declared
Vinca major	Blue Periwinkle	Undeclared
Watsonia meriana	Bulbil Watsonia	Undeclared
Zantedeschia aethiopica	Arum Lily	Undeclared

Table 6: Common Environmental Weeds in the Northern Grampians Shire.

3.7.6 North Central and Wimmera Regions[1]

Regionally Controlled and Regionally Prohibited weeds in the municipality requiring priority action (Landcare Note – Declared Noxious Weeds, DNRE 2002) are listed in Table 7.

Table 7: Regionally Controlled and Regionally Prohibited weeds.

Common name	*Scientific name*	Regionally controlled	Regionally prohibited
African Daisy	*Senecio pterophorus*	-	NC & W
African Feather Grass	*Pennistum macrourum*	-	NC
African Love Grass	*Eragrostis curvula*	-	NC
Artichoke Thistle	*Cynara cardunculus*	NC	-
Bathurst Burr	*Xanthium spinosum*	NC	-
Blackberry	*Rubus fruticosus*	NC	-
Boneseed (Bitou Bush)	*Chrysanthemoides monilifera*	W	NC
Boxthorn	*Lycium ferocissimum*	NC & W	-
Californian Thistle	*Cirsium arvense*	NC	W
Caltrop (Bindii)	*Tribulus terrestris*	NC & W	-
Cape Tulip (one & two leaf)	*Homeria miniata*	NC	W
Dodder	*Cuscuta spp.*	NC	W
Gorse	*Ulex europaeus*	NC & C	-
Hardheads	*Acroptilon repens*	NC	W
Horehound	*Marrumbium vulgare*	NC & W	-
Illyrian Thistle	*Onopordum illyicum*	-	NC
Khaki Weed	*Alternanthera pungens*	NC	W
Noogoora Burr (Californian Burr)	*Xanthium occidentale*	NC	W
Pattersons Curse	*Echium plantagineum*	NC & W	-
Prairie Ground Cherry	*Physalis viscose*	NC	W
Prickly Pear	*Opuntia spp*	NC	-
Scotch Thistle	*Onopordum acanthium*	-	NC
Serrated Tussock Grass	*Nassella trichotoma*	-	NC
Silver-leaf Nightshade	*Solanum elaegnifolium*	NC	W
Soldier Thistle	*Cirsium acarna*	NC & W	-
Spiny Burr Grass	*Cenchrus longispinus*	NC	W
Spiny Rush	*Juncus acutus*	NC & W	-
St John's Wort	*Hypericum perforatum*	NC & W	-
Thorn Apple	*Datura ferox*	NC	-
Topped Lavender	*Lavandula stoechas*	-	NC
Wheel Cactus	*Opuntia robusta*	NC	W
Wild Garlic	*Allim vineale*	NC	W

NC – North Central Catchment Management Authority area.
W – Wimmera Catchment Management Authority area.
[1] The North Central and Wimmera Region boundary is shown on Map 1.

Strategic actions

Priority	Action	Agency responsible	Time frame	Key performance indicator
High	Remove Regionally Prohibited or Controlled weeds from sites identified in the field assessments	DPI	ASAP On going	These weeds no longer occur at these sites
Medium	To promote responsible use of herbicides on roadsides.	DPI LC	On going	Improved weed management on roadsides.
Medium	Encourage landholders and Landcare Groups to implement weed control on roadsides, and pursue funding where available under programs such as Second Generation Landcare, Good Neighbor etc .	LC DPI DSE NGSC	On going	Uptake of regional weed control programs.
Medium	Encourage stakeholders to support local landholders manage weeds on roadsides.	DPI DSE LC NGSC	On going	Improved weed management on roadsides.
High	Monitor sites of recent works for any regrowth of weeds and undertake follow up control where necessary.	Agencies responsible for the original works.	On going	Reduced occurrence of weeds on construction sites.
Medium	Ensure that the Shire, Service Providers, DPI, DSE and VicRoads have guidelines for construction and maintenance workers that prevent the spread of pest plants. This can be incorporated in a 'Code of Practice' for road maintenance document.	NGSC	2 years	Improved work practices on roadsides.

3.8 Pest animals and Insects

Goal: **To effectively control pest animals and insects in a manner that causes least disturbance to indigenous vegetation and fauna.**

Background

As a priority undertake control of pest animals on all local roads, undeclared roads and licensed unused roads. Works on (Very High), High and Medium Conservation Value roadsides should be jointly coordinated by DPI and carried out in a manner that causes the least disturbance to the indigenous vegetation. Plan to undertake any pest animal control programs jointly with adjacent landholders and Council Management.

- The major pest animals on roadside reserves tend to be hares, rabbits, foxes and feral cats.
- Under the *CaLP Act* 1994, a landowner must take all reasonable steps to prevent the spread of established pest animals on a roadside that adjoins the landowners land (provided the roadside is not part of a declared road, e.g. freeway or highway managed by VicRoads).
- Harbor management practices should cause minimal damage to indigenous vegetation. (Rabbit burrows to be fumigated not ripped).
- Written approval is required form DSE for removal of vegetation associated with vermin control.
- VicRoads and Council contractors to undertake control of pest animals on declared roads with a Very High, High or Medium Conservation Value in a manner that causes the least disturbance to the native vegetation. For example, rabbit burrows to be fumigated not ripped.
- Contractors employed to control vermin are to be licensed by the Department of Human Services or DPI.
- Plan to undertake pest control programs jointly with DPI, adjacent landholders, Landcare groups and the NGSC.

- Notify the DSE and the relevant Council officer where defoliation is occurring from insect attack on a regular basis and the plant seems unable to recover.

Examples:

Lerps
Precessionary Caterpillars
White Snails
Millipedes

Strategic actions

Priority	Action	Agency responsible	Time frame	Key performance indicator
Medium	Monitor damage caused by pest animals and insects and contact local DPI office for appropriate pest animal control methods.	Adjoining Landholder VicRoads	On going	Incidences reported. Reduced numbers of pest animals.
Medium	Promote harbor management practices on roadsides that cause minimal damage to indigenous vegetation. If damage is unavoidable, rehabilitate the site appropriately.	DPI DSE LC NGSC	On going	A decrease in the damage caused by managing pest animals on roadsides.

3.10 Key areas of responsibility

Table 8 summarises areas of responsibilities for landholders, CFA and the MFPO for weeds, pest animals and fire prevention activities on roadsides.

Table 8: Key areas of responsibility for roadside activities

Activity	Adjacent Landholder	CFA	MFPO
Regionally Controlled Weeds	Undeclared roads, unused road reserves – licensed		
Pest Animals	Undeclared roads, unused road reserves – licensed		
Fire Prevention	Private land only	(Declared roads), highways or forest roads	(Declared roads), main roads, local roads, undeclared roads, unused road reserves

3.11 Management guidelines

Table 9 summarises the objectives of activities that occur on roadside that are relevant to landholders and community groups. Each activity has different management prescriptions based on the roadside vegetation conservation value map classifications.

Table 9: Roadside Activity Objectives and Management Prescriptions

ACTIVITY	LOW (including scattered trees and degraded treeless vegetation)	MEDIUM	HIGH & VERY HIGH
Native vegetation removal	Avoid **removing native vegetation** beyond the road formation. A permit is required to remove, lop or destroy native vegetation.	Same as for Low Conservation Value roadsides.	Same as for Low Conservation Value roadsides Council Management will provide priority and support to any proposal aimed at creating a vegetation link for a wildlife corridor or extending the area adjacent to high quality roadsides.
Firewood collection	**Firewood** permits are only issued for the collection of fallen timber (not for standing timber).	No **firewood** collecting permits are issued for roadsides within this zone except where timber has fallen as a result of storm damage.	No **firewood** collecting permits are issued for roadsides within this zone except where timber has fallen as a result of storm damage.

Guidelines for the community, construction and maintenance workers and utility service providers

ACTIVITY	LOW (including scattered trees and degraded treeless vegetation)	MEDIUM	HIGH & VERY HIGH
Machinery turn around	Identify **machinery turn around** points in areas that will not result in disturbance to native vegetation.	Same as for Low Conservation Value roadsides.	Same as for Low Quality roadsides. **No machinery to turn around in these sections.**
Fuel reduction burns	Limit **fuel reduction burns** to a minimum rotational period of 5 years (unless directed by the MFPO) where native vegetation is present otherwise annually. Any works in areas of native vegetation need to be referred to DSE for approval	Limit **fuel reduction burns** to a minimum rotational period of 10 years (unless directed by the MFPO) where native vegetation is present otherwise annually. Any works in areas of native vegetation need to be referred to DSE for approval	Refer to DSE for specific management – Generally **limit fire reduction burns** to a minimum rotational period of 15 years (unless directed by the Municipal Fire Prevention Plan). Ploughing and grading prohibited.
Firebreaks	**Firebreaks** may be located along these roadsides.	**No Firebreaks** in this zone. Works identified in the MFFP accepted. Encourage locating firebreaks on private land.	No new **firebreaks** are to be located along these roadsides. Relocate existing firebreaks to sites with a Low Conservation Value or adjacent property wherever possible.
Slashing	Check all sites prior to **slashing** operations and identify regenerating native vegetation with a stake or other appropriate method (e.g. temporary fencing).	Check all sites prior to **slashing** operations and identify regenerating native vegetation with a stake or other appropriate method (e.g. temporary fencing).	If **slashing** is unavoidable plan works to occur during early spring or autumn.
Ploughing or grading	**Ploughing** or **grading** may be allowed but requires Council and DSE approval.	No **ploughing** or **grading** to occur along these roadsides.	No **ploughing** or **grading** to occur along these roadsides.

Guidelines for the community, construction and maintenance workers and utility service providers

ACTIVITY	LOW (including scattered trees and degraded treeless vegetation)	MEDIUM	HIGH & VERY HIGH
Revegetation	Landholders/groups are encouraged to contact the Council Planner to implement programs to **revegetate** roadsides and to create wildlife corridors.	Same as for Low Conservation Value roadsides.	Natural regeneration is preferred.
Pest plants	Identify prominent weeds and their location. Inform adjacent landholders of your intention to conduct weed control and encourage their involvement. Plan to slash **weeds** in late spring. In heavily infested areas to make slashing operations easier consult with Council prior to removing stumps and fallen timber. Generally the work should be carried out between March and July.	Same as for Low Conservation Value roadsides.	No broadacre spray applications to be conducted on these roadsides. Use hand weeding, rope wick applicator or spot spraying to remove isolated **weeds** in areas of native vegetation. Dispose at Municipal landfill site.
Grazing	Grazing not allowed.	Grazing not allowed.	Grazing not allowed.

4.1 Construction, maintenance and utility service providers

Goal: **To incorporate the objectives of the NGSC Roadside Management Plan into construction and maintenance works undertaken and to enhance communications between Service Providers and council.**

Background

Before undertaking any works related to the installation or maintenance of services (except in an emergency), roadside maintenance (excluding verges or table drains maintenance) or road construction works which may result in vegetation loss or damage, consultation with council is required.

- All works contracts are to incorporate best practice. Where works will affect a (Very High), High or Medium Conservation Value roadside or roads where rare or threatened species of flora or fauna have been recorded, consultation with council and key resource management authorities will occur. The service provider or contractor may be required to provide an Environmental Management Plan, which responds to matters identified at the impact assessment stage, prior to commencement of works. This plan will incorporate:
  - detail of work to be undertaken including steps to minimise environmental damage
  - incorporate a rehabilitation budget in any works proposal where the removal or destruction of native vegetation is likely to occur
  - all vegetation to be removed shall be clearly specified in the plan
  - rectification of environmental damage will be undertaken at the service providers or contractors expense within two months of damage occurring or as agreed with council
  - where vegetation loss is unavoidable the principle of 'net gain' or Offsets will be applied. Vegetation off-sets will be in accordance with the Victorians Native Vegetation Management Frameworks, and the NCCMA draft native vegetation plan (2006)
  - the service provider is to ensure the replacement ratios are met or exceeded and that a minimal survival rate of 80% is achieved after a three year period from time of planting
  - mark for removal only the minimum vegetation necessary to meet required works
  - retain dead trees or limbs to provide habitat unless they pose a significant hazard as specified by the Council or the Municipal Fire Prevention Officer
  - high priority is to be given to retaining native grasses and herbs
  - where excavation works are to be undertaken on roadsides free of weeds, ensure all topsoil is stockpiled and re-spread (this is particularly important on High Conservation Value Roadsides to retain seeds present in the soil).
- All works are to be performed in accordance with good engineering practice with minimal environmental disturbance and the principles incorporated in this document as well as:
  - VicRoads Regional Codes of Practice for Roadside Maintenance and Construction 2003
  - VicRoads Roadside Management Strategy 2003
  - VicRoads Guidelines for the development of roadside conservation management plans 2004
  - VicRoads Project Management Guidelines Environmental Protection 2000
  - VicRoads Guidelines for the Conduct of Biological Surveys (Flora & Fauna) 2000
  - VicRoads Roadside Handbook 1992
  - EPA Environmental Guidelines for Major Construction Sites - Publication 480 1996
  - Telecommunications Code of Practice 1997
  - North Central Native Vegetation Plan – North Central CMA 2006
  - North Central Region Weed Action Plan - DSE 2001
  - Environment practices manual for rural sealed and unsealed roads, ARRB transport research, 2002

4.1.1 Locating utility services - electricity, communications and water

- All relevant codes of practice, legislation and existing council-service provider agreements must be incorporated in the installation of new services.
- In addition the following must be taken into account when planning routes:
  - Vegetation Protection Overlays in the Municipal Strategic Statement.
  - Environmental Significance Overlay incorporating the significant flora and fauna register.
  - Commonwealth/State/Council policies codes or agreements.
  - Sites of cultural or heritage significance.
  - Alternative designs to minimise vegetation loss when vegetation removal results from works associated with installation or maintenance.
- Refer proposals for new works to the council, in the initial planning stages or as specified in existing service provider-council agreements
- Under the Native Vegetation Retention Controls a permit is required when native vegetation is to be removed during installation of new services or replacement of old services (except in an emergency replacement or where exemptions apply). Most applications are referred by the NGS to DSE. This will require forward planning so that response time coincides with work plans.
- Locate services where practical on Low Conservation Value roadsides or cleared land adjacent to roadsides. Service providers may need to demonstrate the criteria used to determine proposed routes.
- Arrange an on-site inspection by all interested parties if proposed vegetation removal (occurring during installation works) may result in conflict. Consult with affected landowners and local groups with specialist knowledge

4.1.2 Management of services

- For effective roadside management it is imperative that service providers and the council have good lines of communication.
- Council will encourage notification by service providers of any proposed works as a courtesy even when not legally required. In many cases an application for a planning permit is required for any new works.
- Some of the benefits of better communication include:
  - strategic coordination of works on roadsides
  - council can have greater input into the location of services
  - road maintenance works can be postponed if service installation requires excavation of the road surface.

Guidelines for the community, construction and Maintenance workers and utility service providers

Strategic actions

Priority	Action	Agency responsible	Time frame	Key performance indicator
Medium	Encourage Service Providers to provide forward planning of works on roadsides.	NGSC Service Providers	On going	Notification process is happening.
Medium	Ensure that follow up work is carried out to control weeds after ground disturbance and revegetation where required.	Service Provider COGG	3 months after works completed	Recheck previous work sites within 3 months after the completion of works.
Medium	Encourage undergrounding or location of services on adjacent cleared land where practical to minimise the impact on medium and high quality roadsides.	Service Provider NGSC Planning Officer	On going	
Medium	A service agreement will be drawn up between the NGS and all service providers (including communications, water, and electrical distribution companies). This agreement will reflect the objectives of the Local Planning Policy Framework and MSS for environmental management.	Service Provider NGSC Planning Officer	On going	Environmental agreements developed and signed.

4.2 Northern Grampians Infrastructure Development and Infrastructure Operations

Goal: **Modify roadside maintenance practices inline with the objectives of the roadside management plan.**

General roles and responsibilities

The Infrastructure Operations and Infrastructure Development departments have responsibility for the maintenance of Infrastructure Assets for the use of the community. They include roads, streets, footpaths, buildings and many other facilities.

The departments encompass Councils' outdoor and engineering staff, and are primarily responsible for the provision and maintenance of the infrastructure assets, and some non-infrastructure assets.

The specific functional areas include:

- Works operations
- Roads and Bridges
- Infrastructure, Landscape and Open Space Planning
- Capital Works & Major Projects
- City Services & Presentation

- Council is responsible for permanent works and maintenance on local roads only. VicRoads is responsible for permanent works and maintenance on all main roads and highways.

4.2.1 Stockpiles, dump sites and waste management

- Ensure all staff/contractors are made aware that:
  - stockpiles are a common means of spreading weeds to a new area
  - monitoring and rapid treatment of weeds at these sites is critical
  - contaminated gravel is a major concern
  - industry hygiene is critically important when importing road-making materials
  - Council has **designated stockpile** locations. Only these are to be used.
- Provide all workers undertaking roadside works with the list and location map of Council designated stockpile and dump sites.
- Council will designate and manage stockpile sites based on the following criteria.
  - Investigate the possibility of rationalising and relocating any existing stockpile sites on (Very High), High or Medium Conservation Value roadsides to Low Conservation Value roadsides as soon as possible and rehabilitate the area.
  - Remove weeds before stockpiling materials on a new site.
  - (Very High), High or Medium Conservation Value roadsides may be used only if no other area is available.
  - Stockpile sites are to be located to avoid impact on native vegetation remnants.
  - New stockpile/dump sites will not be located on roadsides adjoining public land.
  - Avoid damage to trees and other vegetation - do not build up soil levels or compact the ground within the drip line of an existing tree.
  - Monitor stockpile sites for weed growth.
  - Define the stockpile site with marker pegs signage and record on GIS database.
  - Minimise the number of stockpile sites.

Stockpiles should be free of weeds and not impact on the surrounding remnant vegetation.

Regular road maintenance should avoid the root zone of adjacent native vegetation where possible.

4.2.2 Road maintenance

- Minimise disturbance to both native vegetation and soils. Clean up disturbances in the designated work area as works progress.
- Avoid 'tidying up' native vegetation and/or ground layer where not part of required works
- Avoid 'borrowing' soil and/or material from roadside for road works. Import appropriate material to the site from a suitable source
- Avoid working within the drip line of trees to reduce damage to roots, trunks and limbs.
- Avoid windrowing excess spoil from drain clearance operations by grading spoil onto the roadside surface (unless it is not safe to retain on the road shoulder) and remove excess to a recognized dump site. If this is not possible on Low Conservation Value roadsides, spread soil over the road shoulder and maintain to reduce weed establishment.
- Never use backhoe bucket or earthmoving machinery to remove branches. Always consult Council Arborist prior to undertaking any tree pruning works.
- Maintain table drains to reduce the establishment of inappropriate vegetation. Avoid native vegetation when locating or maintaining drain cut off points.
- Park vehicles and machinery in previously disturbed/cleared area (but not if in Grasslands), wayside stop or on private property (away from native vegetation including Grasslands).
- Identify and record machinery turn around points in areas that will not result in disturbance to native vegetation, i.e., intersections, driveways and areas used previously (if appropriate)
- Use machinery of a size (minimum necessary) that is suitable for the required works and that will minimise impact to the site
- When proposing works in (Very High), High or Medium Conservation Value areas, incorporate hygienic procedures to minimise spread of weeds. After working in weedy or disease affected

areas, thoroughly clean vehicles and machinery or all soil and plant debris prior to working on high conservation value or weed free sites.
- Plan for the location of stockpile end dump sites to ensure they are free of weeds
- Confine machinery to the existing road formation or approved construction zone. Clearly define the boundary of works prior to the commencement of any works
- Construct and maintain table drain lines
  - To follow natural drainage lines
  - To reduce water velocity and run-off
  - To prevent water from flooding the road and roadside (except at time of flash downpours)
- Train maintenance staff on roadside management issues

4.2.3 Road construction and widening

- Observe relevant road maintenance guidelines.
- Prepare an Environment Management Plan for all major road construction and widening projects.

Environment Management Plans should address the following issues:

  - Vegetation Assessment, Management and Legislative requirements
  - Water Quality and Waterway protection
  - Erosion and sediment control
  - Air Quality
  - Cultural and Heritage Values
  - Site Contamination
  - Noise Pollution
  - Waste Minimisation
  - Pathogen Control
  - Landscaping rehabilitation
  - Site Plan and Map with limit of works area clearly defined

- Permits are required under the Native Vegetation Retention controls to remove native vegetation for road construction works. All applicants are referred by NGSC to DSE.
- Consult with DSE and community organisations prior to the preparation of detailed designs to determine likely effects of works on native vegetation.
- Consider modifying the design to reduce vegetation loss (e.g. Different alignments, pavement and shoulder widths, use of kerb and channel), whilst still allowing the road to be designed with appropriate safety requirements and standards.
- Train road construction staff on roadside management issues

4.2.4 Land Subdivision

- New Subdivision or other developments must be designed to minimise impact on indigenous remnant vegetation remaining on roadsides and ensure where possible that indigenous remnant vegetation remaining on private land is not destroyed to build new roads and supply services.
- Designs to be prepared to have the least impact on indigenous remnant vegetation and minimise vegetation loss. Consult with DSE and other key stakeholders.

- Identify opportunities to enhance the value and condition of remnant indigenous vegetation and include them in the project plan.

4.2.5 General guidelines for management

Table 10 summarises the objectives of activities that occur on roadside that are relevant to road managers and service providers. Each activity has different management prescriptions based on the roadside conservation value classifications.

Table 10: Road Maintenance activities, objectives and management prescriptions.

ACTIVITY	LOW (including scattered trees and degraded treeless vegetation)	MEDIUM	VERY HIGH & HIGH
Machinery Operations	Avoid areas of remnant native vegetation on roadsides and restrict machinery operations to the existing road formation or a designated construction zone, where possible.	Avoid areas of remnant native vegetation on roadsides and restrict machinery operations to the existing road formation or a designated construction zone.	Confine machinery operations to the existing road formation or a designated construction zone.
Turn Around Points (Machinery)	Turn around points should avoid areas of native vegetation	Turn machinery around where native vegetation will not be disturbed	Turn machinery around only at appropriate locations, i.e., driveways or intersections. Avoid disturbance to native vegetation.
Spoil	Do not spread spoil into native vegetation on roadsides.	Do not spread spoil into native vegetation on roadsides.	Spoil from grading and drain clearing must not be placed or spread on the roadside. If suitable, the spoil may be graded onto the road for re-use with new gravel in resurfacing works or if not, it is to be removed to a recognised dump site or tip. Do not spread spoil into native vegetation areas on roadsides.
Removal of Topsoil	Remove all stripping from widening and reconstruction works to a recognised dump site or tip. On very weedy sites, stripping may be extended to the fenceline but a permit is required from DSE under the *CaLP Act* 1994.	Remove all stripping from widening and reconstruction works to a recognised dump site or tip. On very weedy sites, stripping may be extended to the fenceline but a permit is required from DSE under the *CaLP Act* 1994.	Remove any topsoil prior to works and store in a designated area free from weeds. Re-use as soon as practical.
Slashing	Avoid destroying regenerating native	Avoid destroying regenerating native	If slashing is required for fire prevention or to retain sight

Guidelines for the community, construction and Maintenance workers and utility service providers

ACTIVITY	LOW (including scattered trees and degraded treeless vegetation)	MEDIUM	VERY HIGH & HIGH
	vegetation during slashing and spraying operations.	vegetation during slashing and spraying operations.	lines, carry out work to occur before seed set of exotic grasses and after seed set of indigenous understorey species, generally in Autumn. Slash only up to the back of the table drain or a maximum of two metres from the edge of pavement. Maintain an average 200mm slashing height. Avoid slashing native grasses between September & late December.
Table Drains	Clean table drains regularly so they do not become clogged with silt or vegetation.	Clean table drains regularly so they do not become clogged with silt or vegetation.	Clean table drains regularly so they do not become clogged with silt or vegetation. Avoid native vegetation when locating or maintaining drain cut off points.
Stockpiling	Remove weeds before stockpiling materials on a new stockpile site.	Remove weeds before stockpiling materials on a new stockpile site.	Where reasonable, relocate existing stockpiles as soon as possible. No new stockpiles in these areas.
Vehicle Hygiene	Take reasonable steps to clean all machinery and equipment before moving onto or off a roadside to ensure all noxious weeds or part thereof are removed.	Take reasonable steps to clean all machinery and equipment before moving onto or off a roadside to ensure all noxious weeds or part thereof are removed.	Clean all machinery and equipment before moving onto or off a roadside to ensure all noxious weeds or part thereof are removed. Incorporate stringent hygiene procedures.
Construction Zone		Clearly mark the construction zone prior to the commencement of works. Plant and equipment must not be parked on the roadside in this zone.	Clearly mark the construction zone prior to the commencement of works. Plant and equipment must not be parked on the roadside in this zone.

4.3 Cultural and heritage values

Goal: **To ensure the protection of roadside sites that have been identified as having cultural or heritage values.**

Background

- Cultural heritage features such as Aboriginal cultural heritage sites and evidence of early European settlement, Avenues of Honor, historic bridges or monuments can contribute to the conservation significance of roadsides.
- All Aboriginal cultural heritage sites and material are protected under state – *Aboriginal Heritage Act 2006 (repealed act: Archaeological and Aboriginal Relics Preservation Act 1972)* and federal – *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* legislation.
- The locations of Aboriginal sites are not widely advertised to the public because of Aboriginal confidentiality and risks from vandalism. For further information contact Aboriginal Affairs Victoria, the relevant Regional Aboriginal Cultural Heritage Program or visit www.dvc.vic.gov.au.
- Refer to VicRoads Cultural Heritage Guidelines (2003) for further information relating to cultural heritage values along roadsides.



Many European cultural heritage sites are located on roadsides.

Strategic actions

Priority	Action	Agency responsible	Time frame	Key performance indicator
Medium	Identify where sites of cultural and historic values are known and accessible.	NGSC Historical Society	2 years	Inclusion of European cultural sites in to the roadside database.
Medium	Incorporate the management considerations for these sites into the NGSC RVMP.	NGSC RAP Historical Society	2 years	Inclusion of the management of cultural heritage sites into the NGSC RVMP

4.4 Key areas of responsibility

Table 11: Summarises key areas of responsibilities for service providers, VicRoads and NGSC on various classification of roads.

ACTIVITY	SERVICE PROVIDERS	VICROADS	LOCAL GOVERNMENT
Fire prevention		Highways, forest and (declared roads) Main roads (declared)	 Local roads and undeclared roads
Weeds *(refer also to Table 4, Section 3.7)*	Highways, tourist roads (declared roads) Main roads (declared) Local roads and undeclared roads Unused road reserves – licensed Unused road reserves – unlicensed	Highways, tourist roads (declared roads) Main roads (declared)	 Undeclared weeds on local roads and undeclared roads managed by Council. *(Regionally controlled declared weeds are the responsibility of the adjacent landholder or lessee)*
Road operations & maintenance		Highways, tourist roads (declared) Main roads (declared)	 Local roads and undeclared roads
Installation and maintenance of services	Highways, forests and tourist roads (declared) Main roads (declared) Local roads and undeclared roads Unused road reserves – licensed Unused road reserves – unlicensed		
Farming activities		Highways, forests and tourist roads (declared) Main roads (declared)	 Local roads and undeclared roads

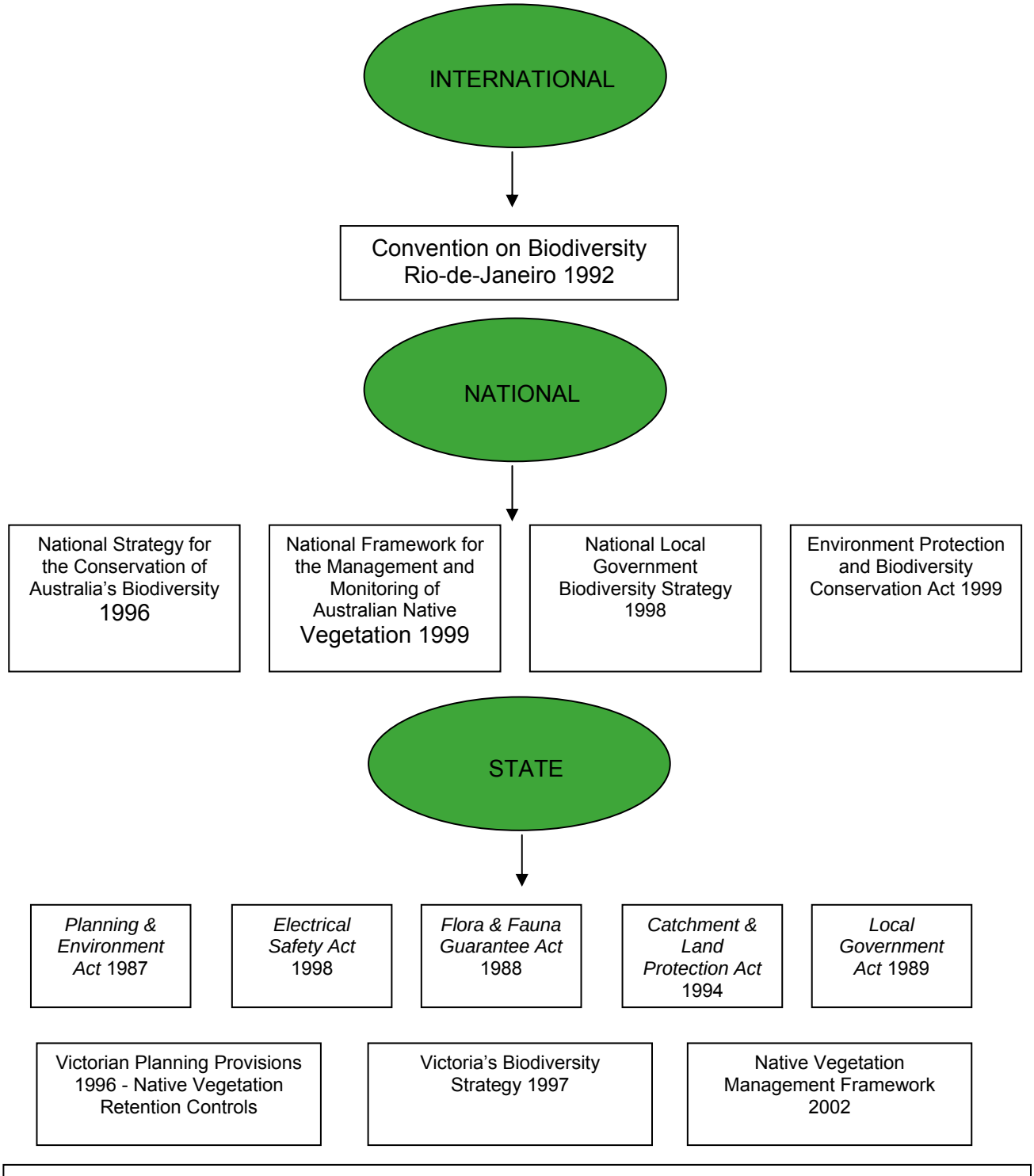
Table 12: Summary table of action items, sorted by time frames and priority to identify highest priority actions and timeframes for carrying out these actions.

Priority	Action	Agency responsible	Time frame	Key performance indicator	Section
High	Adoption of RVMP and integration into Council operations	NGSC	June 2008	Completion of Action	NGSC Infrastructure Development and Infrastructure operations
High	Raise awareness amongst NGS staff of the importance of roadside vegetation management with the help of DPI/DSE, and NCCMA	NGSC	On going	Completion of 'roadside vegetation awareness' training sessions. Roadside vegetation considered up front in planning and management	Infrastructure Development and Infrastructure operations
High	Require an environmental assessment prior to major road reconstruction or realignment where there are High Conservation Value roadsides. Prepare environmental management plans for all major road construction or realignment projects and include in relevant contract specifications	NGSC	On going	Development of Environment Management Plans Works on High Conservation Value Roadsides do not destroy vegetation or disturb soils.	Infrastructure Development and Infrastructure operations
Medium	Define stockpile sites with signage and record on GIS database and in Roadside Conservation Database	NGSC	1 year	Inclusion of stockpiles into databases.	Infrastructure Development and Infrastructure operations
Medium	Protect sites of cultural and historic values	NGSC Historical Society RAP	2 years	Inclusion of European and cultural sites into planning and management decisions	Customer Services

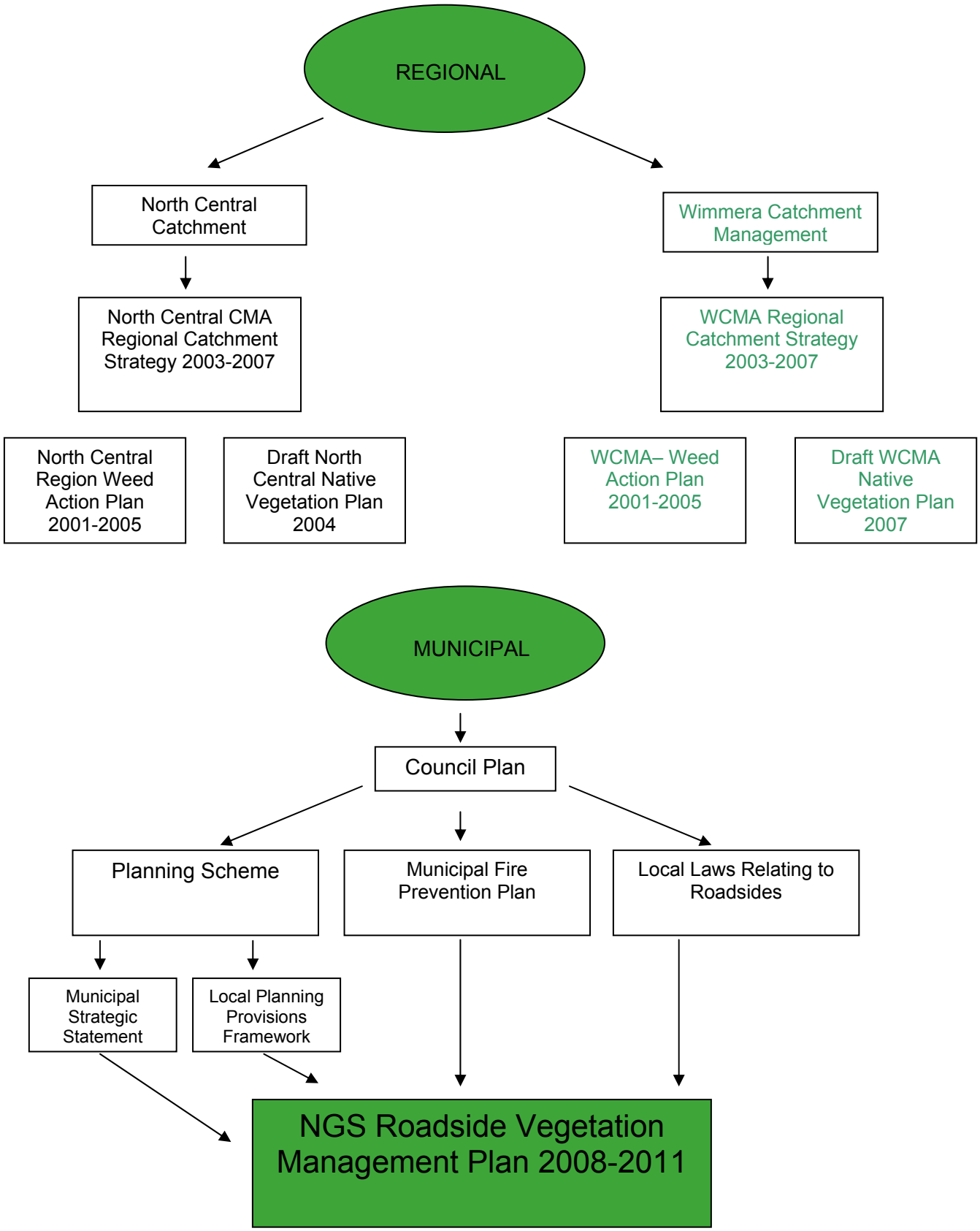
5 Appendix 1 Threats to Roadside Reserves

THREAT	EXAMPLE
Altered hydrology	Drainage of wetlands and the flooding of dryland
Animal pests	Hares, Foxes, Indian Miner's or other feral species.
Burning	Raking up leaf litter and mulch into piles, repeated or inappropriately timed burning
Cultivation	For crops or pasture
Dumping of fill	Earth or road making materials
Erosion	Removal of soil, etc, from roadside by water or wind
Fertiliser application/ nutrient run-on	Over application of super phosphate, uncontrolled run-on from intensive dairy operations
Firebreak construction	Ploughing or ripping
Gardening/horticulture	Planting and cultivating introduced species for show or food
Grazing	Sheep, cattle and goats
Herbicide application	Chemical slashing along road verge or along channels, etc
Invertebrate pests	Insects and insect larvae, white snails or millipedes
Livestock Pugging/trampling/compaction	Including horse riding, inappropriate or repeated stock movement across or along roadsides
Mistletoe (damaging infestation)	Criteria for excessive; there is more mistletoe foliage than host tree foliage, dead or dying trees.
Mowing/Slashing	When more than road verge for traffic safety.
Non-indigenous species introduction	Planting / revegetation with non-local species
Pest animal harbour	Rabbits, foxes
Pesticide application (other than herbicide)	Spraying for locusts
Poor management, planning or engineering	Increased maintenance and construction costs, site specific conflicts, increased fuel loading, harbor for pest plants and animals, poor drainage and land degradation, visual pollution, erosion, the loss of biodiversity, remnant vegetation and wildlife habitat
Rabbit infestation	Warrens, scats present, scratching or grazing evident
Ripping	For treelines, trenching
Road construction/maintenance activity	Borrowing material (soil) from roadside, spoil pushed over roadside, excessive widening or turning points
Rubbish dumping	Excessive litter, household rubbish and garden refuse dumped
Salinity	Salt scalds and/or poor tree health or death
Sedimentation/siltation	Deposition of soil, etc, via erosion processes
Soil, sand, gravel or rock removal/extraction	Builders sand (from sandy areas), volcanic rocks (from volcanic areas)
Timber Removal (fallen)	Firewood collection
Tree/shrub Lopping/pruning/felling/removal	Clearing for large vehicle movement, powerline clearing
Utility construction	Power lines, phone lines, pipelines, drains or channels
Vehicle parking /compaction / tracking	Vehicle tracks beside main road, motorbike tracks
Waterlogging (Induced)	Drain construction that leads to un-natural pooling or irrigation overflow
Weed invasion	Transported in from other areas by road, garden escapees

5 Appendix 2
Context and legal framework



5 Appendix 2 Context and legal framework



5 Appendix 2 Context and legal framework

Legislation designating management responsibilities

Legislation that is relevant to roadside management, the particular function and the responsible manager, is summarized below.

Legislation	Function related to road reserves	Management responsibilities
Land Act 1958	Gives the Crown ownership of all vegetation on roadsides, Royalties for timber collection, cropping & haymaking payable.	DSE
Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)	The EPBC Act (1999) promotes the conservation of biodiversity by providing strong protection for listed species, communities and areas of national significance.	The Commonwealth Environment Minister
Country Fire Authority Act 1958	Aims to prevent and suppress fires and protect life and property in the case of fire. Provides for the establishment of station and brigades, preparation of Municipal Fire Prevention Plans, and the issuing of fire prevention notices.	Overall responsibility is assigned to the Country Fire Authority. Local Government is responsible for the preparation of plans, and the issuing of notices. Local Government has responsibility for fire prevention maintenance of roads in their charge.
Forest Act 1958	Control and management of all trees, saplings, shrubs and underwood. Prosecution for unauthorised cutting of timber.	The DSE has the control and management of all matters of forest policy, licenses, royalties and plans and works relating to State Forests. Local Government has responsibility for vegetation on any road except those in or adjoining a State Forest.
Australian Heritage Commission Act 1975	The Australian Heritage Commission considers nominations and approved listing of places.	Australian Heritage Commission.
Crown Land (Reserves) Act 1978	Provides for the reservation of Crown land for public purposes and the appointment of Trustees and Committees of Management.	DSE.
Transport Act 1983	Regulation of use of freeways, State highways, main roads, tourist roads, forest roads or a stock route.	VicRoads is responsible for management of highways and other declared roads. Local Government may be delegated this responsibility.

5 Appendix 2 Context and legal framework

Legislation	Function related to road reserves	Management responsibilities
Aboriginal and Torres Strait Islander Cultural Heritage Protection Act 1984	Recording and protection of sites of significance. Issuing of consent to carry out activities which will have an impact on Aboriginal place or object.	Powers allocated to the Commonwealth Minister for Aboriginal Affairs are in turn delegated to the Victorian Minister responsible for Aboriginal Affairs Victoria.
Planning and Environment Act 1987	Development and administration of Planning Schemes and Native Vegetation Retention.	Minister for Development and Infrastructure and Local Governments.
Flora and Fauna Guarantee Act 1988	Conservation and management of Victoria's flora and fauna and management of potentially threatening processes. Controls about handling of protected flora.	DSE
Local Government Act 1989	Assigns powers to Councils including the care and management of roads. May widen or narrow road reserve.	Local government.
Mineral Resources Development Act 1990	Covers ownership, searching and mining of mineral resources. Issuing of a Mining License. Lodgment of Work Plan and Rehabilitation Plan.	DPI.
Catchment and Land Protection Act 1994 ***(please note that the Victorian Government is currently undertaking a reading of the Catchment and Land Protection Act 1994 to clarify who is responsible for the management of the various categories of declared noxious species on roadsides. Although the current State interpretation of the Act may alter, Council's position is as follows)***	Identifies responsibilities for the control of proclaimed noxious weeds and pest animals.	State Prohibited weeds are the responsibility of DSE/DPI. VicRoads is responsible for regionally prohibited and regionally controlled pest plants and animals on highways and declared roads, and the associated road reserve. DPI is responsible for regionally prohibited weeds on undeclared roads, roadsides and lanes and the associated road reserve The adjacent landowner or lessee is responsible for regionally controlled weeds on undeclared roadsides to the middle of the roadway, and relevant section of road reserve Council is responsible for undeclared weeds on Council managed roads and road reserves.

5 Appendix 2 Context and legal framework

Legislation	Function related to road reserves	Management responsibilities
Conservation, Forest and Lands Act 1987	Protection and conservation of places and objects of cultural heritage significance.	DSE
Heritage Act 1995	Nomination of a place or object onto the Heritage Register. Enforcement of provisions that prohibit removal, damage or destruction of place or object on the Heritage Register. Issuing of Permits to carry out works in relation to a registered place or object.	DSE
Telecommunications Act 1997	Provides for the planning, installation and maintenance of services. Carries powers and immunities. Provisions for threatened species, environmental impact assessment.	Minister for Communication, Information Technology and the Arts. And the Australian Communications Authority.
Electrical Safety Act 1998	Prescribes the regulation of powerline safety. It establishes clearances between powerlines and vegetation through the Code of Practice for Powerline Clearances.	Chief Electrical Inspector.
Road Management Act 2004	Prescribes the regulations associated with the management and maintenance of roads within Victoria.	VicRoads, local government
Aboriginal Heritage Act 2006	Repeals the *Archaeological and Aboriginal Relics Preservation Act 1972.* Protection of Aboriginal Heritage sites through the requirements of Aboriginal Cultural Heritage permits (ACHPs), Aboriginal Cultural Heritage Management Plans (ACHMPs) and Aboriginal Cultural Heritage Agreements (ACHAs)	Minister for Aboriginal Affairs

5 Appendix 2 Context and legal framework

List of relevant legislation, policies and strategies

- *Country Fire Authority Act*, 1958
- *Flora and Fauna Guarantee Act*, 1988
- *Planning and Environment Act*, 1987
- *Catchment and Land Protection Act*, 1994
- *Environment Protection & Biodiversity Conservation Act*, 1999
- *Litter Act,* 1987
- *Road Management Act, 2004*
- *Aboriginal Heritage Act 2006*
- North Central Regional Catchment Strategy 2003
- Draft North Central Native Vegetation Plan – NCCMA 2006
- North Central Region Weed Action Plan – DNRE 2001
- Rabbit Management Action Plan 2000-2005 North Central Region - DNRE 2000
- Roadside Fire Management Guidelines – CFA 2001
- Roadside Management Guidelines for Fire Prevention Planners – CFA – 1994
- Resource Protection Guidelines North Central
- Victoria's Native Vegetation Management Framework 2002
- The Green Plan A Natural Environment Management Strategy NGSC, March 2001 (Reviewed 2006)
- Northern Grampians Shire Council Planning Scheme
- Municipality Fire Prevention Plan, NGSC 1999
- *Telecommunications Act 1997*
- *Local Government Act* 1989
- Roadside Management Guidelines - VicRoads 1999
- Roadside Handbook: Environmental Guidelines for Road Construction and Maintenance Workers – VicRoads 1992
- Environmental Protection – Project Management – VicRoads 2000
- Environment Strategy – VicRoads 1992
- VicRoads Regional Codes of Practice for Roadside Maintenance and Construction 1999
- Code of Practice for roadside Vegetation Removal Background Paper – VicRoads October 2007
- A Guide to Working on the Road Reserve – a summary of the requirements of the Road Management Act 2004 – MAV, VicRoads
- Regional Code of Practice included in Roadside Management Plan – Hume Highway – VicRoads 1998
- EPA Environmental Guidelines for Major Construction Sites – Publication 480 1996
- Vegetation Management Plan for Powerline Clearance, VicRoads 1997
- Code of Practice for Powerline Clearance (Vegetation) - Office of the Chief Electrical Inspector 1999
- A Code of Practice for Telecommunications Facilities in Victoria 1999
- Roadside Marking of Special Environmental Areas – VicRoads (for the Roadside Conservation Committee of Victoria) - pamphlet
- Environment practices manual for rural sealed and unsealed roads – ARRB Transport Research, 2002.
- New native vegetation provisions in the planning scheme (2006)

5 Appendix 3 Threatened Fauna

Threatened Fauna

Rare or threatened fauna species recorded within the Northern Grampians Shire (within the North Central and Wimmera CMA boundaries) are listed below. Status under the EPBC Act 1999, FFG Act 1988 and Victorian Conservation Status is provided.

Common name	*Scientific name*	Victorian conservation status	ACTION STATEMENT	FFG Act	EPBC Act
Australasian Bittern	*Botaurus poiciloptilus*	e		L	
Australasian Shoveler	*Anas rhynchotis*	v			
Australian Bustard	*Ardeotis australis*	cr		L	
Australian Pratincole	*Stiltia isabella*	n			
Bandy Bandy	*Vermicella annulata*	n		L	
Barking Owl	*Ninox connivens*	e		L	
Black Falcon	*Falco subniger*	v			
Black-chinned Honeyeater	*Melithreptus gularis*	n			
Black-eared Cuckoo	*Chrysococcyx osculans*	n			
Blue-billed Duck	*Oxyura australis*	e		L	
Brolga	*Grus rubicunda*	v	A	L	
Brown Quail	*Coturnix ypsilophora*	n			
Brown Toadlet	*Pseudophryne bibronii*	e			
Brown Treecreeper	*Climacteris picumnus*	n			
Brush-tailed Phascogale	*Phascogale tapoatafa*	v		L	
Bush Stone-curlew	*Burhinus grallarius*	e		L	
Caspian Tern	*Sterna caspia*	n		L	
Chestnut-rumped Heathwren	*Hylacola pyrrhopygia*	v		L	
Common Greenshank	*Tringa nebularia*				M
Crested Bellbird	*Oreoica gutturalis*	n		L	
Diamond Dove	*Geopelia cuneata*	n		L	
Diamond Firetail	*Stagonopleura guttata*	v		L	
Double-banded Plover	*Charadrius bicinctus*				M
Eastern Bearded Dragon	*Pogona barbata*	d			
Elegant Parrot	*Neophema elegans*	v			
Fat-tailed Dunnart	*Sminthopsis crassicaudata*	n			
Four-toed Skink	*Hemiergis peronii*	n			
Freckled Duck	*Stictonetta naevosa*	e	A	L	
Glossy Ibis	*Plegadis falcinellus*	n			
Golden Perch	*Macquaria ambigua*	v			

5 Appendix 3 Threatened Fauna

Common name	*Scientific name*	Victorian conservation status	ACTION STATEMENT	FFG Act	EPBC Act
Great Egret	*Ardea alba*	v	A	L	
Grey Falcon	*Falco hypoleucos*	e		L	
Grey Goshawk	*Accipiter novaehollandiae*	v			
Grey-crowned Babbler	*Pomatostomus temporalis*	e	A	L	
Grey-headed Flying-fox	*Pteropus poliocephalus*	v		L	V
Hardhead	*Aythya australis*	v			
Hooded Robin	*Melanodryas cucullata*	n		L	
Intermediate Egret	*Ardea intermedia*	cr		L	
King Quail	*Coturnix chinensis*	e		L	
Large Ant Blue	*Acrodipsas brisbanensis*	r	A	L	
Lewin's Rail	*Rallus pectoralis*	v		L	
Little Bittern	*Ixobrychus minutus*	e		L	
Little Button-quail	*Turnix velox*	n			
Little Egret	*Egretta garzetta*	e		L	
Long-nosed Potoroo	*Potorous tridactylus*	e		L	V
Magpie Goose	*Anseranas semipalmata*	v			
Major Mitchell's Cockatoo	*Cacatua leadbeateri*	v	A	L	
Marsh Sandpiper	*Tringa stagnatilis*				M
Mountain Galaxias	*Galaxias olidus*			L	
Murray Cod	*Maccullochella peelii peelii*	e		L	
Musk Duck	*Biziura lobata*	v			
Nankeen Night Heron	*Nycticorax caledonicus*	n			
Painted Honeyeater	*Grantiella picta*	v		L	
Pectoral Sandpiper	*Calidris melanotos*	n			
Pied Cormorant	*Phalacrocorax varius*	n			
Plains-wanderer	*Pedionomus torquatus*	cr	A	L	
Powerful Owl	*Ninox strenua*	v		L	
Red-backed Kingfisher	*Todiramphus pyrrhopygia*	n			
Red-chested Button-quail	*Turnix pyrrhothorax*	v		L	
Red-necked Stint	*Calidris ruficollis*				M
Red-tailed Black-Cockatoo	*Calyptorhynchus banksi*	e	A	L	E
Regent Honeyeater	*Xanthomyza phrygia*	c		L	E
Regent Parrot	*Polytelis anthopeplus*	v		L	V
Royal Spoonbill	*Platalea regia*	v			
Rufous Fantail	*Rhipidura rufifrons*				M

5 Appendix 3 Threatened Fauna

Common name	*Scientific name*	Victorian conservation status	ACTION STATEMENT	FFG Act	EPBC Act
Samphire Skink	*Morethia adelaidensis*	e		L	
Satin Flycatcher	*Myiagra cyanoleuca*				M
Sharp-tailed Sandpiper	*Calidris acuminata*				M
Silvered Skipper	*Hesperilla crypsargyra lesouefi*	r			
Smoky Mouse	*Pseudomys fumeus*	e		L	E
Southern Brown Bandicoot	*Isoodon obesulus obesulus*	nt			E
Southern Toadlet	*Pseudophryne semimarmorata*	v			
Speckled Warbler	*Chthonicola sagittata*	v		L	
Spot-tailed Quoll	*Dasyurus maculatus*	e		L	V
Spotted Harrier	*Circus assimilis*	nt			
Spotted Quail-thrush	*Cinclosoma punctatum*	nt			
Square-tailed Kite	*Lophoictinia isura*	v		L	
Squirrel Glider	*Petaurus norfolcensis*	e		L	
Swamp Skink	*Egernia coventryi*	v		L	
Swift Parrot	*Lathamus discolor*	e		L	E
Tree Goanna	*Varanus varius*	v			
Western Bright-eyed Brown	*Heteronympha cordace wilsoni*	v		L	
Western Swamp Cray	*Gramastacus insolitus*			L	
Whiskered Tern	*Chlidonias hybridus*	nt			
White-bellied Sea-Eagle	*Haliaeetus leucogaster*	v	A	L	M
Woodland Blind Snake	*Ramphotyphlops proximus*	nt			

EPBC Act 1999	**Action Statements**	**Victorian Conservation Status**
E – Endangered	These documents describe Victoria's threatened plant and animal species, biological communities and potentially threatening processes listed under the Flora and Fauna Guarantee Act 1988, and actions that have been and will be taken to conserve them.	**x** – Presumed Extinct in Victoria
V - Vulnerable		**e** – Endangered in Victoria
M - Migratory		**v** – Vulnerable in Victoria
FFG Act 1988		**nt** – Near Threatened in Victoria
L – Listed		**k** – Poorly known in Victoria
		r – Rare in Victoria

Note: This list contains only those records contained within the Flora Information Systems (FIS) database and therefore may not include all rare or threatened species located within the shire. Stakeholders, including community members, are encouraged to submit any information they may have on additional records to DSE and the Northern Grampians Shire so that these records can be updated as required.

5 Appendix 4 Threatened Flora

Threatened Flora

Rare or threatened flora species recorded within the Northern Grampians Shire (within the North Central and Wimmera CMA boundaries) are listed below. Conservation status under the EPBC Act 1999, FFG Act 1988 and Australian and Victorian Conservation Status is provided.

COMMONNAME	NAME	AROTS	EPBC	VROTS	FFG	ACTION
Annual Bitter-cress	*Cardamine paucijuga s.s.*			v		
Annual Buttercup	*Ranunculus sessiliflorus var. pilulifer*			k		
Annual Buttons	*Leptorhynchos orientalis*			e	L	
Apple Moss	*Philonotis pallida*			k		
Bent-grass	*Deyeuxia imbricata*			v		
Blotched Sun-orchid	*Thelymitra benthamiana*			v		
Blue Fairy Wax-lip Hybrid	*X Calassodia sp. nov.*			r		
Blue Mallee	*Eucalyptus polybractea*			r		
Book Triggerplant	*Stylidium calcaratum var. ecorne*			k		
Bow-lip Spider-orchid	*Caladenia toxochila*			v	N	
Bramble Wattle	*Acacia victoriae*			r		
Branched Trymalium	*Trymalium X ramosissimum*			r		
Brilliant Sun-orchid	*Thelymitra mackibbinii*	V	V	e	N	A
Bristly Greenhood	*Pterostylis setifera*			r		
Broad-leaf Prickly Moses	*Acacia verticillata subsp. ruscifolia*			r		
Broad-lip Diuris	*Diuris X palachila*			r		
Broom Bitter-pea	*Daviesia genistifolia s.s.*			r		
Brown Beetle-grass	*Leptochloa fusca subsp. fusca*			r		
Buloke	*Allocasuarina luehmannii*				L	
Buloke Mistletoe	*Amyema linophylla subsp. orientale*			v		
Candy Spider-orchid	*Caladenia versicolor*	V	V	e	L	A
Cane Spear-grass	*Austrostipa breviglumis*			r		
Chariot Wheels	*Maireana cheelii*	V	V	v		
Clover Glycine	*Glycine latrobeana*	V	V	v	L	
Clustered Poranthera	*Poranthera corymbosa*			r		
Common Extinguisher-moss	*Encalypta vulgaris*			r		
Cotton Panic-grass	*Digitaria brownii*			k		
Cotton Sneezeweed	*Centipeda nidiformis*			r		
Creeping Grevillea	*Grevillea repens*			r		
Crimson Sun-orchid	*Thelymitra X macmillanii*			v		
Crowded Greenhood	*Pterostylis sp. aff. melagramma (Stawell)*			k		

5 Appendix 4 Threatened Flora

COMMONNAME	NAME	AROTS	EPBC	VROTS	FFG	ACTION
Dadswells Bridge Spider-orchid	*Caladenia sp. (Dadswells Bridge)*			k		
Downy Swainson-pea	*Swainsona swainsonioides*			e	L	
Dwarf Boronia	*Boronia nana var. pubescens*			r		
Elegant Spider-orchid	*Caladenia formosa*	V	V	v	L	A
Emerald-lip Greenhood	*Pterostylis smaragdyna*			r		
Erect Peppercress	*Lepidium pseudopapillosum*	V	V	e	L	
Fitzgerald's Leek-orchid	*Prasophyllum sp. aff. fitzgeraldii A*			e	L	A
Flame Grevillea	*Grevillea dimorpha*			r		
Flat Rustyhood	*Pterostylis planulata s.l.*			k		
Flat Spike-sedge	*Eleocharis plana*			v		
Forest Bitter-cress	*Cardamine papillata*			v		
Forked Rice-flower	*Pimelea hewardiana*			r		
Fringed Midge-orchid	*Corunastylis ciliata*			k		
Fringed Sun-orchid	*Thelymitra luteocilium*			r		
Fuzzy New Holland Daisy	*Vittadinia cuneata var. morrisii*			r		
Gariwerd Grevillea	*Grevillea gariwerdensis*			k		
Giant Honey-myrtle	*Melaleuca armillaris subsp. armillaris*			r		
Gimlet Bog-sedge	*Schoenus sculptus*			r		
Globe-hood Sun-orchid	*Thelymitra X chasmogama*			v		
Golden Cowslips	*Diuris behrii*			v		
Goldfields Grevillea	*Grevillea dryophylla*			r		
Grampians Bauera	*Bauera sessiliflora*			r		
Grampians Bitter-pea	*Daviesia laevis*	V	V	v		
Grampians Bossiaea	*Bossiaea rosmarinifolia*			r		
Grampians Broom-heath	*Monotoca billawinica*			r		
Grampians Duck-orchid	*Paracaleana sp. aff. nigrita (Horsham)*			e	L	
Grampians Globe-pea	*Sphaerolobium acanthos*			r		
Grampians Grevillea	*Grevillea confertifolia*			r		
Grampians Grey-gum	*Eucalyptus alaticaulis*			r		
Grampians Heath	*Epacris impressa var. grandiflora*			r		
Grampians Pincushion-lily	*Borya mirabilis*	E	E	e	L	A
Grampians Pomaderris	*Pomaderris apetala subsp. apetala*			r		
Grampians Rice-flower	*Pimelea pagophila*	V	V	v		
Grampians Rustyhood	*Pterostylis planulata s.s.*			r		
Grampians Sally	*Eucalyptus pauciflora subsp. parvifructa*			r		

5 Appendix 4 Threatened Flora

COMMONNAME	NAME	AROTS	EPBC	VROTS	FFG	ACTION
Grampians Sheoak	*Allocasuarina grampiana*			r		
Grampians Star-hair	*Astrotricha sp. 1*			r		
Grampians Star-hair	*Astrotricha sp. 1 subsp. 1*			r		
Grampians Star-hair	*Astrotricha sp. 1 subsp. 2*			v		
Grampians Stringybark	*Eucalyptus serraensis*			r		
Grampians Zieria	*Zieria oreocena*			r		
Green Leek-orchid	*Prasophyllum lindleyanum*			v	X	
Hairy Hop-bush	*Dodonaea boroniifolia*			r		
Hairy Raspwort	*Gonocarpus mezianus*			r		
Hairy Tails	*Ptilotus erubescens*				L	
Hairy-pod Wattle	*Acacia glandulicarpa*	V	V	v	L	A
Heathy Saw-sedge	*Gahnia deusta*			e		
Hoary Bush-pea	*Pultenaea daltonii*			r		
Inland Pomaderris	*Pomaderris paniculosa subsp. paniculosa*			v		
Inland Sickle-fern	*Pellaea calidirupium*			k		
Ivy Flat-pea	*Platylobium triangulare*			k		
Ivy-leaf Duckweed	*Lemna trisulca*			k		
Kamarooka Mallee	*Eucalyptus froggattii*			r	L	A
Lanky Buttons	*Leptorhynchos elongatus*			e		
Large Rustyhood	*Pterostylis maxima*			v		
Large White Spider-orchid	*Caladenia venusta*			r	X	
Large-fruit Fireweed	*Senecio macrocarpus*	V	V	e	L	A
Large-leaf Ray-flower	*Cyphanthera anthocercidea*			r		
Lax Marsh-flower	*Villarsia umbricola var. umbricola*			v		
Little Pink Spider-orchid	*Caladenia rosella*	E	E	e	L	A
Lizard Orchid	*Burnettia cuneata*			r		
Magnificent Spider-orchid	*Caladenia magnifica*			x	L	
Maple-fruited Hop-bush	*Dodonaea heteromorpha*			x		
Marbled Marshwort	*Nymphoides spinulosperma*			e	L	
McIvor Spider-orchid	*Caladenia audasii*	E	E	e	L	A
Mealy Wattle	*Acacia farinosa*			k		
Metallic Sun-orchid	*Thelymitra epipactoides*	E	E	e	L	A
Mt Abrupt Stringybark	*Eucalyptus verrucata*			r		
Mt Cassell Grevillea	*Grevillea microstegia*			r		
Mt William Stringybark	*Eucalyptus aff. serraensis (Mt William)*			k		

5 Appendix 4 Threatened Flora

COMMONNAME	NAME	AROTS	EPBC	VROTS	FFG	ACTION
Narrow-leaf Phebalium	*Phebalium stenophyllum*			r		
Narrow-leaf Trymalium	*Trymalium daltonii*			r		
Narrow-leaf Wax-flower	*Philotheca angustifolia subsp. montana*			v		
Narrow-lip Spider-orchid	*Caladenia leptochila*			k		
Netted brake	*Pteris comans*			r		
Netted Daisy-bush	*Olearia speciosa*			k		
Notched Leionema	*Leionema bilobum*			r		
One-flower Early Nancy	*Wurmbea uniflora*			r		
Ornate Pink-fingers	*Caladenia ornata*	V	V	r		
Otway Bush-pea	*Pultenaea prolifera*			r		
Pale Grass-lily	*Caesia parviflora var. minor*			k		
Pale Spike-sedge	*Eleocharis pallens*			k		
Pale-flower Cranesbill	*Geranium sp. 3*			r		
Parsley Xanthosia	*Xanthosia leiophylla*			r		
Pimelea Pomaderris	*Pomaderris obcordata*			x		
Pink Zieria	*Zieria veronicea subsp. veronicea*			r		
Plains Joyweed	*Alternanthera sp. 1 (Plains)*			k		
Pointed Spurge	*Phyllanthus australis*			v		
Pomonal Leek-orchid	*Prasophyllum subbisectum*	E	E	e	L	A
Proud Diuris	*Diuris X fastidiosa*			e		
Purple Eyebright	*Euphrasia collina subsp. muelleri*	E	E	e	L	
Purple Eyebright	*Euphrasia collina subsp. trichocalycina*			r		
Quinetia	*Quinetia urvillei*			r		
Rayless Daisy-bush	*Olearia tubuliflora*			r		
Red-cross Spider-orchid	*Caladenia cruciformis*			e	L	A
Rising Star Guinea-flower	*Hibbertia humifusa*			r		
Rising Star Guinea-flower	*Hibbertia humifusa subsp. humifusa*			r		
River Leafless Bossiaea	*Bossiaea riparia*			r		
River Swamp Wallaby-grass	*Amphibromus fluitans*	V	V		X	
Rock Wattle	*Acacia rupicola*			r		
Rosemary Grevillea	*Grevillea rosmarinifolia subsp. rosmarinifolia*			r		
Rosemary Hovea	*Hovea rosmarinifolia s.s.*			v		
Rough Daisy-bush	*Olearia asterotricha*			r		
Rough-nut Stackhousia	*Stackhousia aspericocca*			k		
Rough-nut Stackhousia	*Stackhousia aspericocca subsp. 2*			k		

5 Appendix 4 Threatened Flora

COMMONNAME	NAME	AROTS	EPBC	VROTS	FFG	ACTION
Rusty Velvet-pods	*Hovea pannosa s.s.*			r		
Sand Brome	*Bromus arenarius*			r		
Scaly Poa	*Poa fax*			r		
Scented Bush-pea	*Pultenaea graveolens*			v	L	
Short-tail Leopard-orchid	*Diuris aff. pardina (Western Goldfields)*			k		
Silky Golden-tip	*Goodia lotifolia var. pubescens*			r		
Silurian Leek-orchid	*Prasophyllum pyriforme s.s.*			e		
Skeleton Fork-fern	*Psilotum nudum*			v	X	
Slender Beard-orchid	*Calochilus gracillimus*			k		
Slender Bitter-cress	*Cardamine tenuifolia*			k		
Slender Club-sedge	*Isolepis congrua*			v	L	
Slender Cup-flower	*Gnephosis drummondii*			r		
Slender Darling-pea	*Swainsona murrayana*	V	V	e	L	
Slender Mint-bush	*Prostanthera saxicola var. bracteolata*			r		
Slender Pink-fingers	*Caladenia vulgaris*			r		
Slender Rice-flower	*Pimelea linifolia subsp. linoides*			r		
Slender Ruddyhood	*Pterostylis aciculiformis*			k		
Slender Saw-sedge	*Gahnia microstachya*			r		
Slender Swainson-pea	*Swainsona brachycarpa*			v	L	
Slender Tick-trefoil	*Desmodium varians*			k		
Slender Water-ribbons	*Triglochin dubia*			r		
Small Milkwort	*Comesperma polygaloides*			v	L	A
Small-flower Grevillea	*Grevillea micrantha*			r		
Small-flower Wallaby-grass	*Austrodanthonia monticola*			r		
Small-leaf Wax-flower	*Philotheca difformis subsp. difformis*			e	N	
Smooth Minuria	*Minuria integerrima*			r		
Smooth Nardoo	*Marsilea mutica*			k		
Smooth Rice-grass	*Tetrarrhena turfosa*			r		
Southern Porcupine Grass	*Triodia bunicola*			k		
Spear-grass	*Austrostipa trichophylla*			r		
Spiny Lignum	*Muehlenbeckia horrida subsp. horrida*			r		
Spiny Peppercress	*Lepidium aschersonii*	V	V	e	L	A
Spiny Rice-flower	*Pimelea spinescens subsp. spinescens*	C	C	v		
Spiny Rice-flower	*Pimelea spinescens*			e	L	
Spiral Sun-orchid	*Thelymitra matthewsii*	V	V	v	L	

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COMMONNAME	NAME	AROTS	EPBC	VROTS	FFG	ACTION
Spotted Hyacinth-orchid	*Dipodium pardalinum*			r		
Spreading Brachyloma	*Brachyloma depressum*			r		
Streaked Wattle	*Acacia lineata*			r		
Stuart Mill Spider-orchid	*Caladenia sp. aff. venusta (Stuart Mill)*			e		
Swamp Buttercup	*Ranunculus undosus*			v		
Swamp Diuris	*Diuris palustris*			v	L	
Swamp Flax-lily	*Dianella callicarpa*			r		
Swamp Sedge	*Carex gunniana var. brevior*			r		
Swan-neck Moss	*Campylopus incrassatus*			k		
Swan-neck Moss	*Campylopus bicolor var. ericeticola*			k		
Tainui Pomaderris	*Pomaderris apetala*			r		
Tasmanian Wallaby-grass	*Rytidosperma dimidiatum*			v		
Tawny Spider-orchid	*Caladenia fulva*	E	E	e	L	A
Tight Bedstraw	*Galium curvihirtum*			r		
Tiny Bog-sedge	*Schoenus nanus*			r		
Tiny Spyridium	*Spyridium cinereum*			v		
Trailing Hop-bush	*Dodonaea procumbens*	V	V	v		
Trim Flat-sedge	*Cyperus concinnus*			v		
Tufted Club-sedge	*Isolepis wakefieldiana*			r		
Turnip Copperburr	*Sclerolaena napiformis*	E	E	e	L	A
Twisting Scale-rush	*Lepyrodia flexuosa*			r		
Umbrella Grass	*Digitaria divaricatissima*			v		
Upright Panic	*Entolasia stricta*			k		
Veined Spider-orchid	*Caladenia reticulata s.s.*			v		
Victoria Range Stringybark	*Eucalyptus victoriana*			r		
Victorian Flat-pea	*Platylobium alternifolium*			r		
Violet Westringia	*Westringia glabra*			r		
Weak Daisy	*Brachyscome debilis s.s.*			v		
Wedge-leaf Daisy	*Brachyscome cuneifolia*			k		
Weeping Myall	*Acacia pendula*			e	L	A
Western Bitter-cress	*Cardamine lineariloba*			v		
Western Pellitory	*Parietaria australis*			r		
Western Sheoak	*Allocasuarina mackliniana subsp. hirtilinea*			r		
Western Sheoak	*Allocasuarina mackliniana*			k		
Whipstick Crowea	*Crowea exalata subsp. revoluta*			v		

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COMMONNAME	NAME	AROTS	EPBC	VROTS	FFG	ACTION
White Star-bush	*Asterolasia asteriscophora subsp. albiflora*			e	N	
White Sunray	*Leucochrysum albicans subsp. albicans var. tricolor*	E	E	e		
Williamson's Bush-pea	*Pultenaea williamsoniana*	V	V	v		
Wine-lipped Spider-orchid	*Caladenia oenochila*			v		
Winged Water-starwort	*Callitriche umbonata*			r		
Woodland Leek-orchid	*Prasophyllum aff. validum B*	V	V	e		
Woolly Waterlily	*Philydrum lanuginosum*			v		
Yelka	*Cyperus victoriensis*			k		
Yellow Star	*Hypoxis vaginata var. brevistigmata*			k		

EPBC Act 1999	**EPBC Act 1999**	**Australian &Victorian Conservation Status**
E – Endangered	**E** – Endangered	**X** – Presumed Extinct in Australia
V - Vulnerable	**V** - Vulnerable	**x** – Presumed Extinct in Victoria
		E – Endangered in Australia
	Action Statements	**e** – Endangered in Victoria
	These documents describe Victoria's threatened plant and animal species, biological communities and potentially threatening processes listed under the Flora and Fauna Guarantee Act 1988, and actions that have been and will be taken to conserve them.	**V** – Vulnerable in Australia
FFG Act 1988		**v** – Vulnerable in Victoria
L = Listed		**R** – Rare in Australia
N = Nominated		**r** – Rare in Victoria
X = Presumed Extinct		**K** – Poorly Known in Australia
		k – Poorly known in Victoria

Note: This list contains only those records contained within the Flora Information Systems (FIS) database and therefore may not include all rare or threatened species located within the shire. Stakeholders, including community members, are encouraged to submit any information they may have on additional records to DSE and the Northern Grampians Shire so that these records can be updated as required.

6 Glossary of Terms

Best Practice	The practices that result from decisions made on the best available information.
Biodiversity	The variety of all life forms; the plants, animals and microorganisms, the genes they contain, and the ecosystems of which they form a part.
Biolink (zones)	Broad regional or landscape area within which there is a high priority to manage existing native vegetation for conservation and, where possible, increase the cover of native vegetation. (*Flora and Fauna Guarantee Strategy* – Department of Conservation and Environment, Government of Victoria 1992).
Bioregion	A national system of biogeographical regions that has been developed to relate to biodiversity values. The bioregion captures the patterns of ecological characteristics in the landscape and reflects underlying environmental features.
Bioregions	Biogeographic regions that depict the patterns of ecological characteristics in the landscape and provide a meaningful natural framework to address landscape management and biodiversity issues. Bioregions reflect underlying environmental features such as topography, soil type and rainfall and so they often reflect patterns of land use and natural resource-based activities (including conservation).
Bushcare	The program name for the National Vegetation Initiative that is part of the Natural Heritage Trust established by the Commonwealth Government in 1996 Catchment Strategy *North Central Catchment Strategy*. A *Regional Catchment Strategy* produced as a requirement of the *Catchment and Land Protection Act* 1994.
Code of Practice	Defines the *minimum* standards to be followed.
Connectivity	The degree to which native vegetation is connected in terms of the ecological function of the remnants.
Declared Road	Roads declared under the Transport Act, i.e. freeways, State highways, main roads, tourist roads and forest roads which are managed by VicRoads.
Degradation	Any human-induced decline in the quality of natural resources or the viability of ecosystems.
Droving	Moving of stock to a specific destination usually outside the Municipal boundary and often taking longer than a day. *See also Feeding, Grazing and Moving of stock.*
Duty of Care	The term used to explain what a community generally accepts as reasonable and fair within a region. It defines the point at which the *"polluter pays"* principle ends and the *"beneficiary pays"* principle begins. In principle, an intervention to do something that the duty of care defines is unreasonable should not be at the expense of the duty holder – but those who benefit from the intervention.
Ecological Sustainable Development	Development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends.
Ecological Vegetation Class	Are derived from underlying large scale forest type and floristic community mapping with floristic, structural, and environmental attributes being used to define individual EVCs.
Ecosystem	The dynamic inter-relationships between all forms of living organisms and their abiotic (non-living) environment. Ecosystems function as a complex, interconnected system and, if maintained in a healthy condition, provide free ecosystem services such as the production of oxygen, soil formation, maintenance of water quality, etc.
Endangered	Species in danger of extinction whose survival is not likely in the absence of threat abatement.
Enhancement	Introduction to a place of additional individuals of one or more organisms, species or elements of habitat or geodiversity that naturally exist there. (Australian Heritage Commission 1997).
Environmental Weed	A plant that colonises natural vegetation and threatens conditions. It can be an exotic or native plant that is not indigenous to the area. Their presence is in some way detrimental to

6 Glossary of Terms

	the natural environment.
Feeding	Where stock is confined or moved along roadsides without a destination, for the primary purpose of feeding.
Grazing	Where stock is confined for an extended period by means of a barrier (e.g. electric fencing) for the purpose of depasturing the road reserve. *See also Droving, Feeding and Moving of Stock.*
Indigenous/Endemic Vegetation	Native vegetation that occurs naturally in a particular district.
Land Manager	The person or organisation responsible for managing the land, Land tenure could be private, public or leased public land.
Livestock	Includes any type of horse, cattle, ox, sheep, ass, mule, camel, goat or pig.
Main Road	Roads declared under the Transport Act that are managed by Municipalities on behalf of VicRoads using funds contributed by VicRoads.
Moving of Stock	Routine or occasional shifting of stock from one paddock to another during a day in association with the everyday farming practices. *See also Droving, Grazing and Feeding.*
Native Vegetation	Any local indigenous plant community containing throughout its growth the complement of native species and habitats normally associated with that vegetation type or having the potential to develop these characteristics. It includes vegetation with these characteristics that has been regenerated with human assistance following disturbance. It excludes plantations and vegetation that has been established for commercial purposes.
Native Vegetation Retention Controls	Introduced into the State Section of the Planning Schemes of Local Government in 1989, a permit is required to remove, destroy or lop native vegetation (subject to some exemptions).
Nature Conservation	The protection and enhancement of individuals, populations and communities of plants and animals, their habitats and the ecosystems which they form. Nature conservation activities aim to maintain the natural processes that sustain ecosystems and to reduce the risk of threats that may affect ecosystems.
Net Gain	Net Gain is where, over a specified area and period of time, losses of native vegetation and habitat, as measured by a combined quality-quantity measure (habitat-hectare), are more than offset by commensurate gains.
Protection	Taking care of a place by maintenance and by managing impacts to ensure that natural significance is retained (Australian Heritage Commission 1997).
Rare	A species that characteristically has a limited distribution and/or abundance due to the specificity of their habitat requirements or that has a limited distribution and abundance because habitat resources have been modified or lost. The term is used to describe taxa that are not threatened or vulnerable by definition, but are at risk due to the small population size and/or limited distribution.
Regeneration	The natural regeneration of vegetation contributes to vegetation cover when the dominant species of the preexisting vegetation type re-establish, but are less than 10 years of age.
Regionally Controlled Weeds	Weeds gazetted under the *Catchment and Land Protection Act* 1994, are widely distributed in the region; are capable of spreading further; and are difficult to eradicate, i.e. ongoing control measures are need.
Regionally Prohibited Weeds	Weeds gazetted under the *Catchment and Land Protection Act* 1994, are not widely distributed in the region; are capable of spreading further; and are expected to be eradicated.
Remnant Vegetation	Areas of existing native vegetation that have not been planted, where the dominant species still remain and is greater than 10 years of age.
Restricted Weeds	These weed are a serious threat to primary production, Crown land, the environment or community health in another state or Territory of Australia, which have the potential to spread into Victoria.
Revegetation	The deliberate planting of vegetation. Revegetation contributes to vegetation cover when the species composition and structure, i.e. all vegetation strata, is similar to preexisting vegetation types for that area

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Road Formation	That portion of the road reserve along which vehicles travel. It includes the road pavement, shoulders and the area to the outermost side of the roadside drain, at least to where the drain batter meets the natural surface.
Road Reserve	The total strip of land reserved for transportation purposes from fenceline to fenceline or boundary to boundary if unfenced. The road reserve includes the roadside.
Roadside Conservation Status Categories	**High Conservation Status** Vegetation near to its natural condition. Few introduced species (0 -20%) present. All storeys of vegetation are well represented including ground litter, grasses and other groundcover, shrub layer and tree canopy. Vulnerable rare or threatened species of flora or fauna may be present. Good wildlife habitat and or provides corridor /linkage. **Medium Conservation Status** Vegetation in a semi-natural condition. Mostly native vegetation. Moderate cover introduced species (20% to50%). One or more storeys of vegetation may be missing. Wildlife habitat may exist or could be enhanced to create habitat. **Low Conservation Status** Degraded or substantially modified areas. Minimal native vegetation cover and a dense cover of introduced species. Little or no habitat status.
Service Provider	Utility distribution companies - communications, water & electricity.
Threatened	The generic term used to describe taxa that are rare, vulnerable, endangered or insufficiently known and are subject to threatening processes.
Timber Collection	The collection and removal of fallen timber. It does not refer to the felling of standing timber (alive and dead).
Vegetation Storeys	Includes the dominant overstorey of trees, the understorey of shrubs, and the lower ground cover or grasses.
Vulnerable	Species likely to become endangered in the short term (approximately 25 years) if threatening processes continue.
Works	Includes any change to the natural or existing condition or topography of land including the removal, destruction or lopping of trees and the removal of vegetation or topsoil (*Planning and Environment Act* 1987).

Acronyms

CFA	Country Fire Authority
CMA	Catchment Management Authority
DEH	Department of Environment and Heritage
DPI	Department of Primary Industries
DSE	Department of Sustainability and Environment
EPBC	Environment Protection and Biodiversity Conservation Act
ESO	Environmental Significance Overlay
EVC	Ecological Vegetation Class
LC	Landcare Coordinators
MFPO	Municipal Fire Prevention Officer
MFPP	Municipal Fire Prevention Plan
MSS	Municipal Strategic Statement
NCCMA	North Central Catchment Management Authority
NGS	Northern Grampians Shire
NGSC	Northern Grampians Shire Council
PAMA	Public Authority Management Agreement
RAP	Representative Aboriginal Party
RCAC	Roadsides Conservation Advisory Committee
RVMP	Roadside Vegetation Management Plan
VicRoads	Victorian Roads Corporation
VPO	Vegetation Protection Overlay
VPP's	Victoria Planning Provisions
VROTS	Victorian Rare or Threatened Species
WCMA	Wimmera Catchment Management Authority

Bibliography

Bennett, A. (1999) Linkages in the Landscape. IUCN, Gland, Switzerland.

CFA (2001) *Roadside Fire Management Guidelines*. Country Fire Authority, Melbourne.

Department of Primary Industries www.dpi.vic.gov.au

Department of Sustainability and Environment www.dse.vic.gov.au

DNRE (2002) *Landcare Note – Declared Noxious Weeds*, Department of Natural Resources and Environment, Keith Turnbull Research Institute, Frankston.

Environment Protection Authority www.epa.vic.gov.au

Fairfull, S. and Witheridge, G. (2003) *Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings*. NSW Fisheries, Cronulla.

Forman, R., Sperling, D., Bissonette, J., Clevenger, A., Cutshall, C., Dale, V., Fahrig, L., France, R., Goldman, C., Heanue, K., Jones, J., Swanson, F., Turrentine, T., and Winter, T. Road Ecology: Science and Solutions, Island Press, Washington.

Muyt, A. (2001) *Bush Invaders of South-East Australia: A guide to the identification and control of environmental weeds found in South-East Australia*. RG and FJ Richardson, Victoria.

VicRoads www.vicroads.vic.gov.au

VicRoads Regional Codes of Practice for Roadside Maintenance and Construction (2003)
VicRoads Roadside Management Strategy (2003)
VicRoads Guidelines for the development of roadside conservation management plans (2004)
VicRoads Project Management Guidelines Environmental Protection (2000)
VicRoads Guidelines for the Conduct of Biological Surveys (Flora & Fauna) (2000)
VicRoads Roadside Handbook (1992)
EPA Environmental Guidelines for Major Construction Sites - Publication 480 1996
Telecommunications Code of Practice (1997)
North Central Native Vegetation Plan – North Central CMA (2000)
North Central Region Weed Action Plan - DSE (2001)
NSW Roadside Environment Committee (n.d.) *Managing Roadsides* [video], New South Wales Roads and Traffic Authority
NSW Roadside Environment Committee (2005)http://www.rta.nsw.gov.au/environment/roadsideenvironmentalcomittee/
2001 Proceedings of the International Conference on Ecology and Transportation: A Time for Action
2003 Proceedings of the International Conference on Ecology and Transportation: Making Connections