Contact Details

Principal Office: 93 Main Street, Kapunda, SA 5373
Branch Office: 12 Hanson Street, Freeling SA 5372
Telephone: (08) 8525 3200
Email: light@light.sa.gov.au
Mailing Address: Light Regional Council, PO Box 72, Kapunda, SA 5373
Web Address: http://www.light.sa.gov.au

Light Regional Council would like to thank Natural Resources, Adelaide and Mount Lofty Ranges for providing funding assistance and technical advice in the development of this plan.

Message from CEO

The Light Regional Council is a unique local government area in South Australia. To the south it borders metropolitan Adelaide and the rapidly developing northern suburbs. To the west horticulture is a dominant land use and forms part of Adelaide’s food bowl. To the east is the diverse Barossa Valley region with its distinct character and mix of viticulture and broad acre practices and to the north broad acre farming is practiced through rolling hills and plains.

All of these areas have distinct built and natural characteristics that define them. Included in these natural assets are the vegetation systems of the region. Like many regional and rural councils it is the roadside vegetation communities that play a vital role and provide a sense of place, beauty and distinctiveness.

Roadside vegetation provides multiple benefits to our community and local economy. These include aesthetics, erosion control and pest plant control, corridors for the movement of wildlife, forming barriers to extreme weather for livestock and crop protection and the maintenance of regional biodiversity. The devastating Pinery fire of November 2015 also demonstrated that stands of native vegetation helped to reduce wind speed and fire intensity. Our region would be far poorer in the absence of these native vegetation assets.

This Roadside Vegetation Management Plan sets out a series of policy and project directions to help maintain and improve this vital natural resource for the region. Council is a partner in the management of this natural resource as is the farming community, State Government Departments and volunteer organisations such as Trees for Life and local landcare groups.

I have great pleasure in presenting this document to the local community and look forward to working alongside key partners in the management and improvement of this vital resource.

Brian Carr 2016
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1. INTRODUCTION

The Light Regional Council is pleased to adopt and use this Roadside Vegetation Management Plan. This plan is designed to improve the management of native vegetation growing along the verges of the road network and to also allow Council to undertake construction and maintenance activities in accordance with the standards set out by the Native Vegetation Management Unit (NVMU).

The plan considers the value of native vegetation and raises awareness of the need to cause minimal disturbance to intact native vegetation systems while conducting Council operations. The plan will be supported by the development of ‘fact sheets’ and other information to enable Council staff to better recognise and manage this resource.

Council wishes to thank Rural Solutions SA and in particular Dr Clare Moyle for preparing this plan of management. Council also acknowledges that it needs to partner with landholders, Agriculture Bureaux, Natural Resources, Adelaide and Mount Lofty Ranges, local landcare groups, educational institutions and other interested people in the ongoing management of roadside native vegetation. Council would also like to acknowledge the generosity of Natural Resources, Adelaide and Mount Lofty Ranges who provided significant grant funding for the development of this plan.

2. BACKGROUND

1.1 What is Roadside Vegetation?

The definition of a Road (from Roads (Opening and Closing) Act 1991) is:

(a) a public road within the meaning of section 4 of the Local Government Act 1999; or

(ab) an alley, laneway, walkway or other similar thoroughfare vested in a council; or

(b) in relation to a part of the State not within a council area—
   (i) a road or street delineated and shown on a public map or plan of the State as laid out for public purposes by the Crown; or
   (ii) a road or street opened under this Act or any other Act relating to the opening of new roads and streets; or
   (iii) a road or street transferred or surrendered to the Minister of Local Government or the Crown by the owner or lessee for use as a public road or street; or
   (iv) a road or street declared or dedicated under any other Act to be a public road or street,

and includes part of a road;

For the purposes of this plan:

Roadside - is defined as the strip of land between the road formation and the boundary of the road reserve (where the road formation is the surface of the finished earthworks, excluding cut or fill batters (Austroads, 2010)). This is sometimes referred to as the verge.

Roadside vegetation - is any vegetation growing on a road reserve, and includes vegetation on a roadside (the area adjacent to a formed road), and vegetation growing on an unmade or undeveloped road reserve; this ranges from native vegetation of conservation value to vegetation dominated by introduced species.

Figure 1 below shows a typical road reservation including road formation and roadside.
Figure 1 Road reserve showing road
1.2 Why is Native Roadside Vegetation Important?

Native roadside vegetation is important as it provides a number of conservation, functional and social benefits as follows (Breckwoldt et al. (1990)\(^1\), Saunders and Hobbs (1991)\(^2\), provide further information):

1. Functional benefits

- It helps to lower local water tables that may affect the road formation and sealed pavement.
- Intact native vegetation acts as an effective, low cost form of weed control by preventing the establishment of weeds in the roadside. Roadsides heavily infested with weeds can be a threat to adjacent properties, may increase bushfire risk and will likely increase maintenance requirements.
- It can provide valuable shelter for livestock and crops in adjacent land.
- It can help to define curves, creating a safer driving environment.
- Retention of native vegetation reduces the velocity of water runoff, thus reducing scour and erosion of batters and embankments.
- Shade from native vegetation keeps the road cool for road users, particularly pedestrians and cyclists, and provides shade at rest stops for travelers.
- Predatory insects (farmer’s helpers) are commonly found on native vegetation.

2. Environmental benefits

- In some areas, native vegetation in road reserves is virtually the only remnant of the original vegetation.
- For the most part, roadsides are areas that have never been grazed or cultivated, and therefore may contain plant species – often threatened - that aren’t found in the surrounding scrub areas.
- Along with other remnant vegetation and scattered paddock trees, roadside vegetation can facilitate movements of wildlife, particularly birds, through the landscape and in turn assist pollination of plants that may otherwise become isolated.
- Roadside trees can be very old and contain resources (e.g. hollows) less common in younger surrounding vegetation\(^3\).
- It can provide an important seed source for revegetation projects.

3. Social benefits

- In areas that have been extensively cleared, remnant vegetation on roadsides provides important aesthetic visual interest to the general landscape.
- Scenic quality is important to motorists and roadside vegetation can contribute to driver alertness by offering relief from boredom.
- Remnant vegetation in road reserves often contains attractive wildflower species contributing to the natural character and tourist appeal of a district.
- In cleared areas, road reserves often represent an historical reminder of the variety of vegetation types that once occurred across the landscape.
- It can be used as an educational tool to highlight the varieties of habitats that used to occur in the area.
- It could also be said that “we, the community, have a duty to exercise foresight in our treatment of the environment which we will hand on to our successors”\(^4\).

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1.3 Threats to roadside native vegetation

Because of its linear nature, roadside vegetation is susceptible to gradual degradation through a range of activities. This degradation can be compounded if soils are disturbed or compacted by machinery or if low native shrubs or native grasses are driven over or cleared. Not only can native plants be unnecessarily destroyed, conditions can also be made unsuitable for natural regeneration and management problems can be created for adjoining landholders.

Examples of the types of threats to native vegetation on roadsides include:

- inappropriate fire prevention methods (e.g. boom spraying, ploughing)
- pesticide drift from neighbouring property
- clearing for fence replacement (excessive or inappropriate method)
- clearing for new driveways (excessive or poorly located)
- weed invasion from neighbouring property
- excessive seed harvesting
- firewood collecting
- disposal of rubbish and waste materials
- inappropriate or insensitive weed or vermin control methods
- poorly designed new road construction (realignments, widening)
- poorly managed roadwork activity (e.g. stockpiles, turning areas)
- incremental clearance along road edge when grading unsealed roads.

These activities can occur for a number of reasons, but can be grouped into four (4) categories, each which may require a different approach to minimise or eliminate the risk. Threats to roadside native vegetation can occur due to:

1. ignorance of the law – e.g. clearance for fencelines by adjacent landholders, or seed collection;
2. accidental clearance – e.g. vehicles parking on roadside, grading a little wider each time, or inappropriate weed control methods;
3. illegal use – e.g. domestic waste and weed dumping, or sheep and cattle grazing; and
4. in-action – e.g. weeds and pests spread over time if not actively controlled.

1.4 Managing Roadside Vegetation

1.4.1 Legislation

Native roadside vegetation in South Australia is protected or regulated under State and Commonwealth legislation.
The Commissioner of Highways controls and maintains the trafficable section of major arterial roads under the *Highways Act 1926*. Local councils, under the *Local Government Act 1999*, are responsible for the remainder of the road reserve, including the roadside vegetation, as well as all other roads within their district. **Under the **Local Government Act 1999, the Light Regional Council has a responsibility to ensure that roads not only provide for the safe movement of traffic, but also facilitate sustainable development and the protection of the environment and to ensure a proper balance within its community between economic, social, environmental and cultural considerations.

Currently, DPTI controls 252kms of major arterial roads within the Light Regional Council area. Council maintains 103kms of sealed roads, 772kms of unsealed sheeted roads, 498kms of Class 4 (Unmade) Roads and an additional 87kms of undeveloped road reserves.

Other relevant legislation is outlined below.

**Native Vegetation Act 1991 and Native Vegetation Regulations 2003**

In South Australia, the primary legislation governing the protection and clearance of native vegetation, including that along roadsides, is the *Native Vegetation Act 1991* and the *Native Vegetation Regulations 2003*. Any clearance of native vegetation on roadsides requires the permission of the Native Vegetation Council (NVC) unless a specific Regulation applies.

**Regulation 5(1)(y) – Roadside Vegetation** allows for clearance by a local council, or someone acting on behalf of the local council, if the vegetation is growing on a road reserve in the area of the council and the person undertaking the clearance complies with either:

- a management plan prepared by the local council and approved by the Native Vegetation Council; or
- with Native Vegetation Council guidelines for the Management of Roadside Vegetation.

This RVMP has been prepared to fulfil the requirement of the first dot point. Some roadside activities such as clearance for new road works, fire prevention, public safety and service provision are dealt with under separate Regulations (Figure 4). Some require the clearance to be compensated for through either on-ground native vegetation restoration or revegetation works, or payment into a fund that supports those works elsewhere in the region.

RVMPs need to be endorsed by the Native Vegetation Council under the Native Vegetation Act 1991 in order to fulfil the legal requirement under Regulation 5(1)(y).

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**Figure 4 Roadside Vegetation Clearance mechanisms under the Native Vegetation Act 1991**


Other legislation relevant to the protection and management of native fauna and flora on roadsides
• The **Local Government Act 1999** (Section 221) where any works on road reserves require permission of the local council.

• The **National Parks and Wildlife Act 1972** (PART 4, section 47(1)) which prohibits the removal of native vegetation on public land, including roadsides, without a permit from DEWNR.

• The **Environment Protection and Biodiversity Conservation Act 1999 (Cth)**, which promotes the conservation of biodiversity by providing strong protection for nationally listed species of threatened indigenous plants and animals and important habitats. Any action that will have a significant effect on these species or habitats requires assessment and Commonwealth approval.

• The **Natural Resources Management Act 2004** which promotes sustainable and integrated management of the State’s natural resources and makes provision for the protection of the State’s natural resources. It provides, amongst other things, for the creation of local NRM Boards and for the control of declared pest plants and animals.


### 1.4.2 How can Roadside Vegetation be managed?

Native bushland is an efficient, self-sustaining system and after any ground disturbance, it may take a number of years to return to a stable state. Major disturbance can unbalance the system (e.g. through serious weed infestation) and cause long-term and sometimes irreversible damage. In many instances inappropriate management activities can **set up the next round of maintenance problems**.

Native vegetation along roadsides needs careful management if it is to be conserved for future generations. Good roadside management practices **can also generate potential savings in local council road maintenance budgets**.

Low-impact management of roadside vegetation is an integral part of efficient and effective maintenance of roads.

The most important step to manage roadside native vegetation is to identify where and what it is, through roadside vegetation surveys (see Section 3) or opportunistic observations.

Preventative measures (such as the Roadside (Blue) Marker system, protocols for road workers, and information to landowners) should then be implemented to prevent direct clearance and physical damage to identified vegetation.

Ideally, management measures should also extend to improving the quality and quantity of the vegetation on roadsides, through weed and pest control works, rehabilitation and revegetation.
3. ABOUT THIS ROADSIDE VEGETATION MANAGEMENT PLAN

2.1 Area Covered by this Plan

The Light Regional Council covers 1,280 square kilometres and in 2014 had a population of over 14,600 people. The council is situated to the immediate north of the greater metropolitan area of Adelaide (Figure 1) and encompasses the townships of Kapunda, Freeling, Greenock, Roseworthy and Wasleys, and the suburb of Hewett. The council is divided into four wards - Dutton, Mudla Wirra, Light and Laucke. Land use in areas outside of townships varies across the council area and includes dry land cropping and grazing, a rapidly expanding viticulture industry, associated industry such as transport and glass bottle manufacturing, areas of intensive farming, irrigated horticulture and areas of extractive industry. The Council area also provides appealing rural living options. The main landuse within the Light Regional Council area today is the cropping of cereals, grains, legumes, and canola which is sometimes coupled with grazing.

![Figure 5. The Light Regional Council (left) and Ward Boundaries of Council (right)](image)

2.1.1 The Regions Characteristics

Much of the Light Regional Council is situated on the traditional lands of the Ngadjuri people. The far-western side of the council area is on Kaurna lands. In the north and west the Ngadjuri shared a boundary with the Nukunu people and the Maraura country to the north-east.

Climate in the council is characterised by long hot dry summers and a winter rainfall growing season. Approximately 70% of the annual rainfall falls between April and October and varies from greater than 500 mm in areas north of Kapunda to just over 400mm along the western boundary.\(^5\)

Topography of the council generally consists of a series of north – south tending narrow ridges separated by broad valleys. Specific topographical zones include the alluvial flats of the Northern Adelaide Plains, which grade into the gently undulating plains through the Wasleys and Roseworthy Districts, whilst the Kangaroo Flat area features tertiary sand dunes and inter-dune swale zones. Areas north of Allendale to Marrabel also feature wide alluvial plains. Areas to the south east of the council area are characterised by low dissected valleys of the North Para drainage basin and the low and dissected hills of the Light River catchment in areas around Kapunda and

\(^5\) Lower North Soil Conservation Board – District Plan (1994)
Shoreline. Landforms vary across the council area and range from wide alluvial plains to high rocky ridges and dissected valleys.

The variations in landform, climate and soil type result in a mosaic of vegetation communities across the Council area.

2.1.2 Vegetation Characteristics

Prior to European settlement, woodlands and open woodlands, open scrub associations and extensive grasslands would have made up much of the area. Peppermint Box (Eucalyptus odorata) would have dominated the woodlands, particularly in the higher rainfall areas on deeper soils. There would have been a variety of understorey and other canopy species growing in association with the Peppermint Box. In drier areas and on poorer soils open mallee and shrubland associations would have dominated. Typical major pre-European associations would have included:

- *Eucalyptus camaldulensis / Eucalyptus largiflorens* open forest (Gawler River floodplain – Gawler River district)
- *Callitris preissii / Eucalyptus incrassata* open mallee - Kangaroo Flat (Reeves Plains sand dunes)
- *Eucalyptus socialis / Eucalyptus gracilis mallee – open mallee - Wasleys – Roseworthy district*
- *Eucalyptus odorata* woodlands – open woodlands (mixed understorey) (Central section of council area; Gawler – Freeling – Kapunda)
- *Acacia pycnantha / Allocasuarina verticillata* shrublands - Pines reserve area (Kapunda – Allendale North)
- Native grasslands (*Austrostipa* spp., *Austrodanthonia* spp., *Themeda triandra* etc.)
- Sedgelands with a mixture of species (*Lomandra* spp., *Lepidosperma* spp., etc.)
- *Eucalyptus behriana* open woodlands – mixed understorey (north of Nuriootpa)
- *Eucalyptus leucoxylon* spp. pruinosa open woodlands – mixed understorey (Moppa district)

Since European settlement, broad scale clearance and disturbance of native vegetation has occurred, primarily for agriculture but also for timber to be used in the mines to shore up tunnels, build infrastructure and power steam turbines. It is estimated that there is 5,978 Ha (between 2 – 5 %) of the original cover left in the Council area / region. Typically areas of higher commercial value, such as alluvial plains, have less remnant vegetation than those areas that have limiting factors such as steep terrain or skeletal soils. This has generally led to a high variation in the representativeness of remnant vegetation across the landscape. The remnant vegetation of the Light Regional Council is now generally restricted to roadsides, waterways, areas on private property of limited commercial use and council reserves.

Council has a number of significant areas of remnant vegetation under its care and control, including the Pines Reserve near Kapunda and Pengilly Scrub near the town of Wasleys, but even these areas have undergone significant disturbances in the past. The Pines reserve was extensively cleared in the 1870’s and 1880’s and replanted with a mix of Australian and overseas species\(^6\). Council has been actively involved in the management of these areas in the past and has been supportive of voluntary efforts to manage these places.

The Light Regional Council has 1,371km of roads which were previously surveyed to assess the condition and type of roadside vegetation. Road classification within the Light Regional Council area is explained in Section 4.1.

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\(^6\) Mr Clyde Hazel of Kapunda. Personal Communication. 2003.
2.2 Council Roadside Vegetation Policies, Procedures and Actions
Light Regional Council places a high priority on the protection of biodiversity, which includes native vegetation on roadides, and this RVMP has been written to align with, and is supported by, a number of other Council plans, policies & procedures:

2.2.1 Light Regional Council’s Strategic Plan 2013-2017
The Strategic Plan includes the following statement – ‘Light Regional Council aims to show environmental stewardship to preserve and enhance the natural characteristics of the region’.

2.2.2 Environmental Sustainability Policy
Light Regional Council has developed an Environmental Sustainability Policy with the purpose of protecting and enhancing the natural environment through the management of native vegetation; control of pest plants and animals; maintenance works; planning; partnerships. This policy also seeks to incorporate environmental sustainability into decision making and management practices with an overall intention of achieving environmentally responsible and sustainable outcomes for the region and its communities.

The policy includes the summary statement – ‘Light Regional Council commits to undertake its business in an environmentally sustainable manner and strives to exceed the requirements of environmental laws and regulations’.

2.2.3 Tree Management Policy
A Policy for both the management of tree plantings and remnant trees (maintenance, removal, relocation).

2.2.4 Future Management Actions
Included within this RVMP, in Section 5 – Management Actions, are a number of actions Light Regional Council plans to implement in order to improve roadside vegetation management within the Council area.

2.3 About this Plan
This Roadside Vegetation Management Plan (RVMP) was developed by the Light Regional Council’s Environmental Projects Officer, Andrew Philpott, and Rural Solutions SA. Light Regional Council’s Elected Members, management and staff as well as the local community and Natural Resources Adelaide Mount Lofty Ranges (Natural Resources AMLR) staff have had the opportunity to provide feedback and input into this Plan.

As part of the consultation process, issues and activities affecting roadside vegetation within the district have been identified and management actions established.

This RVMP was formally approved by the Native Vegetation Council on dd/mm/yyyy and endorsed by the --- Council on dd/mm/yyyy.

2.3.1 Purpose
The purpose of this RVMP is to provide Light Regional Council with a consistent and integrated approach to managing roadside vegetation. It is also noted that a RVMP which has been endorsed by the Native Vegetation Council under the Native Vegetation Act 1991 fulfils a legal requirement under Regulation 5(1)(y) (of the Native Vegetation Regulations 2003). This Regulation allows for the clearance of native vegetation by a local council, or someone acting on behalf of the local council, where the clearance complies with the roadside management plan, provided the endorsed plan (for the Council area):

- identifies areas of high conservation (ecological significance) value vegetation on roadsides;
- provides guidelines for undertaking potentially damaging activities on roadsides so as to minimise impacts on native vegetation;
- details the consultation and approval processes that must be followed for roadside activities involving the clearance of native vegetation; and
identifies and prioritises actions to improve the management of roadside vegetation (Section 5).

2.3.2 Objective

The primary objective of this RVMP is to assist Light Regional Council to meet legal requirements for the provision and maintenance of a safe road network and for the protection of native roadside vegetation. Other objectives include:

- to avoid or minimise the loss of native vegetation on roadsides associated with Council activities;
- maintain (and if the opportunity arises, enhance) the species diversity, genetic diversity, vegetation associations, habitat types and corridor value of existing roadside vegetation;
- to improve the awareness of roadside vegetation management issues for Council staff, contractors and the community. Linked to this, is the development of a Community Engagement Strategy (in preparation) that Council will use to involve the community in valuing roadside native vegetation;
- to entrench good roadside management practices in order to generate long-term savings and efficiencies in Council’s road maintenance budgets.

However, this Roadside Vegetation Management Plan is not:

- a means of avoiding liability if native vegetation clearance offences do occur;
- an appropriate mechanism to obtain environmental approval for large road construction works;
- an approval for all roadside vegetation clearing; or
- a stand-alone document in isolation to other management structures and controls over activities that occur in road reserves for which the Light Regional Council has jurisdiction.

2.3.2 Implementation and Review

This Plan will be used as the principal document that guides Council’s roadside vegetation maintenance activities as well as its broader maintenance practices that impact on the roadside verge.

The Plan will form part of Council’s standard suite of documents and staff will be trained in regard to its content and intent. It will be linked to Council’s Strategic Plan and relevant Policies.

The plan will also be incorporated into Council’s Contract Management documentation for those works that are provided by external resources.

The Plan will be reviewed by Council every five (5) years. Where significant changes are proposed during the life of the Plan it shall be resubmitted to the NVC for re-endorsement.
4. ROADSIDE VEGETATION SURVEY

The Light Regional Council surveyed its roadsides to provide information about the location, composition and ecological value of roadside vegetation. The surveys have provided Council with an inventory of the condition and quality of roadside vegetation, and has been (and will continue to be) used to assist Council in the development of strategies for the protection and management of roadside vegetation.

The survey, conducted by Vicki Philpott and Terri Bateman, was undertaken in 2003 and surveyed developed roads within the council area, excluding those in urban areas with continual house frontage. In total 2,742km of roadside vegetation (1,371km of roads) were surveyed. The standard (DEWNR) drive-by roadside methodology described in “Roadside Vegetation Survey Methodology in South Australia” (Stokes et al, 2006) was used. This method enables the rapid, systematic collection of data describing the ecological value and conservation significance of vegetation in road reserves, and provides information necessary for making appropriate roadside management decisions.

Data collected in the field was entered into and maintained in the Roadside Vegetation Database (RVD) which is a database linked to the Geographical Information System (GIS) within the State Department of Environment, Water and Natural Resources.

The outputs of the Light Regional Council vegetation survey are:

- **Maps** displaying the information collected during the “drive-by” assessment. These are included in Appendix 1 and are:
  - Overall Ecological Significance
  - Potential Management Sites
  - Potential Roadside Marker Scheme Sites
  - Overview Condition Rating
  - Vegetation Association
  - Width of Roadside Vegetation Corridors

- Copies of all the data have been loaded into Light Regional Council’s GIS System enabling Council to customise its own outputs.

- A Roadside Vegetation Management Plan was developed (Philpott and Bateman 2003). Council has this in electronic and hard copy format.

Outcomes stemming from (or are proposed from) the survey results include:

- A Roadside Marker Scheme (RMS), including 48 sites, was developed to alert Council staff, contractors and the public to significant native vegetation on roadsides within the Council area. Since implementation many of the markers identifying the sites have either been removed, damaged or are now difficult to read. Council have identified, as a high priority, that these originally established RMS sites require auditing (to assess condition of signage as well as the current condition of the vegetation and whether it should be retained as an RMS site). Following the audit, signs will be repaired and where required new signs will be installed. The sites will be included on Council’s GIS database and maps produced identifying the location of sites (see Section 5).

- Council plan, as a high priority (see Section 5), to incorporate the maps showing segments of roadside vegetation of high ecological value (and RMS sites when developed) into work flow processes to ensure avoidance or at least minimisation of any impact within these significant areas. This includes for:
  - Council’s planning programs for road construction and road maintenance activities;
  - Council’s permit assessment process (e.g. for leases for undeveloped road reserves or the issuing of Section 221 Permits under the Local Government Act 1999).

- Identifying potential Significant Environmental Benefit (SEB) areas should any proposed clearance of native vegetation for road work/maintenance activities be required or suitable sites for intensive management to protect and enhance biodiversity values.
• Development of a Community Engagement Strategy that aims to involve the community in valuing native roadside vegetation. This may include the preparation of educational and promotional material (signage and/or council website or pamphlets) about conserving important areas and working with rural landowners adjacent areas of significance to preserve important areas.

### 3.1 Roadside Vegetation Survey Results

The condition of the roadside vegetation in the Light Regional Council is shown in the Overview Condition map (Appendix) and summarised in Table 1. It is noted that no roadside vegetation was reported to be in excellent condition. The majority of the roadside vegetation surveyed was in poor to very poor condition (2,398km or 87.5% of total vegetation surveyed) with only a small amount in either good (50.4km, 1.8%) or moderate (266.4km, 9.7%) condition. The roads containing roadside vegetation in good condition include: Buckby – Mitchell – Molloy roads group to the south of Wasleys, Kalimna Road near Moppa, Taylors Run Road near the Pines Reserve, Martins road near Seppeltsfield and other smaller sections of roads.

#### Table 1. Vegetation (overview) Condition Rating Descriptions and Results

<table>
<thead>
<tr>
<th>Vegetation Condition Rating</th>
<th>Description</th>
<th>Length (kms)</th>
<th>% of total number of kms</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Excellent Very little or no sign of alien vegetation in the understorey; resembles probable pre-European conditions</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>Good High proportion of native species and native cover in the understorey*; reasonable representation of probable pre-European condition</td>
<td>50.4</td>
<td>1.8</td>
</tr>
<tr>
<td>3</td>
<td>Moderate Substantial invasion of aliens, but native understorey* persists; for example, may be a low proportion of native species and high native cover, or high proportion of native species and low native cover</td>
<td>266.4</td>
<td>9.7</td>
</tr>
<tr>
<td>4</td>
<td>Poor The understorey* consists predominantly of alien species, although a small number of natives persist</td>
<td>969</td>
<td>35.4</td>
</tr>
<tr>
<td>5</td>
<td>Very Poor The understorey* consists only of alien species *Or overstorey if grassland</td>
<td>1,429</td>
<td>52.1</td>
</tr>
<tr>
<td>Not relevant</td>
<td></td>
<td>26.6</td>
<td>1</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>2,741.4</td>
<td></td>
</tr>
</tbody>
</table>

*Or all strata if upper and lower strata are difficult to distinguish e.g. grasslands, sedgelands, low shrublands

A number of plant species of conservation significance (at the time of the survey) were recorded during the survey. In developing this RVMP, the original list has been cross referenced with the latest data to update conservation ratings, including national ratings under the EPBC Act, State ratings under the NPW SA Act and regional ratings as assessed by DEWNR in 2014 (for the Adelaide and Mount Lofty Ranges region). Following this update, forty-eight (48) plant species with a conservation rating were identified including eight (8) State rated and forty-six (46) rated regionally. An additional survey undertaken by Kate Graham in 2007 along a number of roads within the Council area identified a further seventeen (17) plant species of regional conservation significance. Appendix 2 includes a species lists.

Forty-three (43) plant associations were recognised (see Appendix 3 for a full list and map in Appendix 1 for extent), with ‘Exotic grassland (few if any native species present) being the most extensive vegetation association recorded (1,076km; 39% of total length). *Eucalyptus odorata* Woodland (273.2km, 10% of total length) and Native grassland comprising mostly native species (288km, 10% of total length) were the most extensive native vegetation associations recorded.
The roadside vegetation survey data were assessed to determine the ecological value of the vegetation in each road segment (overall ecological significance). The overall ecological significance rating is based on a combination of two attributes (1) the conservation priority rating for the vegetation association and (2) the overview condition (extent of weed invasion) rating for the segment. There are five overall ecological significance categories ranging from Category A with high priority vegetation association in excellent or good condition to Category E with little or no native vegetation present (see Table 2 and map in Appendix 1).

Table 2 Description of the categories (and number of kms) of overall ecological significance.

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Length (km)</th>
<th>% of Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Should not be disturbed; contains a high priority vegetation association in excellent or good condition</td>
<td>27</td>
<td>1</td>
</tr>
<tr>
<td>B</td>
<td>Should not be disturbed; contains a high priority vegetation association in moderate condition or a lower priority association in excellent condition</td>
<td>266.4</td>
<td>9.7</td>
</tr>
<tr>
<td>C</td>
<td>Disturbance should be avoided wherever possible; contains a high priority vegetation association in poor condition or a lower priority association in moderate condition</td>
<td>686</td>
<td>25</td>
</tr>
<tr>
<td>D</td>
<td>May be disturbed, subject to further assessment and planning; contains limited native vegetation in poor condition</td>
<td>278</td>
<td>10.1</td>
</tr>
<tr>
<td>E</td>
<td>May be disturbed; very little or no native vegetation present.</td>
<td>1,457</td>
<td>53.2</td>
</tr>
<tr>
<td>n/a</td>
<td>No vegetation data were recorded for 22 segments (1 segment of each of 22 Road Orders) that either traversed water, were clearly developed, or were sections of road reserves only partially surveyed on-ground.</td>
<td>27</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>2,741.4</strong></td>
<td></td>
</tr>
</tbody>
</table>

Note: Even though some categories “may be disturbed”, this only means that disturbance of areas without native vegetation can occur, e.g. soil disturbance, and compaction by machinery or other means. Native vegetation in ALL categories (even D and E) must not be cleared, unless specifically outlined in this plan.

Around 293.4km (11% of total) of roadside vegetation was considered as being of high overall ecological value (Category A and B — associations with a high conservation rating, and vegetation in excellent condition). The majority of the roadside vegetation, 1,457km (53% of total) was determined to be of very low ecological value (Category E — very little or no native vegetation present). Light Regional Council has identified as a management action (Section 5) the need to audit the roadside vegetation, particularly along Category A and B roadsides, in order to establish a more recent value.
5. MANAGEMENT ISSUES

The following sections (4.1 – 4.17) outline the management issues relevant to the Light Regional Council that may impact on native vegetation on roadsides and provides guidelines to reduce likely impacts, as well as any consultation or assessment procedures that are required. The guidelines that follow include a standard section entitled Consultation and Approval Procedures. Within this section there is reference to the need for clearance approval and this should be interpreted as follows:

- native vegetation clearance approval is needed from the Native Vegetation Council (NVC) under the Native Vegetation Act;
- the Native Vegetation Management Unit (NVMU) should be the first point of contact regarding such clearance, as the Unit may be able to approve clearance of a small amount of vegetation known to be common to an area and that would not impact on the biodiversity of the area.
- the NVMU will determine whether the proposed clearance requires formal clearance approval from the Native Vegetation Council in the form of a Clearance or Regulation Application.

Both the Native Vegetation Management Unit and the Native Vegetation Council can be contacted at:

GPO Box 1047 ADELAIDE 5001
Telephone: (08) 8303 9777
Email: nvc@sa.gov.au
Web: www.environment.sa.gov.au/nativevegetation
Quick reference guide to the legal requirements under the Native Vegetation Act 1991

The table below is a quick reference guide to the legal requirements of clearing native roadside vegetation, as detailed more fully in the “Guidelines for the Management of Roadside Vegetation” (NVC, 2012).

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>CLEARANCE APPROVAL</th>
<th>REQUIRED</th>
<th>Section within this RVMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance</td>
<td>Maintenance of existing clearance with low impact methods</td>
<td>Increased clearance or high impact methods to be used</td>
<td>4.2</td>
</tr>
<tr>
<td>New Roadworks</td>
<td>Very minor clearance</td>
<td>All but very minor clearance</td>
<td>4.1</td>
</tr>
<tr>
<td></td>
<td>e.g. pruning of branches or removal of one or two saplings or shrubs known to be common in the area</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pest Plant and Animal Control</td>
<td>Very. minor clearance (e.g. pruning for access)</td>
<td>All but very minor clearance</td>
<td>4.5</td>
</tr>
<tr>
<td>Bushfire Prevention</td>
<td>Maintenance of legally established existing breaks.</td>
<td>Any other clearance for fire prevention</td>
<td>4.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unless in accordance with a District Bushfire Management Plan under the Fire and Emergency Services Act 2005, or through an application to the CFS Regional Prevention Officer</td>
<td></td>
</tr>
<tr>
<td>Fencelines</td>
<td>Trees on boundary; branches over/through fence; bushes within 1m if they are growing through fence</td>
<td>Any clearance exceeding standards</td>
<td>4.7</td>
</tr>
<tr>
<td>Access to Adjoining Land</td>
<td>Maximum 5m wide – normal access. Maximum 10m wide – machinery. (Careful site selection to minimise clearance)</td>
<td>Any clearance exceeding standards</td>
<td>4.8</td>
</tr>
<tr>
<td>Grazing (Leased Roads)</td>
<td>Long-standing grazing practices.</td>
<td>Any direct clearance or increased pressure on native vegetation through changed grazing</td>
<td>4.10</td>
</tr>
<tr>
<td>Grazing (general)</td>
<td>No native vegetation or only trees &amp; exotic grasses present</td>
<td>Where understorey or regenerating vegetation present</td>
<td>4.10</td>
</tr>
<tr>
<td>Removal of Plant Material</td>
<td>Dead vegetation other than that defined in the Native Vegetation Regulations</td>
<td>Live timber, flowers or other vegetation removed (e.g. brush-cutting)</td>
<td>4.14</td>
</tr>
<tr>
<td>Maintenance Diversity</td>
<td></td>
<td>Clearance of dead plants of a class declared by Regulation to be included in the definition of native vegetation.</td>
<td></td>
</tr>
</tbody>
</table>

NOTE: As well as the above requirements under Native Vegetation Act 1991, ANY removal of roadside native vegetation needs local council approval and may require approval under other legislation, e.g. Environment Protection and Biodiversity Conservation Act 1999.

If in doubt about any of these requirements, consultation with the relevant authority is recommended.
4.1 New Roadworks

Objectives

1. To ensure road construction activities meet road safety standards whilst ensuring minimum disturbance to roadside native vegetation.

2. Where significant vegetation is present Light Regional Council will consider modifying the road construction to reduce or avoid critical impact.

Information

The Light Regional Council sometimes needs to undertake new roadworks such as:

- construction of new roads along previously undeveloped road reserves,

- widening or realignment of existing roads,

- construction of new drains, borrow-pits, and stockpile sites, and

- any other new works incidental to road construction or roadworks as defined in the Local Government Act 1999.

These activities can have significant environmental impact. To minimise any impact it is important that the vegetation be assessed prior to the works being undertaken. If significant vegetation is present it may be possible to modify the roadworks to reduce or avoid critical impact.

It is current Council procedure to include consultation with Council’s Environmental Projects Officer during the planning phase of new roadworks. This consultation does include alternate options in order to reduce impacts on native roadside vegetation, where appropriate. However, Light Regional Council has identified, as a high priority (see Section 5), the need to incorporate existing vegetation data (including the GIS layer information and mapping from the roadside vegetation survey) into the planning process.

Guidelines

Road Design

Light Regional Council will consider the following design principles when planning new roadworks:

- Avoid vegetation communities of high conservation significance. This includes vegetation communities or species with a conservation rating, areas of roadside vegetation of category A or B, or RMS sites. If significant vegetation is present, Council will investigate possible options to modify the roadworks to avoid or minimise impact on the vegetation. If determined necessary by Council’s Environmental Projects Officer, Council will consult with DEWNR during the planning phase.

- One wide roadside is preferable to two narrow roadsides. If widening is necessary where native vegetation is present on both sides, widening on the narrow roadside is preferred.

- The value of roadside vegetation is greater where there is native vegetation adjacent (outside the road reserve).

- Drainage systems and batters will be designed to minimise sedimentation of water courses, minimise discharge into disease-susceptible plant communities, and control erosion.

Road Construction

Once clearance approval has been obtained from the NVC, Light Regional Council will minimise the impact of road construction on native vegetation by abiding by the following guidelines:

- Clearly identify and mark with stakes or tape any significant or protected vegetation, habitat areas and sensitive areas prior to the commencement of works and always stay within the construction zone.

- Limit soil disturbances on the roadside.

- Only remove vegetation approved by the NVC.

- Identify the location of proposed stockpiles, plant compounds, access roads and turning areas to avoid any incidental vegetation damage – machinery and stockpiles should be kept on previously cleared land.
• Borrow pits must be located where native vegetation will not be disturbed.
• Materials for construction works to be taken from disease and weed free sites.
• Equipment should be cleaned on site before moving on to other sites. This particularly applies where machinery is operating in weed-infested or disease prone areas.
• Only use the appropriate type and minimum size of machinery for the successful completion of the job.
• Chip light material from tree removal and use as mulch to spread local seed; dispose of other waste materials at an appropriate site or leave as habitat for wildlife (i.e. hollow logs, and other woody material may be left on site if they are spread widely and not left in a pile).
• If there is no alternative to burning of prunings, do not burn close to native vegetation.
• Strip and stock-pile topsoil from areas of good vegetation, and re-use as soon as possible.
• Avoid “cleaning-up” vegetation after construction: retain stumps, and dead wood.
• If unsure about any environmental controls, contact the site supervisor or Council’s Environmental Projects Officer (or similar).
• Native vegetation cleared should not be pushed and / or heaped into native vegetation outside the approved clearance zone.

Road Standards

Light Regional Council has developed standards for road construction for both sealed and unsealed roads. The standards cover roads of various categories based on the role each particular road is expected to perform (see Appendix 4). The standards include minimum carriageway widths for new road construction projects which will be implemented subject to approval from the NVC under Regulation 5(1)(d). In each instance the width of the road shoulder and verge for new roads will be guided by the Austroads Guide to Road Design.

CONSULTATION AND APPROVAL PROCEDURES FOR NEW ROADWORKS

Council Approval Requirements

For new Roadworks that are likely to impact upon Native Vegetation, Council’s Environmental Projects Officer (or similar) is to be included at the planning stage to determine if the NVMU need to be consulted.

NVC Approval Requirements

Clearance approval under Regulation 5(1)(d) is required for new roadworks (such as construction, widening, realignment, new drains, borrow pits or stockpile sites) that involve clearance of native vegetation.

NOTE: (1) This requirement does not apply to very minor and localised...
4.2 Roadside Vegetation Maintenance

Objectives

1. To ensure a safe and efficient road system whilst ensuring minimum disturbance to roadside native vegetation.
2. To ensure best management practices for vegetation maintenance works on roadsides are understood and adhered to.

Information

Roadside Maintenance refers to the clearance of regrowth (native and introduced) in order to maintain a safe road other already established cleared or disturbed areas on road reserves. Adequate clearance of roadside vegetation (vertical and lateral) is needed to provide safe clearance for road users. And additional clearance is usually needed at intersections, crests, the inside around roadside infrastructure such as signs and delineation devices. The degree of clearance needed will vary according to the standard of the road, the type and amount of traffic utilising the road and the characteristics of the vegetation.

Along most rural roads, clearance to the necessary safety standard has already taken place, but regrowth may be encroaching back into the clearance space, often referred to as the clearance envelope (across the full width of the carriageway) or secondary clearance envelope (adjacent to the carriageway). Regrowth may also be occurring on cleared or disturbed sites such as borrow-pit sites and designated spoil heap sites.

Light Regional Council bases its road maintenance schedule on the road category outlined in Appendix 4. Under this system Category 1 roads are maintained four times a year, Category 2 three times a year, Category 3 twice a year and category 4 once a year. This excludes exceptional circumstances such as damage from flooding.

Council has an annual tree trimming program. The activities included within the program are prioritised and implemented as the annual budget and timeframe allows. Requests received from the local community to implement tree trimming may be incorporated within this annual program.

Council has identified a number of needs (included in Section 5) relating to roadside maintenance activities, including the need to:

- inform / educate the Light Regional Council community on an appropriate process for lodging maintenance requests;
- develop an internal process for tree trimming requests from the public related to moving oversized farm machinery between paddocks and/or properties. As part of this, examine regular routes for oversized machinery, vegetation category maps and from this design routes residents are permitted to travel down;
- update the current work flow process for maintenance requests that incorporates available roadside vegetation data (particularly for RSM sites or roadsides with vegetation of Category A or B); and
- update Councils Tree Management Policy so that it clearly states the process for residents submitting a tree trimming or other maintenance work request.

Guidelines

Any vegetation clearance proposed here is not intended to imply or establish safety standards.

Best Practice

The following best practice will be implemented by Light Regional Council when undertaking maintenance of standard clearance envelopes and other existing cleared areas on roadsides. If a Council staff member or
contractor is unsure about any environmental controls, contact the site supervisor or Council’s Environmental Projects Officer (or similar).

1. Minimise Weed and Disease Spread:
   - clean down machinery in appropriate areas before entering and leaving the work site;
   - program works to begin with clean machinery in high conservation areas and work toward degraded sites; and
   - only use soil or fill from a weed or disease free site.

2. Turn-around Points:
   - on narrow roads of high or medium conservation value (Categories A-C), identify machinery turn-around points where native vegetation will not be damaged; and
   - locate stockpiles, turn-out or lay-down areas on existing cleared land.

3. Grading and Drain Cleaning Operations:
   - avoid damage to roots, bark and limbs;
   - avoid working inside the drip line of trees, and where root damage and soil compaction may occur;
   - remove drain spoil and dispose of appropriately; and
   - the grader must not intrude beyond the existing carriageway width (grading a little further each time can have significant impact over a number of years).

4. Herbicides:
   - only use herbicides where vegetation control by mechanical methods is inappropriate; and
   - avoid over-spray by not spraying in windy conditions.

5. Vegetation Removal:
   - avoid “cleaning up” vegetation and retain stumps, and dead wood where possible;
   - carefully prune trees using low impact methods in accordance with recognised arboriculture standards;
   - avoid damaging undergrowth when removing trees;
   - dispose of waste materials at an appropriate site or leave as habitat for wildlife (hollow logs, and other woody material may be left on site if they are spread widely and not left in a pile);
   - Low shrubs, native grasses and groundcovers generally do not affect road safety and, where possible, will be retained to help prevent weed invasion and erosion; and
   - Particular care to be taken at sites within Roadside Significant Marker sites.

6. Machinery Use:
   - only use the appropriate type and minimum size of machinery for the job.

7. Erosion Control:
   - remove as little vegetation as possible and encourage the growth of native vegetation on batters, maintain drainage systems, and minimise soil disturbance.

Clearance Envelopes
A vegetation clearance envelope is required to allow for the passage of legal height (4.6 m) vehicles across the full width of the carriageway. To allow for regrowth between pruning and sagging of branches caused by wet or windy conditions, a minimum clearance height of 5.0 m will be maintained.

Light Regional Council’s road construction standards, for sealed and unsealed roads, are included within Appendix 4. These standards include some information on maintenance standards for each road category.

Sealed Roads:
Light Regional Council will maintain a clearance envelope up to a vertical height of 5m:

- from the edge of the sealed carriageway with a lateral extent of up to 1m from the edge of the shoulder;
- from the kerbline (for sealed roads with a kerb)

Clearance beyond this height or lateral width will require NVC approval.

Unsealed Roads:
Light Regional Council will maintain a clearance envelope up to a vertical height of 5m on unsealed roads. The lateral clearance is as follows:

- Category 1 and 2 roads – 11m total clearance width (with 7m-10m of the road sheeted)
- Category 3 – up to 11m total clearance width (with 5m-6m of the road sheeted)
- Category 4 – up to 11m (with the formed width of the road being 6-8m)

Clearance beyond this height or lateral width will require NVC approval. Every effort must be made to limit grading to the pre-existing width, and where possible this width should be documented for future maintenance works.

Figure 7. Maintenance of clearance

Secondary Clearance Envelopes
Secondary clearance envelopes are further areas to be kept clear of regrowth vegetation adjacent to the carriageway for adequate visibility of other traffic, signs and other roadside furniture.

- Secondary clearance envelopes extending up to 500 mm around roadside infrastructure (i.e. signs) can be maintained (Figure 8).
- Additional clearance envelopes may be maintained on the approach side of signs and delineation devices to ensure they are clearly visible from a distance equivalent to the stopping sight distance for the speed environment of the road.

Reference to maintaining a minimum, does not suggest that an increased level of clearance can automatically occur. In some cases roads may have historically been maintained with a higher vertical clearance, and can continue to do.
• At road intersections where corners are created, existing verge clearance can be maintained for safe sight distance according to Austroad standards.

Low growing native plant species within the road verge that will not impair sight distance or pose a significant risk to vehicle safety are to be retained and promoted. The presence of these species can help prevent weed invasion and soil erosion, maintain a level of biodiversity in the area and can reduce roadside management costs.

![Diagram](image)

CONSULTATION AND APPROVAL PROCEDURES FOR ROADSIDE MAINTENANCE

Council Approval Requirements

Council’s Infrastructure and Environment Department will consult with Council’s Environmental Projects Officer (or similar) whenever anything more than low impact clearance within standard envelopes or other existing clearance areas is proposed. The Environmental Projects Officer will determine whether further consultation with and/or approval from the NVMU is required.

Residents are not authorised to prune trees, other than minor trimming, on Council land without prior approval from Council. Requests from the public or Elected Members for the trimming, pruning or removal of trees can be made to the General Manager, Infrastructure and Environment. All requests will be assessed and prioritised for action as part of Council’s annual tree trimming program.

NVC Approval Requirements
4.3 Public Safety

Objectives

1. To balance roadside protection of native vegetation and public safety.

2. To address any issues of public safety over and above those currently addressed (see Roadside Maintenance section) in accordance with the NVC ‘Managing Native Vegetation - A Framework for the Application of Regulation 5(1)(lb), for Clearance Along Roads, Intersections and at Rail Crossings for Public Safety Purposes’.

Information

This section summarises the requirements for Council when considering new clearance for the purpose of increasing levels of road safety under Regulation 5(1)(lb).

Any clearance greater than that undertaken for maintenance of existing clearance (i.e. regrowth, see section 4.2) for the purpose of increasing the level of road safety requires approval under Regulation 5(1)(lb). Regulation 5(1)(lb) primarily applies to the clearance of whole trees which pose a safety hazard on roadsides. Should any additional areas be authorised under Regulation 5(1)(lb), then these will be incorporated into the Maintenance section of this RVMP (either as an erratum, or added when the plan is next due for review).

If the clearance is for infrastructure clearance such as intersection re-alignments, road widening or new road construction, then Regulation 5(1)(d) applies. In this instance the vegetation is not the hazard, clearance is incidental to the proposed works (and is included under New Roadworks, see section 4.1).

CONSULTATION AND APPROVAL PROCEDURES FOR CLEARANCE FOR PUBLIC SAFETY

NVC Approval Requirements

Maintenance of existing roadside vegetation clearance envelopes by low impact methods can generally proceed without clearance approval (refer to section 4.2).

If new clearance for public safety is proposed (in excess of that...
4.4 Installation and Maintenance of Services

Objectives

1. To minimise the impact of installation and maintenance to native vegetation within road reserves.
2. To maintain a safe operating environment for services.

Information

Services such as power, water, gas and telecommunications have often been, and continue to be, established along road reserves. The construction and maintenance of these services can involve clearance of native vegetation as well as other potentially negative impacts such as the introduction of weeds.

Guidelines – Installation and Maintenance of Services

New Services

The installation of any new services involving the clearance of native vegetation on roadsides requires the service provider to lodge a submission to the Native Vegetation Council under Native Vegetation Regulation 5(1)(d) – Building or provision of infrastructure. This regulation permits clearance of native vegetation for the construction or expansion of a building or infrastructure that is considered to be in the public interest, provided that it is located such that it avoids or minimises the impact on significant areas of native vegetation and that there is provision made for a significant environmental benefit (SEB).

Note: For Telecommunications, a carrier authorised by the Australian Communications Authority under the Telecommunications Act 1997 to install a low impact facility (e.g. underground cable) is immune from some State and Territory laws, and environmental laws, including the Native Vegetation Act 1991. However, the carrier must comply with the requirements of the Telecommunications Act and the Telecommunications Code of Practice 1997.

Note: Some service providers have an NVC Approved Standard Operating Procedure that the work is carried out under set criteria.

Maintenance of services

Maintenance works associated with electricity supply and other infrastructure, such as water and gas are permitted under Native Vegetation Regulations 5(1)(f) – Maintenance works associated with electricity supply and 5(1)(g) – Repair or Maintenance of Infrastructure. A service provider must follow guidelines in this RVMP.


4.5 Pest Plant and Animal Control

Objectives

1. Reduce the establishment of new pest plants and animals in road reserves.
2. Reduce the spread of existing pest plants and animals and their range and numbers.
3. Reduce the impacts of pest plants and animals on roadside native vegetation.
4. Minimise disturbance and damage to native vegetation.

Information

Pest plants (weeds) and pest animals (feral animals) can invade rural land or natural habitats and cause economic, ecological, physical or aesthetic problems, often with significant potential impacts on local and
regional biodiversity. The linear and semi-disturbed nature of many roadsides means they are susceptible to invasion by plant and animal pests. Without appropriate control and preventative measures, weeds in particular can invade and degrade native vegetation both on and adjacent to the roadside.

Pest plants and animals can be categorised as those that require control under legislation (“declared” species, under the Natural Resources Management Act 2004) and those that, whilst still damaging, are not considered significant enough to warrant legislative control at this stage (non-declared species). Non-declared species, including pasture grasses and non-local Australian natives, can create management problems on roadsides and therefore it is still important that these plants be controlled, where possible, to reduce competition with local native plants.

Appendix 5 outlines the declared plant species identified by staff within Natural Resources AMLR as occurring within the Light Regional Council area and identifies those that should be considered as a high priority for control. Of particular concern are Boneseed, Cape tulip, Dog/rose briars, Gorse, Broom, Blackberry, Olive, Ash, Thistles, African boxthorn and Watsonia, as well as Burr weeds during the summer months (Caltrop, Innocent weed, Bathurst burr and Khaki weed). Silver leaf nightshade is a deep rooted priority weed for this region.

Natural Resources AMLR staff also identified new incursions of grasses which are often hard to identify before they seed (Buffel grass, African lovegrass, African feathergrass, Coolatai grass and Pennisetum spp.) as being a main concern for the Council area.

Natural Resources AMLR currently focus their pest animal control on treating rabbit warrens on roadsides that are threatening assets. These control measures are intermittent.

In 2015, Calomba daisy was observed along Mudla Wirra Road within the Council area. A single plant was also discovered in Pengilly Scrub. All have been removed. Council staff have also identified Almond trees as a new weed issue along Council Roads.

As many Council staff work within and adjacent to roadside vegetation every day they are an important asset in the identification of new weed incursions. Council has identified the need to have staff trained in the identification of key pest plant species and for a process to be developed for these staff to report observations and concerns (these needs are included in Section 5).

Table 3 summarises the roles and responsibilities of various stakeholders in regards to pest plant and animal control measures on various types of land, including roadsides.

**Table 3. A Summary of Pest Plant and Animal Control Responsibilities.**

<table>
<thead>
<tr>
<th>Situation</th>
<th>Responsible stakeholder under NRM Act 2004</th>
<th>Comments Regarding Current Light Regional Council Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Declared pest species on road reserve</td>
<td>Local Natural Resources Management (NRM) Boards In Light Regional Council this is the Adelaide and Mount Lofty Ranges (AMLR) NRM Board.</td>
<td>Where adjacent landholders or community conservation groups seek to control pests on adjacent roadsides they must seek approval from Light Regional Council. Consent can only be given if they are acting in accord with the Native Vegetation Act 1991 and have the relevant approvals or exemptions regarding clearance. Council will advise whether additional clearance approval is required from the NVC and may refer the applicant to the AMLR NRM Board for advice. Currently Council assesses applications for declared weed control on a case by case basis. There is no formal permit process. Light Regional Council refers enquiries from the community regarding declared pest animals to the AMLR NRM Board.</td>
</tr>
</tbody>
</table>
Declared pest species on private property

<table>
<thead>
<tr>
<th>Landholder</th>
<th>Light Regional Council refers landholders to the AMLR NRM Board for advice.</th>
</tr>
</thead>
</table>

Non-declared environmental pest species on road reserves

<table>
<thead>
<tr>
<th>Landholder</th>
<th>If resources allow, Council will control environmental weeds in Council reserves considered to have a high asset value, however control of declared weeds is the priority.</th>
</tr>
</thead>
</table>

Declared weeds on Council land other than roadsides

<table>
<thead>
<tr>
<th>Landholder</th>
<th>Light Regional Council does not have an annual weed program. Council controls declared weeds in Council reserves as a priority.</th>
</tr>
</thead>
</table>

More information on declared species can be found at the following link:

Guidelines

Some important **basic principles** for the management of pest plants and animals are:

- Suitably qualified contractors or council staff trained in the identification of native vegetation and weeds will be used to implement control procedures that minimise disturbance and damage to native vegetation;
- Small infestations of weeds may be best dealt with using minimum disturbance techniques such as hand-pulling (while still minimising soil disturbance) and ‘cut-and-swab’ with herbicide;
- Work from the best areas of native vegetation or areas of low weed infestation towards denser infestations to minimise potential spread;
- Spot-spraying and the use of selective herbicides should be used carefully to avoid off-target damage to native plants;
- Where natural regeneration of native species is not occurring, revegetation with local native species can be an effective long-term means of weed control.

There is a legal requirement under the NRM Act *(Chapter 8 – Control of plants and animals, Section 192—Protection of certain vegetation and habitats)* that a person must, in taking measures for the control of animals or plants, take all reasonable steps to ensure:

- That native vegetation is not cleared except in accordance with guidelines prepared by the Native Vegetation Council under section 25 of the *Native Vegetation Act 1991*; and
- That damage to or destruction of other vegetation is kept to a minimum (unless the vegetation is subject to destruction or control under this Chapter).

The clearance must also comply with the NVC guidelines ‘**Clearance of Native Vegetation associated with the Control of Plant and Animal Pests**’ – see the Native Vegetation Council (NVC) website for full details. Some key points include:

- **Pruning of Native Vegetation** - the pruning of native vegetation, if essential to provide access for pest animal and plant control, is acceptable provided that it is kept to a minimum and does not affect the overall viability of the plant(s) involved
- **Spraying of Herbicides in Native Vegetation** - spraying of declared plants in native vegetation is acceptable provided that a careful and selective approach is used (e.g. spot-spraying) and damage to nearby native vegetation is avoided or minimised. The use of herbicides must be in strict accordance with NRM advice and with instructions for use provided by the manufacturer. Any broader spraying
program in native vegetation (e.g. boom-spraying) requires the endorsement of the NVMU and may require the consent of the NVC through a clearance application.

- **Removal of Entire Native Plants** - the removal of entire native plants (if considered essential to facilitate animal and plant control) must be discussed with and endorsed by the NVMU. This consultation can take one of two main forms:

  a) **Case-by-case consultation**

  Minor clearance of native species known to be common in a district may be resolved through verbal or electronic communication without the need for site assessment by NVMU staff. For larger scale clearance, or for cases where the identity of the native plants is unclear, a site inspection will usually be undertaken.

  **NOTES:**
  
  i. In this situation, either the landholder undertaking the work or the State authorised officer (the authorised officer) should initiate the consultation by contacting the NVMU.
  
  ii. Whether a proposed clearance is “minor” (and therefore not warranting a site inspection) will be determined through discussion between the NVMU and the landholder/authorised officer. As a guide, the clearance of up to 10 Kangaroo Thorn (*Acacia paradoxa*) for rabbit control in the South East, or up to 10 Nitre Bush (*Nitraria billardieri*) for rabbit or boxthorn control in northern areas could be regarded “minor”.
  
  iii. Where minor clearance is agreed without a NVMU inspection, it will be recorded by notation on the appropriate file. By notifying the NVMU, any reports of illegal clearance can be managed or dispelled rapidly. Where a NVMU inspection is undertaken, any endorsement is to be advised in writing.
  
  iv. If, as a result of the above consultation, the NVMU determines that a clearance proposal is of particular environmental significance or sensitivity, the proposal is to be referred as a clearance application to the NVC.

  This may occur, for example, where a substantial area of native vegetation is involved, or where the clearance involves plant species of particular conservation significance.

  b) **Consultation based upon a broader planning approach**

  · Broader planning arrangements may be developed between NRM Boards and the NVC. For example, it may be agreed that certain methods will be applied within a Board district for control of pests often associated with particular native species - such as boxthorn or rabbits associated with Nitre Bush, or rabbits associated with Banksia-heath vegetation. This would be in the form of a management plan initiated by the local board and prepared in consultation with the NVMU. Once endorsed by the NVC, the plan could be put into effect and the need for consultation with the NVMU about each program would be avoided.

  · It is envisaged that plans of this type would normally be prepared on a Board basis. However, there may be issues and management approaches of State-wide relevance, in which a State-wide management plan could be prepared, presumably at the initiation of the NRM Board.

  **The control of declared animals and plants in native vegetation should also take the following factors into account:**

  · the removal of tree saplings or more mature trees is not normally necessary for pest control;

  · very localised pest control issues might be manageable with hand-held equipment rather than heavier machinery which could have greater environmental impact;

  · there is an increasing range of pest control equipment available, some of which has less environmental impact than the equipment used more traditionally;

  · any control method involving soil disturbance has the potential to promote further establishment of declared plants or other introduced plants which may disrupt the ecology of the native vegetation. Soil...
disturbance should be minimised and control works should be followed with site monitoring and selective eradication of any introduced plants which re-establish; and

- fire has some potential for inclusion in pest control programs in native vegetation to improve access, reduce the bulk of declared plants, and possibly to promote the regeneration of native species, however, the issues associated with fire can be complex and any such burning in native vegetation should be discussed with the NVBMU to avoid the possibility of a breach of the Act

**CONSULTATION AND APPROVAL PROCEDURES FOR PEST PLANT AND ANIMAL CONTROL**

**Council Approval Requirements**

Any persons wishing to undertake pest plant and/or animal control on a roadside must obtain Council permission. Under Section 221 of the Local Government Act, 1999, it is illegal for landholders to undertake pest plant and animal control work on the road reserve adjoining their property without authority from the Light Regional Council. Penalties of up to $5000 apply to the unauthorised interference and/or removal of roadside vegetation. This applies to activities associated with pest plant and/or animal control.

Council will refer applicants to the AMLR NRM Board when further advice is required.

Council will refer applicants to the NVMU if clearance approval is required (see below).
4.6  Plant Diseases and Infestations

Objectives

1. To minimise the spread of Phytophthora and other soil-borne diseases in the local council area.
2. To manage infected / infested areas in such a way as to minimise the effect on the environment and on recreational activities.
3. To protect uninfected / non-infested areas and minimise the risk of them becoming infected / infested.
4. To promote a “whole of Community” approach to the management of Phytophthora (and /or other diseases) in the local council area.

Information

Diseases of native plants such as Phytophthora and Mundulla Yellows can occur along road reserves. The health of trees along road reserves can also be impacted by infestations.

Phytophthora

Phytophthora is a microscopic, soil and water borne organism that infects and basal stem tissue of some native and introduced plants preventing the water and nutrients by the plant, causing dieback and death. Any movement of soil, water and/or plant material has the potential to spread Phytophthora to new areas. Once an area is infested it is always infested. many species, but the most widespread and destructive to native vegetation in South Australia is Phytophthora cinnamomi (P.cinnamomi).

Vulnerable areas are those sites where susceptible vegetation is present and where environmental conditions provide the potential for P.cinnamomi to become established (average annual rainfall of 400mm or more, neutral to acid soils, soil with poor drainage and temperature of at least 15°C). The best way to control Phytophthora is to prevent the transfer of infested plant material. See Guidelines below for further information.

Mundulla Yellows

Mundulla Yellows is a plant die-back syndrome known to mostly affect species and other native plant species on alkaline soils. Eucalypts with Yellows are identifiable initially by the presence of small clusters of bright yellow leaves within the tree canopy, followed by a progression of yellowing towards the trunk, a progressive dying back of the tree (or shrub), and a slow deterioration in health before death. The symptoms are similar to those presented due to other environmental factors and as such diagnosis can be difficult.

Mistletoe Infestation

Mistletoes are flowering plants that use other plants to obtain water and nutrients; but provide their own photosynthetic products.

The species of mistletoe along rural roadsides are native to South Australia and are protected under the Native Vegetation Act 1991. They provide important habitats for many fauna such as birds, butterflies, possums, and insects. Mistletoes are a summer source for nectar feeding animals such as honeyeaters, and a food source native butterflies like the rare Genoveva Azure whose larvae eat the leaves flowers of the Box Mistletoe (Amyema miquelii) on Eucalyptus species, and Drooping Mistletoe (Amyema pendula ssp. pendula) on Stringybark Eucalypts and Blackwood.

In some areas, mistletoe infestations appear to be contributing significantly to tree decline. The factors involved are not well understood but appear to be linked with the extent of general vegetation clearance and the accompanying loss of wildlife habitat. Often trees are in poor health (due to degradation of surrounding
vegetation) and are perhaps more susceptible to the impacts of mistletoe. Higher germination and establishment rates of mistletoe on trees with less canopy, and greater dispersal of seed by the Mistletoe bird in open woodlands may also be factors (Ward and Paton, 2004). In severe cases, the removal of mistletoe or lopping of affected limbs may be acceptable as a short-term means of protecting the host tree. Protection and/or enhancement of the health of affected trees by fencing these trees off from livestock grazing and restoring the affected area through natural regeneration or revegetation with a range of indigenous plants is the best overall approach.

**Lerp Infestations**

Lerp insects are native leaf-sucking insects which frequently attack red gums (e.g. in the Mt Lofty Ranges) and pink gums (e.g. in the South East). The visual impact can be severe with entire trees being defoliated. Trees usually recover, but those already stressed by other factors may die.

In a natural bushland setting, lerps are generally kept in check by native birds such as pardalotes, which feed on the waxy scale like covering (the “lerp”), beneath which the immature stage of the insect, shelters and feeds. In disturbed environments such as roadsides – and particularly where understorey plants have been reduced – bird populations are depleted and problems such as lerp infestations are more likely to occur. Restoration of roadsides is therefore the recommended management approach.

For further information on Phytophthora and Mundulla Yellows contact the DEWNR’s Biosecurity Ecologist or the NVMU for advice. For further information on control of infestations contact the NVMU.

**Guidelines**

**Phytophthora**

Phytophthora is considered to be a low risk across the Light Regional Council area, due to low average annual rainfall. There have been no observations of potential Phytophthora infections in the Council area.

- Council will discuss training options and current best practice guidelines with the local DEWNR NRM Officer if and when the need arises.

**Mundulla Yellows**

Although not considered a major issue in the Light Regional Council area, there is thought to be a number of trees that are displaying signs of Mundulla Yellows.

- Council staff will inspect suspected infected trees periodically to determine if action is required. Council will discuss the matter with the NVMU if and when required.

**Mistletoe**

Within the Regional Light Council area there are a number of trees (particularly Blue Gum) with mistletoe, however it does not appear to be presenting a major issue at this time.

- Council staff will continue to monitor trees with abundant mistletoe periodically to determine if action is required. Council will discuss the matter with the NVMU if and when required.
- Council may undertake minor mistletoe control works as per agreed guidelines.

**Lerps**

Lerp infestation is not currently a major concern, within the Regional Light Council area.

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• Council staff will continue to remain vigilant and identify any future lerp infestation issues. Council will discuss the matter with the NVMU if and when required.

**Plant Infestations – general Guidelines**

• Any proposals involving disturbance of native vegetation to control infestation in order to maintain vegetation diversity will be developed in consultation with the NVMU. Revegetation of the affected area with a range of indigenous plant species will be considered in combination with or instead of disturbance, (photos may be emailed to the NVMU who can then issue advice or grant clearance approval)

• Native vegetation clearance activities will be carefully planned and the results monitored.

• Trimming or pruning of vegetation will be undertaken using appropriate, low impact cutting tools.

• Any unauthorised clearance of road reserve native vegetation caused by activities will be referred by Light Regional Council to the Native Vegetation and Biodiversity Management Unit.

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**CONSULTATION AND APPROVAL PROCEDURES FOR PLANT DISEASES AND INFESTATIONS**

**Council Approval Requirements**

Any modification of roadside vegetation (e.g. pollarding, lopping) within a road reserve in order to remove mistletoe (or other) requires consent of the Light Regional Council.
4.7 Clearance for Fencelines

Objectives

1. To enable landholders to gain appropriate access to fencelines for maintenance and construction purposes.
2. To minimise the impact and disturbance of native vegetation by clearance for fenceline construction and maintenance.
3. To encourage alternative approaches for erecting fences that minimises clearance of roadside native vegetation.

Information

Light Regional Council understands that landowners abutting roads are required to construct and maintain boundary fences adjacent roadside vegetation. Often the private land adjacent the fence is cleared of vegetation and access for maintenance can occur from that side. In situations where the adjacent farmland contains native vegetation, some clearance of native vegetation (either on the road reserve or on private property) may need to occur to construct and/or maintain the fence.

Consultation with the NVBMU should occur through the local Light Regional Council.

Light Regional Council does not currently have a formal application process but plans to develop one as a management action of this RVMP (see section 5). Currently, requests for fenceline clearance (and the initial conversations) occur over the phone. This is followed by an on-site meeting between Council staff and the landowner. A permit and/or written advice is then provided to the applicant by Council.

Guidelines

If rare or threatened plant species are present, reasonable care should be taken to protect them. If necessary, contact the NVBMU for advice.

Clearance methods

- Low impact methods of clearance (e.g. minimal ground disturbance, cutting cleanly rather than breaking branches, slashing, trimming, mowing, or rolling) should only be used when clearing vegetation according to these standards, to reduce potential weed invasion and erosion problems.
- Cleared vegetation should not be deposited on or amongst other native vegetation but should be disposed of in a manner that does not affect native vegetation, unless it is useful as habitat for wildlife, or is scattered sparsely amongst the remaining vegetation.

Re-locating Fences

- Landholders wanting to replace boundary fences may consider re-locating the new fencing a few metres into their properties to minimise potential impacts on roadside vegetation. This can also potentially reduce construction and maintenance costs. The narrow strip between the old and the new fence can be maintained clear of any regrowth to minimise impacts on the new fence, and also act as a firebreak between the roadside and the property.
- An alternative to the removal of trees in line with the property boundary may include constructing a simple strut arrangement that allows a fence to deviate a short distance around a tree. Wires are not attached directly to the tree, thus minimising potential damage to the tree (Figure 12).

Note: the above approach may not be appropriate for smaller trees, and an effort should be made to avoid structural roots when placing the post hole for the strut next to the tree.
CONSULTATION AND APPROVAL PROCEDURES FOR CLEARANCE FOR FENCELINES

Council Approval Requirements:

A landowner wishing to clear native vegetation in order to construct or maintain a boundary fence must obtain approval from Light Regional Council (under the Local Government Act 1999, Section 221).

Council will only approve clearance which complies with the standards outlined below under NVC Approval Requirements. Council will refer any applications that propose clearance above the standards to the NVMU.

Under section 221 of the Local Government Act 1999, penalties of up to $5000 apply to the unauthorised interference and/or removal of roadside vegetation. This applies to activities relating to the construction and maintenance of a fence.

NVC Approval Requirements

Clearance approval from the NVC is required for any vegetation clearance along fencelines that exceeds the following standards:

- Where the roadside vegetation consists largely of trees, only branches protruding through or overhanging the fence, or trees growing on the actual fence alignment, can be removed.
- Where shrubs or bushes are growing through the fenceline, those plants growing within one metre of the fence alignment can be removed.

Note: These standards take into account that the adjoining landholder can usually clear up to five metres width on the private land abutting the road, thus allowing for vehicular access to the fence. Note that this does not provide an automatic right to clear a five-metre strip along a fence. If vegetation on an adjacent property is located within five metres but does not impede reasonable access to the fence, the regulation cannot be used to clear that vegetation.
4.8 Clearance for Access to Adjoining Land

Objectives

1. To minimise the loss of native vegetation through the construction of property access points
2. To provide safe and appropriate access to properties adjacent to road reserves.

Information

Sometimes a new access point will be needed from the road to a property. For rural areas, a primary producer may need new access to a paddock, possibly to cater for wide farm machinery. In other situations (e.g. semi-urban) it may be a normal vehicular access to a residential allotment. In these situations, the safety of the access-user needs to be the primary consideration, but the conservation of native vegetation is also of importance. If there is more than one option which will provide safe access, the option which involves the least disturbance of native vegetation or vegetation of lower conservation significance should be selected.

Land use changes within Light Regional Council have impacted the way farmers operate in and around their paddocks. For example, the movement into irrigated horticulture has resulted in a change in the way vehicles and heavy machinery move in and around paddocks to carry out operations. In some cases the boundary fence is removed and the tractor enters and exits the property at various points along the boundary. This has resulted in extensive damage to roadside vegetation by the creation of numerous (and sometimes unnecessary) access points from the road. This has been particularly evident around the Gawler River district. The change in landuse is also associated with other issues such as high nutrient loads and off-target spraying. Council has identified the need to undertake community consultation regarding this issue (see Section 5).

Figure 13. Example of inappropriate clearance for access - a eucalypt grubbed out of way and pushed aside to create an additional access point to the property.
Guidelines

Clearance methods

- Low impact methods of clearance (e.g. minimal ground disturbance, cutting cleanly rather than breaking branches, slashing, trimming, mowing, or rolling) should only be used when clearing vegetation according to the standards identified below (under NVC Approval Requirements), to reduce potential weed invasion and erosion problems.
- Cleared vegetation should not be deposited on or amongst other native vegetation unless it is useful as habitat for wildlife, or is scattered sparsely amongst the remaining vegetation. Instead it should be disposed of in a manner that does not affect native vegetation.

Avoiding unnecessary clearance

- Care must be taken to avoid plant communities of conservation significance and naturally open areas such as native grassland, sedgeland and wetland.
- If rare or threatened plant species are present, reasonable care should be taken to protect them. If necessary, contact the NVMU for advice.
- Where possible, access points will not be permitted on Category “A and B” (i.e. best quality) road reserves or within RMS sites.
- A suitably qualified person(s) will conduct an inspection to assess options for access points, and negotiate an access point that is safe and minimises disturbance to native vegetation.
- If there is more than one option which will provide safe access, the option which involves least disturbance of native vegetation or vegetation of lower conservation significance, should be selected.

CONSULTATION AND APPROVAL PROCEDURES FOR ACCESS TO ADJOINING LAND

Council Approval Requirements

All persons wishing to remove vegetation on a road reserve to provide access to adjoining land must get approval from Council.

In assessing the application, Council staff will comply with Council’s Tree Management Policy (note this applies to native and exotic trees) and the below NVC standards.

Under section 221 of the Local Government Act 1999, penalties of up to $5000 apply to the unauthorised interference and/or removal of roadside vegetation. This applies to activities relating to the construction of an access point.

4.9 Bushfire Protection

Objectives

1. To take reasonable steps to inhibit the outbreak of fire on roadsides and the spread of fire through roadsides.
2. To minimise the adverse effects of fire management on roadside native vegetation.
3. To outline the process for undertaking bushfire protection works within roadside vegetation to protect life and assets.

Information

Light Regional Council is required to adhere to the *Fire and Emergency Service Act 2005*. The Act places responsibility on Council to take reasonable steps to prevent or inhibit the outbreak and spread of fire on council owned land, including roadsides. Part 4A of the *Fire and Emergency Service Act 2005*, Division 3105G, states:

1) A council that has the care, control or management of land—
   a) in the country; or
   b) in a designated urban bushfire risk area, must take reasonable steps—
   c) to prevent or inhibit the outbreak of fire on the land; and
   d) to prevent or inhibit the spread of fire through the land; and
e) to protect property on the land from fire; and
f) to minimise the threat to human life from a fire on the land.

In accordance with the Native Vegetation Regulations 2003, there are provisions to enable clearance and management of native vegetation for Bushfire Protection works. This applies to road reserves.

Bushfire Management Areas in South Australia are required, under the Fire and Emergency Services Act 2005, to have a Bushfire Management Area Plan (BMAP) that has been endorsed by the Regional Bushfire Management Committee. This Plan allows for strategic planning of bushfire protection works across the district and landscape. The Flinders Mid North Yorke interim Bushfire Management Area Plan (iBMAP), which includes the Light Regional Council area, has been endorsed by the Regional Bushfire Management Committee.

Guidelines – Bushfire Hazard Reduction

All bushfire protection works on roadides will link in with the Flinders Mid-North Yorke interim Bushfire Management Area Plan endorsed by the Regional Bushfire Management Committee.

Bushfire Management planning is focused on an assessment of risk to life, property and environmental values threatened by bushfire, followed by planning and implementation of strategies to mitigate identified risks.

Planning includes the strategic placement of fuel breaks and fire access tracks in accordance with GAFLC Guidelines9; adoption of Zoning Principles in response to risk assessment; and consultation with the SA CFS to plan and evaluate fire prevention works that provide the best practices for the conservation and fire prevention on roadides.

Clearance methods

- Low impact methods of clearance (e.g. minimal ground disturbance, cutting cleanly rather than breaking branches, slashing, trimming, mowing, or rolling) should be used wherever possible when clearing vegetation for fuel reduction to reduce potential weed invasion and erosion problems.
- Grazing and herbicide use should only be contemplated where no or minimal impact upon native vegetation is likely (such as where there are mature trees over exotic grasses (i.e. no native understorey and no evidence of natural regeneration of the tree species).
- Limit the use of herbicides to spraying:
  - around furniture/signage
  - for selective control of particular weeds where it is the most appropriate means of control
  - to control growth of potentially serious weeds on firebreaks (subject to the approval of the SA CFS Regional Prevention Officer), or
  - when weather conditions will minimise the likelihood of spray drift affecting non-target plants.
- Only remove vegetation that is referred to in the approved Bushfire Management Plan (e.g. strategic clearance, removal of fine fuel), and retain all other vegetation including dead timber.
- Such work should preferably be combined with a native vegetation re-establishment program.
- In the vast majority of cases, adequate fuel reduction on roadides can be achieved by selective planning focusing on the removal of exotic vegetation. Particular care should be taken to avoid areas of native grasses, which can be difficult to distinguish from exotic grasses.

Prescribed Burning for Fuel Reduction

- Prescribed burning of native vegetation if followed up with weed control methods such as selective spraying or hand weeding, can be a useful management tool for lowering fuel levels thereby minimising threat of a bushfire burning vast areas across the landscape.
- Careful planning and management is required before implementing a prescribed burn including preparation of a prescribed burn plan that is approved by the SA CFS Regional Prevention Officer. [Fire can also

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encourage weed invasion, thus increasing fire hazard within a short time, and if used too frequently or at the wrong time or intensity, can lead to loss of biodiversity over time.

- Advice can be sought from the CFS Regional Prevention Officer.

Other considerations

- Where a well-vegetated road reserve adjoins cleared farmland, any required fuel break should be established on the cleared land rather than through clearance of roadside vegetation.
- Any applications to revegetate roadsides must be assessed and approved by the Council Fire Prevention Officer to ensure bushfire risk is not increased for areas that are designated as strategic fuel reduced zones. Also see section 4.17 Restoration of Roadside Vegetation.
- Design weed slashing programs to begin with clean machinery in areas of good vegetation condition and work towards the more degraded sites. This will assist in the prevention of further spread of weeds.
- For residents concerned about build-up of fuel loads encourage them to develop property specific bushfire management plans.

Pinery Fire (25 November 2015)

The Pinery fire was a major disaster that burnt out around 85,000 hectares of land across the District Council of Mallala, Clare and Gilbert Valleys Council, Wakefield Regional Council and Light Regional Council. Two lives were lost and multiple people were admitted to hospital for burns, dehydration and stress. Despite the human cost there was also a significant loss to the region’s natural flora and fauna. Countless paddock trees, shelterbelts and areas of roadside vegetation were lost in the fire.

There were many observations that reported on the value of native vegetation in slowing down the fire front and reducing the intensity of the fire. Where there was no standing tree and shrub vegetation the fire moved as quickly as the prevailing wind giving people very little time to act in defense or to flee their properties.

Certain types of native vegetation such as chenopods were also noted to reduce the intensity of the fire. These types of plants were scorched but did not carry the fire due to their succulent nature. Future revegetation and the development of fire breaks should consider species selection which may act to reduce fuel loading, fire conductivity and wind speed reduction.
CONSULTATION AND APPROVAL PROCEDURES FOR BUSHFIRE PROTECTION

Council Approval Requirements

Removal of native vegetation on a Council managed road reserve to reduce bushfire hazard requires consent of the Light Regional Council.

In granting any consent, Council will comply with Regulation 5A part (b)(ii) as outlined below.

CFS Approval Requirements

For any proposed bushfire prevention works that are not included under the iBMAP (or any relevant subsequent plans), advice and written approval must be sought from the SA CFS Regional Prevention Officer.

NVC Approval Requirements

Native Vegetation Regulations 2003 provide provisions to enable clearance and management of native vegetation for Bushfire Protection works, under Regulation 5A Part 1(b)—Fire Prevention and Control, native vegetation can be cleared if:

(i) the purpose of the clearance is to reduce combustible material on land; and

(ii) the clearance:

(A) is required or authorised by, and undertaken in accordance with, a bushfire prevention plan (equivalent to a Bushfire Management Plan under the Fire and Emergency Service Act 2005); or

(B) is undertaken in accordance with the written approval of the Chief Officer of SACFS;

NOTE: (1) Reference to a Bushfire Prevention Plan is deemed to be that referred to under the Fire and Emergency Service Act 2005, as a Bushfire Management Plan.

(2) For the purpose of part B above, approval is from the Chief Officer of SACFS or authorised delegate – i.e. the CFS Regional Prevention Officer.

(3) There may be constraints under other legislation that need to be complied with, such as the Commonwealth Environmental Protection and Biodiversity Conservation Act 1999.
4.10 Grazing

Objectives

1. To minimise any impact of grazing by stock on roadside reserves where native vegetation is present.

Information

Grazing of stock in areas of native vegetation can have severe damaging plants, assisting weed invasion, preventing natural and compacting and polluting the soil.

However, grazing can be an acceptable form of roadside in some situations, such as where exotic grasses like Phalaris native understorey and have created a fire hazard.

Native grasslands may be difficult to distinguish from introduced grasses, and care must also be taken to avoid small or visually insignificant species such as annuals, orchids and other small native ground cover species.

Light Regional Council does not permit grazing of stock on roads. A number of undeveloped road reserves are leased to landholders for grazing purposes. Council has identified the need to audit existing leases issued for unmade road reserves (for various purposes including grazing) as well as update Council’s permit process. These actions are included within Section 5.

Guidelines

Council Permit Process

- In assessing an application to utilise the road reserve:
  - A suitably qualified person will undertake an assessment of the vegetation present. This will occur as undeveloped road reserves were not surveyed on-ground as part of the roadside vegetation survey undertaken in 2003. This information will be used to inform the decision making process prior to undertaking any grazing on roadsides or on road reserves;
  - The Light Regional Council may permit landholders to graze their stock in undeveloped road reserves devoid of native roadside vegetation;
  - Grazing will not be permitted on road reserves with vegetation of high ecological value, unless it is for native vegetation management purposes;
  - Particular care must be taken to identify and avoid plant communities of conservation significance and naturally open areas such as native grassland, sedgeland and wetland;
  - The decision to permit grazing will be at the discretion of Council. If grazing impact on native vegetation is likely to occur, referral to NVC will occur (NVC approval may also be required);
- Applications for grazing of native roadside vegetation to aid in fuel reduction for fire prevention will be referred to the SA CFS for a decision.

Avoiding unnecessary clearance

- Stock must be free of pest plants and disease;
- Any unauthorised clearance caused by grazing will be referred by Light Regional Council staff to the NVMU.
CONSULTATION AND APPROVAL PROCEDURES FOR GRAZING OF ROADSIDES

Council Approval Requirements

Light Regional Council does not permit grazing of stock on developed roadsides.

Any person wishing to graze stock on an unmade road reserve must apply for a permit from Council.

Under section 221 of the Local Government Act 1999, penalties of up to $5,000 apply to the unauthorised interference with roadside vegetation. This applies to the unauthorised grazing of stock on roadsides.

NVC Approval Requirements

Clearance approval is required for any grazing (other than associated with droving – see section 4.11) likely to cause damage to native roadside vegetation. This includes roadsides where:

- native shrub and understorey species are present; or
- there is evidence of recent or periodic regeneration of native plant species.

Grazing on roadsides does not require approval where:

- no native vegetation is present; or
- there are native trees over only exotic shrub and understorey species only and stock are not going to damage the trees via chewing, ringbarking or compaction.

On undeveloped road reserves that are leased to adjoining landholders for grazing, where grazing has historically occurred, then this may continue at the same frequency and duration without NVC approval, however, any change in grazing practice - of stock, frequency or duration of grazing, or grazing of areas without any previous history of grazing - requires NVC approval.

Consultation with, and confirmation from, the Native Vegetation Management Unit is recommended.
4.11 Droving Stock

Objectives

1. To manage potential damage to roadside native vegetation from the droving of stock
2. To protect roadside native vegetation of high conservation significance from the impacts of droving stock.

Information

The droving or movement of stock on roadsides, although not a common practice, occurs within the Light Regional Council region. It is recognised as a necessary practice within some areas of the region as part of normal farm management.

Guidelines

Avoiding unnecessary clearance

- Stock must be kept moving at all times to minimise incidental grazing and subsequent damage to native vegetation.
- Stock must be free of pest plants and disease.
- Movement of stock along Category A and B roadsides, or roadsides containing: RMS sites, known populations of threatened species, plant communities of conservation significance or naturally open areas such as native grassland and sedgeland, should be diverted where possible along roadsides containing vegetation of lesser value (i.e. Category E, D, and as last preference C).
- Routes that contain important stands of native vegetation should be avoided as much as possible so as to minimise damage to native roadside vegetation.
- Any unauthorised clearance caused by stock droving will be referred by Light Regional Council to the NVMU.

Signage

- Appropriate signage must be placed an adequate distance from stock moving along roads warning vehicles of the potential hazard.
4.12 Recreational Trails on Road Reserves

Objective

1. To minimise the impacts of recreational activities on native roadside vegetation

Information

Road reserves (both developed and undeveloped) are subject to a range of recreational pressures. For example, there is an expanding network of walking trails on roadsides in many areas of the State, and horse and bike trails are being established on some roadsides.

All of these activities have the potential to significantly disturb native vegetation. Recreational vehicle activities on roadsides are not permitted, but walking and horse trails may be acceptable provided that certain principles and practices are adhered to (see guidelines below) and NVC approval is sought.

The primary recreational trails within Light Regional Council are sections of the Heysen (walking), Kidman (horse riding, cycling and walking) and Mawson (cycling and walking) trails. The Barossa, Light and Lower North Region Open Space, Recreation and Public Realm Strategy (2013) identifies (as a strategy) a need for creating more trails within the Light Regional Council.
Guidelines – Recreational Use

Proposals for walking and/or horse trails may be acceptable if the following principles are adhered to:

- Any trails need to be part of an overall district or regional trails plan developed with the local council.
- Trails should not be established where clearance of native vegetation would result. **ONLY** if the trail is a vital part of a network and if there is no reasonable alternative should any clearance of native vegetation be contemplated.
- Trails must not be established where the soil type and/or slope could result in erosion, unless specific measures to prevent erosion are implemented.
- Trails must not be established where their use is likely to introduce weeds or assist the spread of weeds on the road reserve unless there is a clear commitment to a weed control program.
- Effective monitoring programs must be incorporated into any trail development.
- Existing or planned recreational trails along Category A and B roadsides, RMS sites, roadsides containing known populations of threatened species, plant communities of conservation significance or naturally open areas such as native grassland and sedgeland, should instead be diverted where possible along roadsides containing vegetation of lesser value, i.e. Category E, D, and as last preference C.
- If the roadside vegetation along a proposed recreational trail has not yet been surveyed, a suitably qualified person(s) will conduct an inspection to identify vegetation along the proposed trail route.

Existing trails

- The location of existing trails should be reviewed in light of the guidelines above, to ensure that where possible, important areas of native vegetation are protected and/or enhanced.

**CONSULTATION AND APPROVAL PROCEDURES FOR RECREATIONAL TRAILS ON ROADSIDES**

**Council Approval Requirements**

Council does not permit recreational vehicle activities on roadsides. Any unlawful off-road activities within road reserves will be reported by Council to the Police, and if damage to native vegetation occurs, the NVC.
4.13 Cultivation and Cropping

Objectives

1. To manage potential damage to roadside native vegetation from cultivation and growing of agricultural crops.

Information

Cultivation of roadsides (for fire prevention, weed control, or cropping) can have devastating impacts on any remaining remnant native vegetation through the physical removal of plant species, run-off from fertilisers and pesticides altering the nutrient status of the soil and exposing fallowed soil to weed invasion and erosion potential.

A number of undeveloped road reserves are leased to adjoining landholders for cropping purposes within the Light Regional Council area. Council has identified the need to audit existing leases issued for unmade road reserves (for various purposes including cropping) as well as update Council’s permit process. These actions are included within Section 5.

Guidelines

Council Permit Process

- In assessing an application:
  - A suitably qualified person will undertake an assessment of the vegetation present. This will occur as undeveloped road reserves were not surveyed on-ground as part of the roadside vegetation survey undertaken in 2003. This information will be used to inform the decision making process prior to undertaking any cropping or cultivation on roadsides or on road reserves. The Light Regional Council may permit landholders to cultivate or crop in undeveloped road reserves that do not contain native vegetation and/or do not occur adjacent to remnant vegetation.
  - Cultivation or cropping will not be permitted on undeveloped road reserves of ecological value A, B or C, or occurring adjacent to remnant vegetation. Particular care must be taken to identify (and avoid) areas with vegetation of high ecological value, communities of conservation significance and naturally open areas such as native grassland, sedgeland and wetland.
  - The decision to permit cultivation or cropping will be at the discretion of Council. If any impact on native vegetation is likely to occur, referral to NVC will occur.
- Any unauthorised clearance caused by cultivation or cropping will be referred by Light Regional Council to the NVMU.

Existing cultivation and cropping

- Where cropping on roadsides is used as a firebreak, consider phasing out, and instead encourage perennial summer growing native grasses as an alternative cover.
4.14 Removal of Plant Material

Objectives

1. To promote the statutory requirements for retaining roadside native vegetation
2. To limit the extent of damage caused by removal of roadside native vegetation
3. To ensure that only a sustainable amount of native vegetation is removed from roadsides.

Information

The removal of plant material from roadsides includes:

- collection of dead timber for firewood;
- cutting of live timber;
- brush-cutting (*Melaleuca uncinata*);
- seed collection; and
- flower harvesting.

Guidelines

The Light Regional Council will ensure that removal of plant material from roadsides is undertaken in accordance with the guidelines in this plan and appropriate permits have been issued. Any unauthorised clearance of native vegetation will be referred by Council to the NVMU.

Collection of Dead Timber

- Dead timber generally refers to woody debris from standing or fallen dead trees or branches. It does not usually encompass fine fuels\(^\text{10}\), which generally refer to grass, leaves, bark and twigs less than 6mm in diameter;
- Dead timber on roadsides is not controlled under the *Native Vegetation Act 1991*, except in the case of *dead plants* in some parts of the state that provide habitat for nationally threatened species, which are defined as native vegetation under Section 3(1) of the *Native Vegetation Act 1991\(^\text{11}\)*. Contact the NVMU for further details. Light Regional Council controls this activity under the *Local Government Act 1999*;
- Dead timber, both standing and fallen, provides cover and foraging places for native fauna, protects young seedlings and small plants adapted to the sheltered conditions provided by fallen timber, provides optimal conditions for survival (darker and moister micro-habitats), and is important in the recycling of nutrients. The development of hollow timber takes many years and is a limited resource for wildlife. Retention of dead timber (and fallen leaves, bark and twigs) minimises soil disturbance and the creation of open areas suitable for weed invasion;
- The tidying up of dead timber on roadsides is not permitted unless outlined as necessary for fuel reduction in the approved *Flinders Mid North Yorke Interim Bushfire Area Plan* (see Section 4.9), to assist rabbit control, or to remove timber which is hazardous to traffic or fencing.

Seed Collection (Cuttings and Specimens)

\(^{10}\)http://www.cfs.sa.gov.au/site/home.jsp

\(^{11}\)Dead plants(under the definition of native vegetation in Section 3(1) of the Act), means the class of plants, or parts of plants, comprising trees of a species indigenous to South Australia –

a) that have a trunk circumference (measured at a point 300 millimetres above the base of the tree) of –
   i) in the case of a tree located on Kangaroo Island – 1 metre or more; or
   ii) in any other case – 2 metres or more; and

b) that provide or have the potential to provide, or are a part of a group of trees or other plants (whether alive or dead) that provide, or have the potential to provide, a habitat for animals of a listed threatened species under the *Environment Protection and Biodiversity Conservation Act 1999* of the Commonwealth, is declared to be included in that definition.
• Revegetation programs using local species are strongly supported and roadsides are often ideal sites for seed collection. Minimal damage to the parent plant must occur and care will be taken by Council not to deplete the seed supply to such an extent that natural regeneration of plants on the roadside is affected;
• Council will give preference to seed collecting permits associated with local revegetation projects.

Flower Harvesting
• The harvesting of flowers from roadsides requires the consent of the local council and clearance consent from the Native Vegetation Council. The local council should be the first point of contact;
• In general, harvesting of roadside flowers, particularly for commercial purposes, is not favoured because of its impact on the vegetation and on the landscape or amenity of the area.

CONSULTATION AND APPROVAL PROCEDURES FOR REMOVAL OF PLANT MATERIAL

Council Approval Requirements
Public collection of roadside timber (live or dead) is not permitted by Light Regional Council.

Removal of other plant material (including the collection of seed and/or fruit) within a road reserve requires consent from Light Regional Council. Applications must be in writing.

Under section 221 of the Local Government Act 1999, penalties of up to $5,000 apply to unauthorised interference and or removal of roadside vegetation. This includes the removal of plant material.

Department for Environment, Water and Natural Resources (DEWNR) Approval Requirements
Under the National Parks and Wildlife Act 1972, seed collection on roadsides also requires a permit from the DEWNR Permit Unit. The Unit can also provide guidance on seed collection methods.

NVC Approval Requirements
The collection of seeds, cuttings or other specimens from native plants does not require consent from the NVC provided that damage to the plant is not substantial. As a guide, cutting a substantial branch off a tree or bush to collect seed would not be regarded as exempt; nor would the removal of virtually all harvestable seed from a single plant. Consult with DEWNR for guidance on seed collection methods.

Removal of plant material from road reserves requires clearance consent under the Native Vegetation Act 1991 in the following circumstances:
• removal of “dead plants” as defined under the Native Vegetation Regulations 2003*;
• any cutting of live timber (outside the scope of the guidelines in this RVMP);
• the cutting of brush (Melaleuca uncinata) unless it is undertaken in accordance with guidelines in this RVMP; and
• the harvesting of flowers.

*There are currently no nationally threatened fauna species that utilise hollows for this region, however note that dead trees are still very important habitat for regionally threatened and common fauna species. DEWNR Regional NRM staff can provide updates on nationally threatened fauna species, as well as information on regionally threatened and common fauna species.

4.15 Maintaining Biodiversity on Roadsides

Objectives
1. To promote community interest and involvement in maintaining and where possible, enhancing, roadside biodiversity.

Information

Along some roadsides there is evidence of a steady decline of native vegetation not associated with direct clearance. Several factors may be contributing to this, many of which are exacerbated by the long narrow shape of roadside vegetation. These include, but are not limited to:

- senescence (old age) and lack of natural regeneration;
- herbicides or other chemicals used on adjoining farmland, or used for weed control on roadsides;
- animal pests and methods used to control them (see Section 4.5);
- plant diseases such as *Phytophthora cinnamomi* (See Section 4.6);
- plant infestations such as mistletoe or lerp (see Section 4.6);
- competition from exotic species (garden escapees, illegal dumping of garden waste, invasion from adjacent land); and
- inappropriate fire regimes.

Garden escapees and the dumping of garden waste on roadsides can create new weed infestations. Garden plants can also escape into bushland and onto roadsides adjacent to properties.

Council encourages community groups to be involved in biodiversity maintenance (and enhancement) activities on roadsides. There are currently a number of groups - Seppeltsfield Road Business Alliance, Gomersal Road Community group, Greening Kapunda and Greening Wasleys – active in the Council area and a number of locations where roadside vegetation is being actively managed to maintain or improve biodiversity. Council is in the process of developing a Community Engagement Strategy which seeks to generate greater levels of interest from the community on this matter.

Council recognises that in some cases a form of disturbance (such as burning or pruning) may be proposed by community groups as a means of enhancing vegetation health or diversity in the longer term. It is noted that these activities constitute clearance under the *Native Vegetation Act 1991*.

Guidelines

Proposal (involving disturbance) development

- Proposal activities will be carefully planned and the results monitored.
- Any proposals involving disturbance of native vegetation to maintain vegetation diversity will be referred to the NVMU for consultation during development.
- In developing a proposal, revegetation of the affected area with a range of indigenous plant species will be considered in combination with or instead of disturbance (see also Section 4.17 – Restoration).

Ecological Prescribed Burning

Prescribed burning for ecological purposes (for example to promote natural regeneration where species are declining) requires careful planning and management, and works must be carried out under a management plan that has been approved by the NVC. The Plan should include the following information:

- a clear demonstrated focus on biodiversity outcomes, such as a tool for managing threatened species, enhancing ecological communities, managing pest species, maintaining a diversity of vegetation age classes or preventing large areas of habitat burning across the landscape in a single fire event;
- site survey information identifying flora and fauna species present;
- detailed aerial map(s) identifying vegetation communities, topography and areas identified for burning;
- an environmental risk assessment table identifying impacts and mitigating actions;
any Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) matters must also be addressed;
a logistic prescribed burn plan to be approved by SA Country Fire Service; and
a monitoring program that will assist in the evaluation of the effects of fire on vegetation communities and for planning future adaptive management strategies.

See the NVC Guideline Ecological Prescribed Burning under Regulation 5(1)(zi) for more information.

Clearance Methods

• Trimming or pruning of vegetation will be undertaken using appropriate, low impact cutting tools. Best practice will be determined during the consultation with the NVMU during the proposal development phase as outlined above.

Prevention

• Council intends to include in its Community Engagement Strategy (in development) an approach which promotes greater interest in roadside vegetation biodiversity. For example, the provision of information on illegal dumping, the consequences of weed spread, weed control and firewood collection, and the importance of roadside vegetation will all assist in increasing awareness.
• Residents adjacent to good roadside vegetation should be encouraged to select garden plants with a low potential to spread, or local native species.

CONSULTATION AND APPROVAL PROCEDURES FOR MAINTAINING BIODIVERSITY ON ROADSIDES

Council Approval Requirement

• Modification/ disturbance of roadside vegetation (e.g. by burning or pollarding) within a road reserve for the purpose of maintenance of vegetation diversity requires consent of the Light Regional Council. Any requests received by Council will be referred to the NVMU for consultation in developing a proposal.
• Any unauthorised clearance of native vegetation caused by
Figure 18. Examples of biodiversity on roadsides.
4.16 Protection of Native Vegetation of High Conservation Significance

Objectives
1. To identify, record and protect roadside native vegetation of high conservation significance.
2. To reverse the deterioration of roadside native vegetation by improving management practices.

Information
Vegetation of high conservation significance (i.e. plants or communities threatened at a national, state, or local level, and/or classed as Category A and B during the roadside vegetation survey, roadside RMS sites) is important to the region as it can:

- provide habitat for native animals and plants, including endangered species;
- assist the movement of native animals from one habitat area to another; and
- provide unique genetic reference areas for sourcing seed for revegetation projects.

It is important that roadsides containing plants or vegetation types of high conservation significance are identified, recorded and protected.

While all native vegetation on roadsides is protected and must not be cleared unless clearance is considered exempt as defined in this plan, vegetation of high conservation significance requires:

- extra precautions (such as signage) to prevent accidental damage; and
- active management to prevent decline in quality (also see maintaining biodiversity and Restoration sections).

In 2003, the Light Regional Council surveyed its roadside vegetation and identified the ecological value for each segment of roadside vegetation. The survey identified 27km of roadside vegetation of Category A (very high conservation value) and 266km of Category B (high conservation value) vegetation within the Council area (see map in Appendix 1 and vegetation survey information in Section 3). As a follow-up action of this, a Roadside Marker System (including 48 sites installed along Council roads) was developed. Council plans to audit these RMS sites to re-assess their condition (and thus inclusion in the RMS) and re-establish markers where necessary (see management actions in section 5).

A list of plant species of state and regional conservation significance identified during the 2003 roadside vegetation survey was also developed. As part of updating this RVMP the list was reviewed and conservation status updated. A total of 48 species with a conservation rating, including 8 with a State rating and 46 with a regional rating, were identified during the review. A further survey in 2007 by Kate Graham of several roadsides in the Council area identified a further 17 plant species of regional significance (see Appendix 2 for a species list).

Guidelines

Roadside Marker Sites and Bushcare work

- Following the 2003 survey, a site marking system to identify significant sites “Roadside Marker System (RMS)”, particularly for local council staff or contractors, was implemented to ensure protection of significant sites. Council plans to audit the system and re-establish markers where required.
- In consultation with Trees For Life, the Local Action Planning group and/or Regional Ecologists Bushcare sites (also see next section – 4.17 Restoration) will also be encouraged wherever possible to help actively manage these important areas of native vegetation.
Roadside Activities

- Training for council staff will be undertaken following endorsement of this RVMP by the NVC. Training will include assistance in the recognition and identification of important species to assist Council staff when undertaking activities in areas of roadside vegetation of high conservation significance.
- Council plans to update its work flow process (including the use of existing roadside vegetation data and maps) and maintenance requirements to ensure protection of significant sites and areas of roadside vegetation of high ecological value is protected. See section 5.
- A map of the vegetation categories for the road network within the Light Regional Council will be used to minimise or avoid any loss or disturbance of native vegetation of conservation significance by locating proposed development or roadside works away from these areas.
- If it is not possible to avoid loss of native vegetation when planning roadworks, Light Regional Council will use the data collected and associated maps to identify areas of roadside vegetation that can be managed better as a way of providing an SEB offset which would be a requirement for clearance of vegetation associated with any new works under Native Vegetation Regulation 5 (1)(d) of the Native Vegetation Act 1991. Council is developing a Community Engagement Strategy, with the aim of raising community awareness of the importance of native roadside vegetation as well as encouraging community involvement in its protection and enhancement.

CONSULTATION AND APPROVAL PROCEDURES FOR ACTIVITIES IN AREAS OF VEGETATION OF HIGH CONSERVATION SIGNIFICANCE.

Council Approval Requirements

- Any activity in areas of high conservation significance requires consent from the Light Regional Council.
- Any unauthorised clearance of road reserve native vegetation will be referred to the NVMU.
4.17 Restoration of Roadside Vegetation

Objectives

1. To prevent further degradation within road reserves giving high priority to rehabilitation works along roadsides containing native vegetation of high conservation significance.

2. To encourage the re-establishment of native vegetation along roadsides in parts of the local council area where native vegetation has been identified as cleared or degraded.

Information

Restoration of roadside vegetation generally involves two approaches either singularly or in a combined approach. Assisted natural regeneration involves creating the right conditions for degraded vegetation to recover. It usually includes managing threats such as weeds and potentially applying triggers such as fire (see section 4.15 for more information on ecological prescribed burning) to stimulate regeneration. Revegetation is used where the vegetation is too damaged to regenerate naturally and involves reintroducing appropriate plant species by hand-planting or direct seeding. Revegetation should generally be avoided where natural regeneration is possible.

Roadside vegetation within Light Regional Council area varies from Category A vegetation with very high conservation value to Category E vegetation with low conservation value.

Council recognises the ecological and aesthetic importance of restoring, maintaining and enhancing roadside native vegetation as areas of habitat for wildlife, to increase the biodiversity and seed stock of the area and to create linkages for wildlife movement. Other benefits include improving the amenity of an area, reducing the risk of soil erosion and soil salinity, and possibly reducing the risk of fire through appropriate fire management practices.

There are a number of community groups including Seppeltsfield Road Business Alliance, Gomersal Road Community group, Greening Kapunda and Greening Wasleys with interest in native vegetation management and restoration on roadsides. Council is in the process of developing a Community Engagement Strategy that will be linked to the activities outlined in this RVMP and will promote the engagement of such groups.

General advice regarding restoration can be obtained from the Natural Resources AMLR and organisations such as Trees for Life (Bush Care Sites). Advice about local native species can be obtained from the NVMU. Further information can also be found in ‘Habitat Restoration Planning Guide for Natural Resource Managers’.

Guidelines – Restoration of Roadside Vegetation

- Restoration works may be undertaken by Council or local community groups provided the guidelines and approval procedures below are followed.
- In general, roadsides with native vegetation of high conservation significance (see section 4.16) are considered by Council as the highest priority areas for rehabilitation (where appropriate). Preferably these would be established as Bushcare sites. Following this, restoration of segments of roadside with existing native roadside vegetation is usually the next priority. Reconstruction of areas devoid of native vegetation is usually of low priority but may be considered depending on the desired goals of a program.
- Where natural regeneration is likely, restoration will be via assisted natural regeneration only (using management activities such as weed control).

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• When a site has been previously cleared or a roadside is of a degraded nature and natural regeneration is unlikely to be successful, Council will consider using revegetation (of local native species) to improve biodiversity of the site. See revegetation guidelines below.

• Restoration (rehabilitation and revegetation) programs will only be undertaken after the overall ecological significance of sections of roadside vegetation has been determined using the results of the 2003 Roadside Vegetation Survey and an on-site inspection by Council’s Environmental Officer (given the age of the survey data).

• Restoration (rehabilitation and revegetation) programs will have a clear goal and appropriate monitoring in place in order to determine if the goal is being achieved.

Revegetation

• Priority will be given to roadside vegetation sections that will establish linkages with roadside vegetation segments of high ecological value and/or remnant bushland areas in the district.

• Planned revegetation programs will be conducted under Council’s authorisation and will incorporate other Council maintenance policies aimed at minimising soil disturbance and associated weed establishment, control introduced plants and animals, and restrict grazing or development along roadside areas in the district. Proposals must also take into account the existing native vegetation present.

• Revegetation programs on rural roadsides should use seed collected from the local area (preferably within 10km of the site). Using non-local plants will disrupt the roadside ecology and may displace local species. Within townships, a wider range of plants may be used, but care is needed to avoid species which could spread into bushland.

• Replanting near powerlines must comply with relevant legislation and guidelines of SA Power Networks (while at the same time selecting local native plant species where possible).

• Direct seeding of native species, using seed collected locally, can be a cheap and effective approach.

• Particular care is needed in dealing with open areas (i.e. areas possessing few if any trees or shrubs) as some areas of the State naturally had areas of open grassland, sedgeland and wetland. It may be inappropriate to plant trees and shrubs in those sites. These naturally occurring open areas may be difficult to recognise if the site is now a cleared roadside. Disturbance in these areas may constitute clearance under the Native Vegetation Act.

• Any applications to revegetate roadsides must be assessed and approved by the Council Fire Prevention Officer to ensure bushfire risk is not increased for areas that are designated as strategic fuel reduced zones. Also, at the planning stage ensure the site is not a fire management zone identified in the current BMAP.

• Any applications to revegetate roadsides will be discussed with Council’s Infrastructure and Environment department to ensure the proposal is acceptable in terms of Council’s maintenance programs and requirements.

Database

• Rehabilitated sites will be recorded on the Council’s GIS database.

Roadside markers and Bushcare work

• Roadside Revegetation Sites will be added to the “Roadside Marker System (RMS) to ensure protection of significant sites.

• In consultation with the NRM Board, and/or Trees for Life, “Bushcare” sites will also be encouraged wherever possible to help actively manage these important areas of native vegetation.

• The Light Regional Council will continue to encourage and promote the maintenance and improvement of roadside vegetation diversity through the support of existing groups, and, where appropriate, the establishment of more local community groups, to undertake restoration activities.
CONSULTATION AND APPROVAL REQUIREMENTS FOR RESTORATION OF ROADSIDE VEGETATION

Council Approval Requirements

- Any persons or groups wishing to undertake restoration of roadside vegetation must get permission from Light Regional Council. A program must be planned in consultation with Council following the guidelines below.
- Any activity occurring in rehabilitated and revegetated areas requires consent from the Light Regional Council.
- Any unauthorised clearance of native vegetation caused by restoration works (L - Native grass - Austrodanthonia sp., R - Hand weeding around Chocolate lilies - Arthropodium sp.). Note retention of fallen timber in restoration area.

Figure 21. Identify existing native vegetation before undertaking restoration works (L - Native grass - Austrodanthonia sp., R - Hand weeding around Chocolate lilies - Arthropodium sp.). Note retention of fallen timber in restoration area.
6. MANAGEMENT ACTIONS

Outlined below is an action plan that will further enhance management of roadside vegetation in the Light Regional Council area. The actions were identified by Light Regional Council’s Environmental Projects Officer and other staff members (during a workshop). The actions are listed in the order that the Management Issues are addressed in Section 3 of this RVMP. Each action has been prioritised using the following timeframes:

- **High** Priority will be completed within 2 years.
- **Medium** Priority will be completed within 5 years.
- **Low** Priority will be completed within 10 years or re-assessed within this timeframe.
- **Ongoing** actions which will become effective immediately.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Action Statement</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Section 3. Roadside Vegetation Surveys</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Audit Roadside Segments of high ecological Value</td>
<td>Audit roadside vegetation segments of Ecological Value of A and B (as determined by the 2003 survey) to determines their current ecological value. Update Council’s GIS database and roadside vegetation maps if required. Provide updated maps and an updated list of roads for which Category A and B vegetation occurs to all on-ground staff.</td>
<td>High</td>
</tr>
<tr>
<td>Audit Roadside Marker System</td>
<td>Audit the Roadside Marker Sites to determine which sites still qualify to be included in the system. Use data collected in the audit of roadside segments of high ecological value (above) if available. GPS the locations of the qualifying sites and add to the GIS databases. Re-establish Roadside Markers at these sites, where needed. Council’s Community Engagement Strategy is to include actions to notify any adjoining landholders to RMS sites advising of them of the site’s importance and provision of information on RMS sites to the wider community. See also Council training below.</td>
<td>High</td>
</tr>
<tr>
<td>Database Additions</td>
<td>Add to Council’s roadside vegetation GIS database: • known locations of flora species and vegetation communities of conservation significance; • RMS sites • any community managed roadside sites (rehabilitation, revegetation, bushcare) • leased unmade road reserve data • any updated data from additional surveys or audits implemented</td>
<td>High</td>
</tr>
<tr>
<td>Additional surveys</td>
<td>Survey undeveloped road reserves to determine overall ecological value.</td>
<td>Medium</td>
</tr>
<tr>
<td><strong>Section 4.2 Roadside Maintenance</strong></td>
<td></td>
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</tr>
<tr>
<td>Tree Management Policy</td>
<td>Update the Tree Management Policy to: • Clearly state activities landowners are/aren’t allowed to do in terms of tree trimming on roadsides. As well as the process for landowners</td>
<td>High</td>
</tr>
</tbody>
</table>
- Include that the collection of live and dead timber is not permitted on roadsides.

Public requests for roadside maintenance

Establish a formal workflow process for public requests. The process needs to include:

- forwarding the request to Council’s Environmental Officer (for comment) for any requests involving the potential disturbance to or clearance of native vegetation;
- use of existing roadside vegetation maps (particularly overall ecological significance);
- data included in Council’s GIS database for other useful information (e.g. RMS sites)

See also Council training below.

Clearance envelopes

Implement a checklist within maintenance programs (for example the re-sheeting program and the annual tree trimming program) to identify any additional clearance requirements (to the clearance envelopes established in this RVMP) early on in the planning phase.

Develop a work process for instances when an additional clearance requirement is identified via the above checklist.

Pushing graded soil onto the road verge

Pushing graded soil onto the road verge causes damage to roadside vegetation by burying the ground surface. This practice causes significant soil disturbance and will lead to future pest plant invasions, which in turn require higher levels of maintenance.

Council’s grader operators identified that this is currently not a big issue along Council’s roads.

Council’s Environmental Projects Officer and Council’s Grader Operators are to maintain communication regarding this potential issue. Appropriate actions are to be identified and implemented if and when the issue is deemed actionable.

Dumping of road or drain spoil onto the verge

Dumping of road or drain spoil onto the verge makes it very difficult to slash or mow grassland sections. It can also smother native vegetation.

Council is to develop an internal process that outlines: under what situations silt build-up or road or drain spoil needs to be removed from the site and deposited elsewhere, and what procedures are to be followed by Council staff in these situations. This process is to be incorporated into the planning stage of drains and other roadworks.

Over-sized farm machinery on Council roads

Oversized farm machinery – e.g. sprayers – can require additional vegetation clearance outside of the clearance envelopes established in this RVMP in order to move between paddocks and properties. Note clearance of native vegetation outside of the established clearance envelopes requires NVC consent.

Council is to investigate the possibility of developing oversized machinery routes along Council roads, or whether there are roads commonly used by...
oversized machinery. As such Council is to:

- determine if there are particular roads and routes that these oversized machinery commonly use.
- determine the routes of the old ‘farm link roads’ that were once established in the council area.

Once these tasks are completed, Council is to:

- determine whether oversized machinery routes can be developed. These routes are to minimise any impact on native vegetation.
- determine whether common routes / roads requiring additional clearance (to established clearance envelopes) can be included within the RVMP and submitted to the NVC for approval.

Farmers impairing Council maintenance activities

Council on-ground staff have identified that adjacent landowners are depositing items (for example old fence wire) into the road verge that are presenting a hazard when undertaking maintenance activities.

Council’s Community Engagement Strategy is to include actions that inform the community that:

- they cannot undertake activities on the roadside without Council approval
- the hazards that dumping of items in the road verge presents to Council workers.

Other roadside activities impairing council’s maintenance activities

Other activities, such as revegetation on roadsides, can impact Council’s on-gounds staff ability to undertake their maintenance activities. In these cases the activities have been implemented without consultation with Council’s Infrastructure and Environment Department.

Consultation with Council’s infrastructure and Environment Department is to occur for all applications by the public and by other departments of Council to undertake activities within the roadside that may impact upon road maintenance activities.

Section 4.5 Pest Plant and Animal Control

Weeds

Develop a Weed Management and Control Policy
Develop annual weed control programs
Develop a process for Council on-ground works staff to report sightings to Council’s Environmental Officer. See also staff training below.

Section 4.8 Access to Adjoining Land

Properties not requiring boundary fences

Council to investigate the usefulness of developing an access management plan template (and process) for properties involving production activities that do not require boundary fencing, such as horticulture.

The Plan would form part of a land use change application.

Section 4.10 Grazing, Section 4.11 Droving Stock, Section 4.13 Cultivation and Cropping

Unmade Road

Audit existing permits to:
### Reserve Permit

- Identify the location, extent and purpose of the lease;
- Identify from landholder as to their future needs on the leased land;
- Determine if the lease should be continued or revoked. This may include an on-site assessment of the vegetation, or the use of existing vegetation data if available (see additional surveys above).

Add existing leases/permits to Council’s GIS database, including (but not limited to): landowner details, location of lease, extent of lease, vegetation type and ecological value (as assessed on site), purpose of lease.

Develop a map of existing leases/permits.

Update Council’s process for assessing any new lease applications submitted.

Develop a process for on-going periodic reviews of existing leases.

Review current permit to ensure it is consistent with the requirements within this RVMP. Update if required.

### Section 4.15 Maintaining Biodiversity on Roadsides, 4.16 Protection and 4.17 Restoration of Roadside Vegetation

#### Revegetation on Roadsides

Develop a permit workflow for Council staff or community groups wishing to implement a revegetation program on a roadside. The workflow process is to include:

- Undertaking a site assessment to determine suitability for revegetation. And if suitable, to develop an appropriate plant species list for the site;
- Providing landholders with information on the types of plants that would be suited for the particular road verge they are interested in, which consider safety and functional issues. This would include species lists, planting densities and position on verge.

Develop process for revegetated roadsides to be recorded and placed within Council’s GIS system.

Council’s Community Engagement Strategy is to include actions to inform the community of opportunities to be involved in works that protect, maintain (or enhance) biodiversity of and / or restore roadside native vegetation.

### Other

#### Whole-scale spraying of roadsides by adjacent landowners

Damage to native vegetation via spray drift occurs mainly when spraying is undertaken on windy days and the chemical is blown through the fence onto the road verge. There are also incidents of whole-scale spraying of roadsides by adjacent landowners.

Develop compliance options and management response processes.

Develop standards to be followed by landowners for undertaking spraying adjacent to or on roadsides. Standards to include alternate control methods.

Council’s Community Engagement Strategy is to include actions to inform landowners of their responsibilities when undertaking activities on the roadside (including application requirements, standard operating procedures, requirements of the RVMP etc.) as well as to provide landowners with information to assist in better managing spraying operations.
### Staff Training and Programs

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Workshops or other training should be undertaken with relevant staff on the following:</td>
<td>All High</td>
</tr>
<tr>
<td>• identifying RMS sites and areas of high ecological value (using existing vegetation maps) and the additional precautions (or differences in maintenance procedures) required when working within them.</td>
<td></td>
</tr>
<tr>
<td>• identifying weeds of particular concern.</td>
<td></td>
</tr>
<tr>
<td>• Any new workflow processes or procedures developed as part of this Action Plan</td>
<td></td>
</tr>
<tr>
<td>• Council workers to be supplied with appropriate maps and other information which highlights the location and nature of roadside vegetation.</td>
<td></td>
</tr>
</tbody>
</table>

Additional tools to be developed to assist Council outdoor staff to undertake their duties. These are to be developed by Council’s Environmental Projects Officer in Consultation with managers and on-ground staff of Council’s Infrastructure and Environment Department. Tools to include:

- A ute guide (or similar) that provides on-ground staff with a simplified go-to-guide of this RVMP
7. REFERENCES

Austroads publications relating to Road design:


On DEWNR website (see “Roadside Vegetation Manual”):

Transport SA Environmental Code of Practice for Road Maintenance.


## 8. Abbreviations & Definitions

### Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEWNR</td>
<td>Department of Environment, Water and Natural Resources</td>
</tr>
<tr>
<td>LGA</td>
<td>Local Government Association</td>
</tr>
<tr>
<td>NRM</td>
<td>Natural Resources Management</td>
</tr>
<tr>
<td>NVMU</td>
<td>Native Vegetation Management Unit</td>
</tr>
<tr>
<td>NVC</td>
<td>Native Vegetation Council as established by the <em>Native Vegetation Act, 1991.</em></td>
</tr>
<tr>
<td>RVMP</td>
<td>Roadside Vegetation Management Plan</td>
</tr>
<tr>
<td>RMS</td>
<td>Roadside Marker System</td>
</tr>
</tbody>
</table>

### Definitions

Some of the terms commonly used in relation to roadside vegetation management in South Australia are listed below and, in the case of road construction, illustrated in the following diagram [except where specifically referenced, these terms are defined for the purpose of these guidelines]:

**Biological diversity** or **biodiversity** – means the variety of life forms represented by plants, animals and other organisms and micro-organisms, the genes that they contain, and the ecosystems and ecosystem processes of which they form a part (*Native Vegetation Act 1991*).

**Carriageway** – That portion of a road or bridge devoted particularly to the use of vehicles, inclusive of the shoulders and auxiliary lanes (*Austroads, 2010*).

**Catch drain** – a surface channel constructed along the high side of a road or embankment, outside the batter to intercept surface water (*Austroads, 2010*).

**Clearance** (from the *Native Vegetation Act 1991*) means –

- a) the killing or destruction of native vegetation;
- b) the removal of native vegetation;
- c) the severing of branches, limbs, stems or trunks of native vegetation;
- d) the burning of native vegetation;
- e) any other substantial damage to native vegetation,

and includes the draining or flooding of land, or any other act or activity, that causes the killing or destruction of native vegetation, the severing of branches, limbs, stems or trunks of native vegetation or any other substantial damage to native vegetation.
Clearance envelope – the area where vegetation clearance is required to allow for the passage of legal height vehicles across the full width of the carriageway.

[Secondary clearance envelopes are further areas required to be kept clear of vegetation adjacent to the carriageway for adequate visibility of other traffic, signs and other roadside furniture.]

Dead plants (under the definition of native vegetation in Section 3(1) of the Native Vegetation Act 1991), means the class of plants, or parts of plants, comprising trees of a species indigenous to South Australia –

a) that have a trunk circumference (measured at a point 300 millimetres above the base of the tree) of –
   i) in the case of a tree located on Kangaroo Island – 1 metre or more; or
   ii) in any other case – 2 metres or more; and

b) that provide or have the potential to provide, or are a [part of a group of trees or other plants (whether alive or dead) that provide, or have the potential to provide, a habitat for animals of a listed threatened species under the Environment Protection and Biodiversity Conservation Act 1999 of the Commonwealth, is declared to be included in that definition.

Dead timber (firewood) – in this plan generally refers to woody debris from standing or fallen dead trees or branches. It does not usually encompass fine fuels – which generally refer to grass, leaves, bark and twigs less than 6mm in diameter (SA CFS web-site).

Droving or Movement of Stock – Moving stock, usually cattle or sheep, from one place to another by driving them slowly on foot along roadways or stock routes.

Formation – The surface of the finished earthworks, excluding cut or fill batters (Austroads, 2010).

Grazing of Stock – Using a particular area for grazing rather than for movement of livestock.

Indigenous (or Native) Vegetation – Local (naturally established) native vegetation species of the type occurring prior to European settlement in this district.

Local council – in these guidelines has the same meaning as “council” under the Local Government Act 1999; i.e. a council constituted under that Act; the principal role being “…to provide for the government and management of its area at the local level and, in particular—

a) to act as a representative, informed and responsible decision-maker in the interests of its community; and

b) to provide and co-ordinate various public services and facilities and to develop its community and resources in a socially just and ecologically sustainable manner; and

c) to encourage and develop initiatives within its community for improving the quality of life of the community; and

d) to represent the interests of its community to the wider community; and

e) to exercise, perform and discharge the powers, functions and duties of local government under this and other Acts in relation to the area for which it is constituted”.

Native Vegetation – under Section 3(1) of the Native Vegetation Act 1991, “native vegetation means a plant or plants of a species indigenous to South Australia including a plant or plants growing in or under waters of the sea but does not include—

a) a plant or part of a plant that is dead unless the plant, or part of the plant, is of a class declared by regulation to be included in this definition; or

b) a plant intentionally sown or planted by a person unless the person was acting—
   i) in compliance with a condition imposed by the Council under this Act or by the Native Vegetation Authority under the repealed Act, or with the order of a court under this Act or the repealed Act; or
   ii) in pursuance of a proposal approved by the Council under Part 4 Division 2; or
   iii) in compliance with a condition imposed by a Minister, statutory authority or prescribed person or body under—
      A) the River Murray Act 2003; or
      B) the Water Resources Act 1997; or
Natural Regeneration – New growth of indigenous native plants from seed or sucker growth.

Pavement – That portion of a road designed for the support of, and to form the running surface for, vehicular traffic (Austroads, 2010).

Public road (from Section 4 of the Local Government Act 1999), is —

a) any road or land that was, immediately before the commencement of this Act, a public street or road under the repealed Act; or

b) any road—

i) that is vested in a council under this or another Act; or

ii) that is placed under a council’s care, control and management as a public road after the commencement of this Act, but not including an alley, laneway, walkway or other similar thoroughfare vested in a council; or

c) any road or land owned by a council, or transferred or surrendered to a council, and which, subject to this Act, is declared by the council to be a public road; or

d) any land shown as a street or road on a plan of division deposited in the Lands Titles Registration Office or the General Registry Office and which is declared by the council to be a public road; or

e) any land transferred or surrendered to the Crown for use as a public road that was, immediately before the transfer, held by a person in fee simple or under a lease granted by the Crown, (and includes any such road that is within the boundaries of a public square);

Property Line – The boundary between a road reserve and the adjacent land (Austroads, 2010).

Remnant Vegetation – Surviving indigenous vegetation.

Road (from Roads (Opening and Closing) Act 1991) is —

a) a public road within the meaning of Section 4 of the Local Government Act 1999; or

ab) an alley, laneway, walkway or other similar thoroughfare vested in a council; or

b) in relation to a part of the State not within a council area—

i) a road or street delineated and shown on a public map or plan of the State as laid out for public purposes by the Crown; or

ii) a road or street opened under this Act or any other Act relating to the opening of new roads and streets; or

iii) a road or street transferred or surrendered to the Minister of Local Government or the Crown by the owner or lessee for use as a public road or street; or

iv) a road or street declared or dedicated under any other Act to be a public road or street,

and includes part of a road.

Roadside – Is defined as the strip of land between the road formation and the boundary of the road reserve.

Roadwork (from the Local Government Act 1999) means—

a) the construction of a road; or

b) the maintenance or repair of a road; or

c) the alteration of a road; or

d) the construction of drains and other structures for the drainage of water from a road; or

e) the installation of fences, railings, barriers or gates; or
f) the installation of traffic control devices, traffic islands or parking bays; or

g) the improvement of a road including (for example)—
   i) landscaping and beautification; or
   ii) installation of road lighting; or

h) the installation of amenities or equipment on or adjacent to a road for the use, enjoyment or protection of the public;
   or

i) the installation of signs on or adjacent to a road for the use or benefit of the public;

Road furniture – A general term covering all signs, streetlights and protective devices for the control, guidance and safety of traffic, and the convenience of road users.

Road reserve— Refers to land set aside for a road, whether constructed or not, and extends from property boundary on one side to property boundary on the other side.

Roadside vegetation— Is any vegetation growing on a road reserve, and includes vegetation on a roadside (the area adjacent to a formed road), and vegetation growing on an unmade or undeveloped road reserve; this includes native vegetation of conservation value and vegetation dominated by introduced species.

Secondary clearance envelopes— are areas required to be kept clear of vegetation adjacent to the carriageway for adequate visibility of other traffic, signs and other roadside furniture.

Shoulder – The portion of formed carriageway that is adjacent to the traffic lane and flush with the surface of the pavement (Austroads, 2010).

Sight Triangle The area of land between two intersecting roadways over which vehicles on both roadways are visible to each driver (Austroads, 2010).

Significant Environmental Benefit – The Native Vegetation Act 1991 includes provisions requiring the clearance of native vegetation to be offset by an environmental gain, referred to by the legislation as a ‘Significant Environmental Benefit’ (SEB).

- The rationale for an SEB offset recognises that clearance of native vegetation will result in the loss (even temporary) of habitat, biodiversity and/or other environmental values, in a landscape that has already been significantly modified by human settlement.
- The SEB provides a mechanism to minimise that loss by managing, restoring or re-establishing areas of native vegetation that result in a better outcome for the environment.

Table drain – The side drain of a road adjacent to the shoulder, having its invert lower than the pavement base and being part of the formation (Austroads, 2010).

Threatened Species – Threatened species are those plant and animal species considered to be at risk of extinction in the wild.

Travelled way – That portion of a carriageway ordinarily assigned to moving traffic, and exclusive of shoulders and parking lanes (Austroads, 2010).

Traffic Lane – A portion of the carriageway allocated for the use of a single line of vehicles. (Austroads 2010)

Unmade road– Means a road that is not sealed with bitumen (or other surfacing material) for use by motor vehicles. (Roads (opening and closing) Regulations 2006).

Undeveloped road – A surveyed road reserve which has never been developed as a road. Some are totally cleared and pass unmarked through farm paddocks, and others retain native vegetation.

Verge – That portion of the formation not covered by the carriageway or footpath (Austroads, 2010).
Appendix 1: Roadside Vegetation Survey Maps
Appendix 2: Conservation Significant Plants Recorded During the Roadside Vegetation Survey.

Conservation Status:
AUS = Australia (as listed under the EPBC Act); SA = South Australia (as listed under the National parks and Wildlife Act) and AMLR = Adelaide and Mount Lofty Ranges Region (as identified in DEWNRs AMLR Regional Species Conservation Assessments, updated February 2014).

EN = Endangered; VU = Vulnerable; UN = Uncommon; RA = Rare.

The initial list of plant species of conservation significance (from the time of the survey) has been updated with the latest available data on species conservation listings. Those on the original list that had an updated AMLR status of LC (least concern) or NT (not threatened) were removed from the Table.

In total 48 species recorded during the survey have a conservation rating. Eight of these have a State rating, 46 have a Regional (AMLR) rating.

<table>
<thead>
<tr>
<th>Species</th>
<th>Conservation Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acacia acinacea</td>
<td>RA</td>
</tr>
<tr>
<td>Acacia cupularis</td>
<td>RA</td>
</tr>
<tr>
<td>Acacia hakeoides</td>
<td>VU</td>
</tr>
<tr>
<td>Acacia microcarpa</td>
<td>VU</td>
</tr>
<tr>
<td>Acacia oswaldii</td>
<td>EN</td>
</tr>
<tr>
<td>Acacia rigens</td>
<td>RA</td>
</tr>
<tr>
<td>Acacia salicina</td>
<td>RA</td>
</tr>
<tr>
<td>Acacia sclerophylla</td>
<td>RA</td>
</tr>
<tr>
<td>Acacia spilleriana</td>
<td>EN</td>
</tr>
<tr>
<td>Acacia victoriae ssp victoriae</td>
<td>VU</td>
</tr>
<tr>
<td>Acrotriche patula</td>
<td>RA</td>
</tr>
<tr>
<td>Alectryon oleifolius ssp. canescens</td>
<td>RA</td>
</tr>
<tr>
<td>Alyxia buxifolia</td>
<td>RA</td>
</tr>
<tr>
<td>Austrostipa breviglumis</td>
<td>RA</td>
</tr>
<tr>
<td>Austrostipa gibbosa</td>
<td>RA</td>
</tr>
<tr>
<td>Austrostipa platychaeta</td>
<td>RA</td>
</tr>
<tr>
<td>Calocephalus citreus</td>
<td>RA</td>
</tr>
<tr>
<td>Cassinia arcuata</td>
<td>VU</td>
</tr>
<tr>
<td>Dicantheum sericeum ssp. sericeum</td>
<td>VU</td>
</tr>
<tr>
<td>Eremophila behriana</td>
<td>EN</td>
</tr>
<tr>
<td>Eremophila deserti</td>
<td>VU</td>
</tr>
<tr>
<td>Eucalyptus behriana</td>
<td>RA</td>
</tr>
<tr>
<td>Eucalyptus dumosa</td>
<td>VU</td>
</tr>
<tr>
<td>Eucalyptus gracilis</td>
<td>VU</td>
</tr>
<tr>
<td>Eucalyptus incrassata</td>
<td>RA</td>
</tr>
<tr>
<td>Eucalyptus largiflorens</td>
<td>EN</td>
</tr>
<tr>
<td>Eucalyptus leucoxylon ssp pruinosa</td>
<td>VU</td>
</tr>
<tr>
<td>Eucalyptus socialis</td>
<td>VU or RA (depending on ssp.)</td>
</tr>
<tr>
<td>Grevillea huegellii</td>
<td>RA</td>
</tr>
<tr>
<td>Species</td>
<td>Conservation Status</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Grevillea illicifolia</td>
<td>VU</td>
</tr>
<tr>
<td>Hakea leucoptera</td>
<td>VU</td>
</tr>
<tr>
<td>Haloragis aspera</td>
<td>VU</td>
</tr>
<tr>
<td>Kunzea pomifera</td>
<td>RA</td>
</tr>
<tr>
<td>Lasiopetalum behrii</td>
<td>VU</td>
</tr>
<tr>
<td>Leptomarea aphylla</td>
<td>VU</td>
</tr>
<tr>
<td>Lomandra leucocephala ssp robusta</td>
<td>VU</td>
</tr>
<tr>
<td>Lomandra nana</td>
<td>UN</td>
</tr>
<tr>
<td>Lycium australe</td>
<td>EN</td>
</tr>
<tr>
<td>Maireana aphylla</td>
<td>VU</td>
</tr>
<tr>
<td>Maireana rohrlachii</td>
<td>RA</td>
</tr>
<tr>
<td>Myoporum montanum</td>
<td>VU</td>
</tr>
<tr>
<td>Olearia pannosa ssp pannosa</td>
<td>VU</td>
</tr>
<tr>
<td>Ozothamnus retusus</td>
<td>RA</td>
</tr>
<tr>
<td>Rytidosperma linkii var fulva (formerly Danthonia linkii var fulva)</td>
<td>VU</td>
</tr>
<tr>
<td>Santalum acuminatum</td>
<td>RA</td>
</tr>
<tr>
<td>Teucrium racemosum</td>
<td>UN</td>
</tr>
<tr>
<td>Teucrium sessiflorum</td>
<td>VU</td>
</tr>
<tr>
<td>Wilsonia rotundifolia</td>
<td>VU</td>
</tr>
<tr>
<td>TOTAL</td>
<td>0</td>
</tr>
</tbody>
</table>

Additional Plant Species recorded by Kate Graham during a roadside survey in 2007.

<table>
<thead>
<tr>
<th>Species</th>
<th>Common Name</th>
<th>Regional Conservation Rating (SL)</th>
<th>Parkers Rd</th>
<th>Leak Rd cutting</th>
<th>Haydon Rd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austrostipa elegantissima</td>
<td>Feather Spear-grass</td>
<td>UN</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Austrostipa eremophila</td>
<td>Rusty Spear-grass</td>
<td>UN</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Cryptandra amara var. amara</td>
<td>Spiny Cryptandra</td>
<td>TH</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Dodonaea bursariifolia</td>
<td>Small Hop-bush</td>
<td>VU</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Exocarpus spartus</td>
<td>Slender Cherry</td>
<td>RA</td>
<td>x (2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gahnia lanigera</td>
<td>Black Grass Saw-sedge</td>
<td>RA</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Helichrysum leucopsisideum</td>
<td>Satin Everlasting</td>
<td>UN</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Homopholis prolata</td>
<td>Rigid Panic</td>
<td>RA</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Melaleuca lanceolata ssp. lanceolata</td>
<td>Dryland Tea-tree</td>
<td>UN</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Myoporum platycarpum ssp. Perbellum</td>
<td>Mallee Sandalwood</td>
<td>RA</td>
<td>r</td>
<td>?</td>
<td>x</td>
</tr>
<tr>
<td>Pittosporum phylliraeoides var. microcarpa</td>
<td>Native Apricot</td>
<td>RA</td>
<td>r</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Pilolus spathulatus forma spathulatus</td>
<td>Pussy-tails</td>
<td>RA</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Rhogodia parabolica</td>
<td>Mealy Saltbush</td>
<td>VU</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Sclerolaena diacantha</td>
<td>Grey Bindyi</td>
<td>RA</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Setaria constrictum</td>
<td>Knotty-butt Paspalidium</td>
<td>RA</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Westringia rigida</td>
<td>Stiff Westringia</td>
<td>RA</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Zygophyllum glaucum</td>
<td>Pale Twinleaf</td>
<td>TH</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>
### Appendix 3: Vegetation Associations Recorded During the Roadside Vegetation Survey.

<table>
<thead>
<tr>
<th>Vegetation Association</th>
<th>Segment Length (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Bare Ground, Built areas and Watercourse</td>
<td>25,230</td>
</tr>
<tr>
<td>2. Plantation: Mixed native trees and shrubs, Exotic trees and shrubs</td>
<td>93,360</td>
</tr>
<tr>
<td>3. Acacia acinacea Shrubland</td>
<td>470</td>
</tr>
<tr>
<td>4. Acacia calamifolia Tall shrubland</td>
<td>300</td>
</tr>
<tr>
<td>5. Acacia hakeoides Tall shrubland</td>
<td>350</td>
</tr>
<tr>
<td>6. Acacia ligulata Shrubland</td>
<td>380</td>
</tr>
<tr>
<td>7. Acacia microcarpa Shrubland</td>
<td>660</td>
</tr>
<tr>
<td>8. Acacia notabilis Shrubland</td>
<td>18,520</td>
</tr>
<tr>
<td>9. Acacia oswaldii Open shrubland</td>
<td>2,300</td>
</tr>
<tr>
<td>10. Acacia paradoxa Open shrubland</td>
<td>10,030</td>
</tr>
<tr>
<td>11. Acacia pycnantha Tall open shrubland</td>
<td>13,330</td>
</tr>
<tr>
<td>12. Mixed Acacia spp. Tall shrubland</td>
<td>280</td>
</tr>
<tr>
<td>13. Allocasuarina verticillata Open woodland</td>
<td>18,160</td>
</tr>
<tr>
<td>14. Exotic shrubland</td>
<td>259,480</td>
</tr>
<tr>
<td>15. Exotic grassland</td>
<td>37,540</td>
</tr>
<tr>
<td>16. Exotic grassland containing native and exotic species</td>
<td>1,075,990</td>
</tr>
<tr>
<td>17. Beyeria lechenaultii Shrubland</td>
<td>1,100</td>
</tr>
<tr>
<td>18. Bursaria spinosa Shrubland</td>
<td>2,010</td>
</tr>
<tr>
<td>19. Callitris preissii Low woodland</td>
<td>65,450</td>
</tr>
<tr>
<td>20. Callitris preissii, mixed Eucalypt spp. Open Mallee</td>
<td>21,320</td>
</tr>
<tr>
<td>21. Mixed grassland containing mostly native species</td>
<td>156,290</td>
</tr>
<tr>
<td>22. Native grassland comprising mostly native species</td>
<td>288,060</td>
</tr>
<tr>
<td>23. Eremophila longifolia Tall shrubland</td>
<td>5,320</td>
</tr>
<tr>
<td>24. Eucalyptus behriana Low open mallee</td>
<td>5,180</td>
</tr>
<tr>
<td>25. Eucalyptus camaldulensis Tall woodland</td>
<td>1,730</td>
</tr>
<tr>
<td>26. Eucalyptus camaldulensis, Eucalyptus leucoxylon ssp Tall woodland</td>
<td>1,100</td>
</tr>
<tr>
<td>27. Eucalyptus dumosa Open mallee</td>
<td>30,100</td>
</tr>
<tr>
<td>28. Eucalyptus gracilis Open mallee</td>
<td>2,100</td>
</tr>
<tr>
<td>29. Eucalyptus incrassata, Eucalyptus socialis Open mallee</td>
<td>6,550</td>
</tr>
<tr>
<td>30. Eucalyptus largiflorens open woodland</td>
<td>6,560</td>
</tr>
<tr>
<td>31. Eucalyptus leucoxylon ssp. Open woodland</td>
<td>230,730</td>
</tr>
<tr>
<td>32. Eucalyptus odorata Woodland</td>
<td>273,190</td>
</tr>
<tr>
<td>33. Eucalyptus porosa, Allocasuarina verticillata Low woodland</td>
<td>4,200</td>
</tr>
<tr>
<td>34. Eucalyptus socialis mallee</td>
<td>34,900</td>
</tr>
<tr>
<td>35. Hakea leucoptera Shrubland</td>
<td>1,060</td>
</tr>
<tr>
<td>36. Halosarcia spp Low shrubland</td>
<td>200</td>
</tr>
<tr>
<td>37. Lomandra spp. Open tussock grassland</td>
<td>950</td>
</tr>
<tr>
<td>38. Maireana aphylla Low shrubland</td>
<td>1,500</td>
</tr>
<tr>
<td>39. Melaleuca lanceolata/acuminata Shrubland</td>
<td>2,520</td>
</tr>
<tr>
<td>40. Pittosporum phylliraeoides Shrubland</td>
<td>1,130</td>
</tr>
<tr>
<td>41. Rhagodia parabolica Low shrubland</td>
<td>740</td>
</tr>
<tr>
<td>42. Santalum acuminatum Low woodland</td>
<td>450</td>
</tr>
<tr>
<td>43. Senna artemesioides spp Shrubland</td>
<td>40,520</td>
</tr>
</tbody>
</table>
Appendix 4: Light Regional Council Road Construction Standards

(A) NATIONAL HIGHWAYS AND RURAL ARTERIAL ROADS

- Under control of Transport SA.
- Play key role in carrying traffic through Council area, linking principal towns.
- Generally sealed, high traffic volume roads and key freight routes.

(B) SEALED COUNCIL ROADS

Council’s sealed road network is classified as follows:

Rural Sealed Roads – are Council’s rural roads that are:

- Roads with high traffic volumes and high numbers of commercial vehicles eg. Wasleys to Templers Road, Roseworthy Road, Gawler River Road and Stonewell Road.
- Roads that carry relatively high numbers of tourist vehicles eg. Seppeltsfield Road, Golfcourse Road and Golflinks Road
- Roads on outskirts of townships that carry high numbers of local traffic and are difficult to maintain in an unsealed condition eg. Samuel Road, Bethel Road and Moppa Road

Rural Sealed Roads (Construction Standards) – rural sealed roads are to be generally constructed to the following standards:

- horizontal and vertical design standard of 100 km/h
- formation width 11.0 m
- sealed width 7.0 m
- seal type – 14/7 mm
- standard cross-section with 4% fall
- pavement thickness - 300 mm, sub base to 95 % compaction,
- basecourse 97 % compaction
- pavement material - crushed rock to TSA specifications
- sealed aprons to be constructed at all junctions and intersections
- hotmix to be considered at major locations
- rubble entranceways except in locations where culverts required
- free draining side drains both sides of the road
- existing drainage cleaned or replaced if inadequate or damaged
Rural Living Subdivisions (Road Construction Standards) – are to be generally constructed to the following standards:

- sealed width 6.0 m – 10.0 m (including watertable)
- kerbing either kerb and watertable or roll-over kerbing
- seal type - 14/7 mm or asphaltic concrete
- pavement thickness 300 mm, dependent on Developers pavement design
- compaction – 95 % sub-base, 97 % basecourse
- pavement material - crushed rock to TSA specifications
- tree planting in road reserve as required by Council Planner
- paths as required by Council Planner

![Typical Cross Section Diagram]

Rural Sealed Roads (Maintenance Standards) – are to be generally maintained to the following standards:

- Reseal every 10 - 12 years
- Maintenance to seal as required eg. potholes, digouts
- Shoulder grading as required
- Slashing shoulders as required
- Maintain sighter posts and delineators
- Linemarking as required
- Replace signs as required

Township Streets – that have been sealed for convenience of ratepayers, to reduce dust and improve stormwater drainage. Normally have kerb and watertable.

Township Streets (Construction Standards) - are to be generally constructed to the following standards:

- sealed width 6.0 –10.0 m (including watertable), dependent on local environment
- kerb and watertable with access ramps
- seal type – 10/5 mm or asphaltic concrete
- standard cross-section with 4% crossfall
- pavement thickness 250 mm, sub-base to 95 % compaction,
**Township Streets (Maintenance Standards)** – township streets are to be generally maintained to the following standards:

- Reseal every 10 - 12 years
- Maintenance to seal as required eg. potholes, digouts
- Linemarking as required
- Watertable and drains cleaned regularly and repaired as required
- Weed spraying and slashing as required
- Replace signs as required
- Shoulder grading as required

**C**  
**UNSEALED COUNCIL ROADS**

**Unsealed Rural Roads**

Council’s unsealed rural road network is classified as follows:

**Category 1** – these include the major unsealed roads within the Council area that operate as local arterial roads. These roads carry traffic through the Council area, are higher trafficked roads and are freight routes to wineries, silos, hay processing plants etc. These roads require high quality sheeting material and a high maintenance effort.

Roads in this category generally have a higher standard alignment with reasonable sight distance, a formation width to allow heavy vehicles to pass and trees trimmed back for the full formation width.

If funds were available, roads would generally be selected for construction and sealing from this category.

**Category 1 (Construction Standards)** – are to be generally constructed to the following standards:

- geometric standards – horizontal and vertical alignment consistent with speed environment. Curves supererelevated longitudinal side drains and culverts at main watercourses.
- vegetation clearance 11.0 m
- sheeted width 7.0 m – 10.0 m
- sheeted shape - 4-6% crossfall
- sheeted thickness - 150 mm compacted
- sheeting material – pit rubble or crushed rock with suitable grading and binder index to Council’s standards
• drainage – pipes or box culverts installed to full vegetation clearance width and side drains

**Category 1 (Maintenance Standards)** – are to be generally maintained to the following standards:

• 4 - 6 grades per year
• Patching as required
• Side drains and culverts cleaned as required
• Replace signs as required

**Category 2** – these include the unsealed roads within the Council area that are major roads for local traffic and often tourist traffic. These roads carry high priority local traffic.

School bus routes and regular truck movements eg. Milk pick-up are from this category or higher.

Some roads from this category are selected for construction and sealing due to their high maintenance costs, tourist importance or their close proximity to townships.

**Category 2 (Construction Standards)** – are to be generally constructed to the following standards:

• geometric standards – horizontal and vertical alignment consistent with speed environment, Curves superelevated, longitudinal side drains and culverts at main watercourses
• vegetation clearance 11.0 m
• sheeted width 7.0 m – 10.0 m
• sheeted shape - 4-6% crossfall
• sheeted thickness - 100 mm or 150 mm compacted
• sheeting material – pit rubble or crushed rock with suitable grading and binder index to Council’s standards
• drainage – pipes or box culverts installed at worst locations, to full vegetation clearance width and side drains

**Category 2 (Maintenance Standards)** – are to be generally maintained to the following standards:

• 2 - 4 grades per year
• Patching as required
• Side drains and culverts cleaned as required
• Replace signs as required

**Category 3** – these are the remainder of Council’s unsealed road network that has been formed and sheeted. These roads provide all weather access to residences and farms.

**Category 3 (Construction Standards)** – are to be generally constructed to the following standards:

• geometric standards – horizontal and vertical alignment generally follow natural terrain
• vegetation clearance up to 11.0 m
• sheeted width 5.0 – 6.0 m
• sheeted shape - 4-6% crossfall
• sheeted thickness - 100 mm compacted
• sheeting material – pit rubble or crushed rock with suitable grading and binder index to Council’s Standards

**Category 3 (Maintenance Standards)** – are to be generally maintained to the following standards:

• 1 - 2 grades per year
- Patching as required
- Side drains and culverts cleaned as required
- Replace signs as required

**Category 4** – these roads have generally been formed and provide access to farms for the movement of plant and machinery. These roads need not be all weather roads.

**Category 4 (Construction Standards)** – are to be generally constructed to the following standards:
- vegetation clearance up to 11.0 m
- formed width 6.0 m – 8.0 m

**Category 4 (Maintenance Standards)** – are to be generally maintained to the following standards:
- 0 - 1 grades per year
- Replace signs as required

**Unsealed Township Streets**

Council’s unsealed township streets, due to their similar nature, have not been categorised. As programming of works allows, these streets will be sealed to reduce dust and where appropriate constructed with kerbing.
## Appendix 5: Declared Plant Species

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Species</th>
<th>General Provisions in the Act that Apply</th>
<th>Roadside Located</th>
<th>Common</th>
<th>Priority for Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>African boxthorn</td>
<td>Lycium ferocissimum</td>
<td>M S C R</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African feathergrass</td>
<td>Pennisetum macrourum</td>
<td>M S C R</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>African lovegrass</td>
<td>Eragrostis curvula</td>
<td>M S C R (see note 1)</td>
<td>●</td>
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<td></td>
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<tr>
<td>African rue</td>
<td>Peganum harmala</td>
<td>M S C R</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alkali sida</td>
<td>Malvella leprosa</td>
<td>M S N C R</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Alligator weed</td>
<td>Alternanthera philoxeroides</td>
<td>M S N C R</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apple of Sodom</td>
<td>Solanumlinnaeanum</td>
<td>M S C R</td>
<td>●</td>
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</tr>
<tr>
<td>Arrowhead</td>
<td>Sagittaria montevidensis</td>
<td>M S N C R</td>
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<tr>
<td>Arum lily</td>
<td>Zantedeschia aethiopica</td>
<td>M S C R</td>
<td>●</td>
<td></td>
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<tr>
<td>Athel pine</td>
<td>Tamarix aphylla</td>
<td>S</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Azzarola</td>
<td>Crataegus sinaiea</td>
<td>M S</td>
<td>●</td>
<td></td>
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<tr>
<td>Bathurst burr</td>
<td>Xanthium spinosum</td>
<td>M S C R</td>
<td>●</td>
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<tr>
<td>Bifora</td>
<td>Bifora testiculata</td>
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<td>●</td>
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<tr>
<td>Blackberry</td>
<td>Rubus fruticosus sp. Agg.</td>
<td>M S C R (see note 2)</td>
<td>●</td>
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<td>Bluebell creeper</td>
<td>Billardiera fusiformis &amp;</td>
<td>S C R</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boneseed</td>
<td>Chrysanthemoides monilfera</td>
<td>M S C R</td>
<td>●</td>
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<tr>
<td>Box elder</td>
<td>Acer negundo</td>
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<td></td>
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<tr>
<td>Bridal creeper</td>
<td>Asparagus asparagusoides &amp;</td>
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<tr>
<td></td>
<td>Asparagus declinatus</td>
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<td>Broad-kernel espartillo</td>
<td>Achnatherum caudatum</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Buffel grass</td>
<td>Cenchrus ciliaris &amp; C. pennisetiformis</td>
<td>M S N D R</td>
<td>●</td>
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</tr>
<tr>
<td>Broomrapes</td>
<td>Orobanche spp.</td>
<td>M S N C R (see note 3)</td>
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<td>Bulbil watsonia</td>
<td>Watsonia meriana var. bulillifera</td>
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<tr>
<td>Cabomba</td>
<td>Cabomba carolinianana</td>
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<tr>
<td>Calomba daisy</td>
<td>Oncosiphon suffruticosum</td>
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<td>Caltrop</td>
<td>Tribulus terrestris</td>
<td>M S C R</td>
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<tr>
<td>Cane needlegrass</td>
<td>Nassella hyalina</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Cape / Montpelier broom</td>
<td>Genista monspessulana</td>
<td>M S</td>
<td>●</td>
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</tr>
<tr>
<td>Chilean dodder</td>
<td>Cuscuta suaveolens</td>
<td>M S N C R</td>
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<tr>
<td>Chilean needlegrass</td>
<td>Nassella neesiana</td>
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<td>Common lantana</td>
<td>Lantana camara</td>
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<td>Coolatai grass</td>
<td>Hyparrhenia Hirta</td>
<td>M S</td>
<td>●</td>
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<tr>
<td>Creeping knapweed</td>
<td>Acroptilon repens</td>
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<tr>
<td>Cutleaf mignonette</td>
<td>Reseda lutea</td>
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<tr>
<td>Desert Ash</td>
<td>Fraxinus angustifolia (exclude)</td>
<td>S C R</td>
<td>●</td>
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<tr>
<td>Distichlis</td>
<td>Distichlis spicata</td>
<td>M S (see note 4)</td>
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<tr>
<td>Dodders</td>
<td>Cuscuta spp.</td>
<td>M S (see note 5)</td>
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<tr>
<td>Dog rose</td>
<td>Rosa canina</td>
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<td>Dolichos pea</td>
<td>Dipagon lignosus</td>
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<td>Elodea</td>
<td>Elodea canadensis</td>
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<tr>
<td>English / Scotch broom</td>
<td>Cytisus scoparius</td>
<td>M S</td>
<td>●</td>
<td></td>
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</tr>
<tr>
<td>Common Name</td>
<td>Species</td>
<td>General Provisions in the Act that Apply</td>
<td>Roadside Located</td>
<td>Common Status</td>
<td>Priority for Control</td>
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<tr>
<td>Eurasian water-milfoil</td>
<td>Myriophyllum spicatum</td>
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<td>Field bindweed</td>
<td>Convolvulus arvensis</td>
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<td>Fountain grass</td>
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<td>Galvanised burr</td>
<td>Sclerocephalus birchii</td>
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<td>Gazania</td>
<td>Gazania spp.</td>
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<td>Golden dodder</td>
<td>Cuscuta campestris</td>
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<td>Gorse/Furze</td>
<td>Ulex europaeus</td>
<td>M S C R</td>
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<tr>
<td>Hoary cress</td>
<td>Cardaria draba</td>
<td>M S N C R</td>
<td>●</td>
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<tr>
<td>Horehound</td>
<td>Marrubium vulgare</td>
<td>M S C R</td>
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<td>Horsetail</td>
<td>Equisetum spp.</td>
<td>M S N C R</td>
<td>(see note 7)</td>
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<td>Hydrocotyle</td>
<td>Hydrocotyle ranunculoides</td>
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<td>Hymenachne</td>
<td>Hymenachne amplexicaulis</td>
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<td>Innocent weed</td>
<td>Cenchrus incertus &amp; Cenchrus longispinus</td>
<td>M S N C R</td>
<td>●</td>
<td>●</td>
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<td>Italian buckthorn</td>
<td>Rhamnus alaternus</td>
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<td>Khaki weed</td>
<td>Alternanthera pungens</td>
<td>M S N C R</td>
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<tr>
<td>Kochia</td>
<td>Kochia scoparia</td>
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<td>Lagarosiphon</td>
<td>Lagarosiphon major</td>
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<td>Large-seeded dodder</td>
<td>Cuscuta indecora</td>
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<td>Leafy elodea</td>
<td>Egeria densa</td>
<td>M S N C R</td>
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<td>Lincoln weed</td>
<td>Diplotaxis tenuifolia</td>
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<tr>
<td>May</td>
<td>Crataegus momgyna</td>
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<td>Mesquite</td>
<td>Prospis spp.</td>
<td>M S N C R</td>
<td>(see note 9)</td>
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<td>Mexican feathergrass</td>
<td>Nassella tenuissima</td>
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<td>Mimosa</td>
<td>Mimosa pigra</td>
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<tr>
<td>Mirror bush</td>
<td>Coprosma repens</td>
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<td>Muskweed</td>
<td>Myagrum perfoliatum</td>
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<td>Nightstock</td>
<td>Matthiola longipetala</td>
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<td>Noogoora burr complex</td>
<td>Xanthium strumarium sp agg</td>
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<td>Nutgrass</td>
<td>Cyperus rotundus</td>
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<td>Olive</td>
<td>Olea europaea</td>
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<td>One-leaf Cape tulip</td>
<td>Moraea flaccida</td>
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<td>●</td>
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<td>Parkinsonia</td>
<td>Parkinsonia aculeata</td>
<td>M S N C R</td>
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<td>Parthenium weed</td>
<td>Parthenium hysterophorus</td>
<td>M S N C R</td>
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<tr>
<td>Perennial ragweed</td>
<td>Ambrosia spp.</td>
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<tr>
<td>Perennial thistle</td>
<td>Cirsium arvense</td>
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<tr>
<td>Pheasant’s eye</td>
<td>Adonis microcarpa</td>
<td>M S N C R</td>
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<tr>
<td>Pink pampas grass</td>
<td>Cortaderia jubata</td>
<td>M S N C R</td>
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<tr>
<td>Plumerillo</td>
<td>Jaraua plumosa</td>
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<tr>
<td>Poison buttercup</td>
<td>Ranunculus sceleratus</td>
<td>M S N C R</td>
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<tr>
<td>Poison ivy</td>
<td>Toxicodendron radicans</td>
<td>S</td>
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<tr>
<td>Pond apple</td>
<td>Annona glabra</td>
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<tr>
<td>Prickly acacia</td>
<td>Acacia nicotica subsp indica</td>
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<tr>
<td>Prickly pear</td>
<td>Opuntia spp.</td>
<td>M S C R</td>
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<tr>
<td>Common Name</td>
<td>Species</td>
<td>General Provisions in the Act that Apply</td>
<td>Roadside Located</td>
<td>Common</td>
<td>Priority for Control</td>
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<tr>
<td>Primrose willow</td>
<td>Ludwigia peruviana</td>
<td>M S N C R</td>
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<tr>
<td>Ragwort</td>
<td>Senecio jacobaea</td>
<td>M S N C R</td>
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<tr>
<td>Rampion mignonette</td>
<td>Reseda phytieuma</td>
<td>M S N C R</td>
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<tr>
<td>Red dodder</td>
<td>Cuscuta planiflora</td>
<td>M S N C R</td>
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<tr>
<td>Rhus tree</td>
<td>Toxicodendron succedaneum</td>
<td>S C</td>
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<tr>
<td>Rubber vine</td>
<td>Cryptostegia grandiflora</td>
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<tr>
<td>Sagittaria</td>
<td>Sagittaria graminea</td>
<td>M S N C R</td>
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</tbody>
</table>
| Salvation jane           | Echium plantagineum         | M S C R 
●                       |                  |            |                     |
| Salvinia                 | Salvinia molesta            | M S N C R                                 |                  |            |                     |
| Senegal tea plant        | Gymnocoronis spilanthoides  | M S N C R                                 |                  |            |                     |
| Serrated tussock         | Nassella trichotoma         | M S N C R                                 |                  |            |                     |
| Silverleaf nightshade    | Solanum elaeagnifolium      | M S C R                                   | ●                | ●          |                     |
| Skeleton weed            | Chondrilla juncea           | M S C R                                   | ●                |            |                     |
| Swamp oak                | Casuarina glauca C. obesa   | M S C R                                   | ●                |            |                     |
| Spiny rush               | Juncus acutus               | M S C R                                   | ●                |            |                     |
| Sweet briar              | Rosa rubiginosa             | M S                                        | ●                |            |                     |
| Sweet pittosporum        | Pittosporum undulatum       | S C                                      |                  |            |                     |
| Texas needlegrass        | Nassella leucotricha        | M S N C R                                 |                  |            |                     |
| Three cornered garlic    | Allium triquetrum           | M S C R                                   | ●                |            |                     |
| Three corner jack        | Emex australis              | M S C R                                   |                  |            |                     |
| Tree Heath               | Erica arborea               | M S C R                                   |                  |            |                     |
| Two-leaf cape tulip      | Moraea miniata              | M S C R                                   | ●                | ●          |                     |
| Variegated thistle       | Sillybum marianum           | M S                                        | ●                |            |                     |
| Water caltrop            | Trapa natans                | M S N C R                                 |                  |            |                     |
| Water dropwort           | Oenanthe pimpinelloides     | M S N C                                   |                  |            |                     |
| Water hyacinth           | Eichhornia crassipes        | M S N C R                                 |                  |            |                     |
| Water soldier            | Stratiotes aloides          | M S N C R                                 |                  |            |                     |
| White weeping brooms     | Retama monosperma & R. raetam | M S C R                                    | ●                |            |                     |
| Wild artichoke           | Cynara cardunculus          | M S C R                                   | ●                |            |                     |
| Willows                  | Salix spp.                  | S (see note 14)                           | ●                |            |                     |
| Yellow burrweed          | Amsinckia spp.              | M S N C R                                 |                  |            |                     |

Note 1: Excludes cultivar 'Consul'.
Note 2: Excludes detached fruit & the cultivars 'Black Satin', 'Dirksen Thornless', 'Soothstem', 'Thornfree', 'Loch Ness' & 'Chester hornless' when planted & maintained for domestic or commercial purposes under conditions approved by the Minister.
Note 3: Excludes Orobanche australiana.
Note 4: Includes 'Nypa Reclamation' & any cultivars of Distichlis spicata consisting of lines that include seedbearing individuals
Note 5: Includes all other Cuscuta spp. Not specifically referred to in the schedule.
Note 6: Control & Roadsides only apply to land used for the extraction or removal of soil, loam, sand and gravel
Note 7: Excludes dead shoots.
Note 8: Excludes the cultivar 'Trichophylla'.
Note 9: Excludes seasoned dry timber.
Note 10: Control & Roadsides only apply to land used for the extraction or removal of soil, loam, sand and gravel
Note 11: Includes only Olives not planted & maintained for domestic or commercial use.
Note 12: Excludes spineless Opuntia ficus-indica
Note 14: Excludes Salix babylonica, Salix calodendron & Salix reichardii.

The general provisions shown on this list are to be used only as a general guide. For the exact provisions that apply to each plant species listed please refer to the Natural Resources Management Act 2004 & Schedule 2 of the Declaration of Animals and Plants.