

Manual for  
**ROADSIDE WEED  
MANAGEMENT**  
in South Australia

Edited by Department of Primary Industries and Regions (PIRSA)



Government  
of South Australia



**Government  
of South Australia**

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## **FORMER WORKING GROUP 2014-2017**

*Please note that organisational names have changed since 2017.*

Natural Resources Adelaide and Mount Lofty Ranges

Natural Resources Alinytjara Wilurara

Natural Resources Eyre Peninsula

Natural Resources Kangaroo Island

Natural Resources Northern and Yorke

Natural Resources SA Arid Lands

Natural Resources SA Murray Darling Basin

Natural Resources South East

Department of Environment, Water and Natural Resources

Local Government Association

Alexandrina Council

Department of Planning, Transport and Infrastructure

Native Vegetation Council

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Manual for

# **ROADSIDE WEED MANAGEMENT**

in South Australia

## **OVERVIEW**

This manual is a resource for all people and organisations involved in roadside weed management in South Australia, including state and local government agencies, utility companies and other stakeholders. It aims to provide a 'one stop shop', drawing together in a single location all the information that those involved in roadside weed management need to understand. It covers relevant background and terminology, the need for and benefits of roadside weed management, the roles and responsibilities of each stakeholder, a framework to guide best practice and summaries of the relevant legislation and legal requirements, as well as links to other resources.

By clarifying who is responsible for what, identifying opportunities for collaboration and efficiency, and clearly setting out best practice, it aims to improve the effectiveness, efficiency and safety of roadside weed management. Applying the information in this manual to roadside weed management will bring about economic, environmental and social benefits for South Australia.



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# TERMS & ACRONYMS USED IN THIS MANUAL

**ADMINISTER.** Managing information and bureaucratic processes in order to apply the provisions of an Act.

**CONTROLLED ACCESS ROAD.** A road (typically a freeway or expressway) with restricted access points from private property and adjoining roads, managed by DIT.

**DECLARED PLANT.** Plants regulated under the *Landscape South Australia Act 2019* due to the threat they pose to primary industries, the environment and public safety. This manual describes two separate classes of weeds, 'declared plants' and 'other weeds', because they have different legal requirements for their management.

**DEW.** Department for Environment and Water

**DIT.** Department for Infrastructure and Transport

**LANDSCAPE BOARD.** Regional Landscape Boards are established for sustainable management of the State's soil, water, pest plants and animals, and biodiversity in each of eight regions, with Green Adelaide having this role for Adelaide. They replace the former Natural Resources Management Boards in accordance with the *Landscape South Australia Act 2019*.

**MANAGE.** Refers to developing plans and/or conducting 'on ground' control works to achieve beneficial outcomes for roadside weed management.

**NVC.** Native Vegetation Council

**PIRSA.** Department of Primary Industries and Regions

**RESPONSIBILITIES.** The specific tasks or statutory obligations that stakeholders are expected to complete as a function of their roles and for which they are held accountable.

**ROLES.** The parts that stakeholders play (the generic roles in roadside weed management being administration and management).

# EFFECTIVE ROADSIDE WEED CONTROL IS IMPORTANT

## Benefits of effective and efficient roadside weed control

Weeds cost the Australian economy over \$4 billion every year. These losses include reduced agricultural output, management costs, restricted access to overseas markets, administration and research costs. Environmental damage is more difficult to quantify but is substantial. Weeds compete with and displace native plant species, degrade habitat for native animals and impact on the amenity of our natural areas. Preventing weed establishment and spread are by far the cheapest and most effective ways to reduce these impacts.

Road reserves provide suitable habitat for many weed species. For this reason roadsides frequently are where weeds first arrive and establish in a region. Road reserves also provide opportunities for dispersal and spread. When a weed becomes established the costs of protecting assets including agricultural productivity, infrastructure and the environment are with us forever.

## THE BENEFITS ARISING FROM EFFECTIVE ROADSIDE WEED CONTROL ARE:

### For Landscape Boards, DIT and local government:

- > Cost savings by avoiding duplication of activities with other stakeholders
- > Improved condition of native vegetation on roadsides, which helps suppress weeds, provides habitat for native fauna and supports rare and significant native species
- > Cost savings from minimisation of herbicide resistance
- > Partnering with land owners and the community
- > Reduced fire hazard
- > Improved amenity

### For Land Owners

- > Essential for effective and efficient landscape scale weed management
- > Prevents new weed species spreading from roadsides and becoming established on private land, avoiding ongoing control costs
- > Reduced incidence of herbicide resistant weeds
- > Reduced habitat for pests and increased numbers of beneficial species



## Roads and road corridors are a high risk pathway for weed dispersal

Weeds spread by many pathways, each with a different level of risk. The highest risk is from pathways along which many seeds can disperse long distances to sites where they are likely to germinate, establish, reproduce and spread.

Transport corridors and hubs, including roads, railways, ports and airports, are among the most important pathways for weed introduction and spread in Australia.

Vehicles of all kinds often carry mud and soil on their chassis, wheels and especially under the mudguards. This has been shown to carry large numbers of viable seeds. Earthmoving and agricultural machinery can carry large amounts of mud, soil and compacted plant material. Seeds can also be carried within loads of hay, produce or livestock on trucks, where they are difficult to detect.

### **ROADSIDES ARE HIGH RISK PATHWAYS BECAUSE THEY USUALLY HAVE:**

- Traffic that can carry soil, seeds, and other plant material long distances
- Frequent disturbances that may help weeds establish and grow
- Additional water from run-off that helps weeds germinate, grow and reproduce
- Little or no grazing pressure
- Less intensive weed control than the adjoining land
- Weed populations that are difficult to detect



# EFFECTIVE ROADSIDE WEED MANAGEMENT REQUIRES GOOD PRACTICE

Simply spraying the most visible roadside weeds with the same herbicides every year is unlikely to provide the most effective roadside weed management.

This approach may not target the highest priority weeds or most important assets requiring protection. Frequent spraying can make some weeds resistant to herbicides and increase the likelihood of damaging native vegetation.

Many stakeholders are involved in roadside weed management. This can lead to confusion regarding the roles and responsibilities of each, sometimes resulting in ineffective or inefficient management.

A coordinated approach will maximise the chances of getting the best results.

## EFFECTIVE ROADSIDE WEED MANAGEMENT USES STRATEGIES THAT:

- Target weed species and locations based on risk assessment
- Involve communication and cooperation among stakeholders to achieve greater success and cost efficiency than can be achieved by individual stakeholders working in isolation
- Promote the health of native vegetation, which helps to suppress weeds by out-competing them
- Reduce the occurrence of herbicide resistance in roadside weed populations



# DECLARED PLANTS

This manual describes the responsibilities of stakeholders with respect to two separate classes of weeds: 'declared plants' and 'other weeds.' These classes have different legal requirements applied to their management. Declared plants are those determined to require regulation under the *Landscape South Australia Act 2019* (LSA Act). The Minister for Environment and Water may declare a weed so that Landscape Boards and Green Adelaide can implement control strategies through the powers of the Act.

**The list of weeds declared in South Australia, along with other related information such as declared plant policies and the *Weed Control Handbook for Declared Plants in South Australia*, is available on the PIRSA Weeds in South Australia webpage: [www.pir.sa.gov.au/biosecurity/weeds\\_and\\_pest\\_animals/weeds\\_in\\_sa](http://www.pir.sa.gov.au/biosecurity/weeds_and_pest_animals/weeds_in_sa)**

The decision to declare a plant is informed by the *South Australian Weed Risk Management System*. The system helps determine which weeds pose a risk to primary industries, the natural environment and public health and safety, and the associated management priorities and actions. It takes into account the weed's invasiveness, impacts and potential distribution. The stage of invasion is also considered, ranging from weeds that can be excluded from South Australia to those that are already widespread.

On road reserves (defined in the following section), Landscape Boards and Green Adelaide are required under section 192(7) of the LSA Act to destroy all plants declared for enforced destruction in their region under section 192(1), and to control infestations of all plants declared for enforced control in their region under section 192(2). For those plants declared under section 194 of the LSA Act, Landscape Boards may recover the costs of this work from the owners of adjoining land. Landowners are responsible for the control of declared plants on their own land at their own expense. It is everyone's responsibility to prevent the inadvertent movement of declared plants, for example via livestock, soil, vehicles, machinery or produce.

A subset of 24 plants declared under the LSA Act are called State Alert Weeds. These are either recent arrivals with localised occurrences in South Australia, or are established outside the State with significant potential for incursions to occur. These weeds are highly invasive and are likely to cause significant economic and/or environmental impacts. A list of State Alert Weeds is available on the PIRSA Weeds in South Australia webpage at the above link.

There are also alert species of regional concern, for example weeds that are widespread in the east of the State but still absent or rare on Eyre Peninsula. Refer to your regional Landscape Board or Green Adelaide for more information on these.

Not all declared plants are controlled on all roadsides across all regions of the state all of the time.

Landscape Boards set priorities for declared plant control appropriate to their region, based on risk.

Refer to your regional Landscape Board website for details.

# THE ROAD RESERVE

A road reserve means all the land set aside for the purposes of a public road, and may comprise parts such as a carriageway, shoulder and roadside. Understanding the parts of a road reserve and the associated terminology is important to understanding the roles and responsibilities of each stakeholder.

## Parts of a road reserve

Not all roads have the same features, and in practice the features themselves may not always be easy to distinguish. Often the parts of the road reserve outside the carriageway are obscured by vegetation. The major components of a typical road reserve are shown in Figure 1.

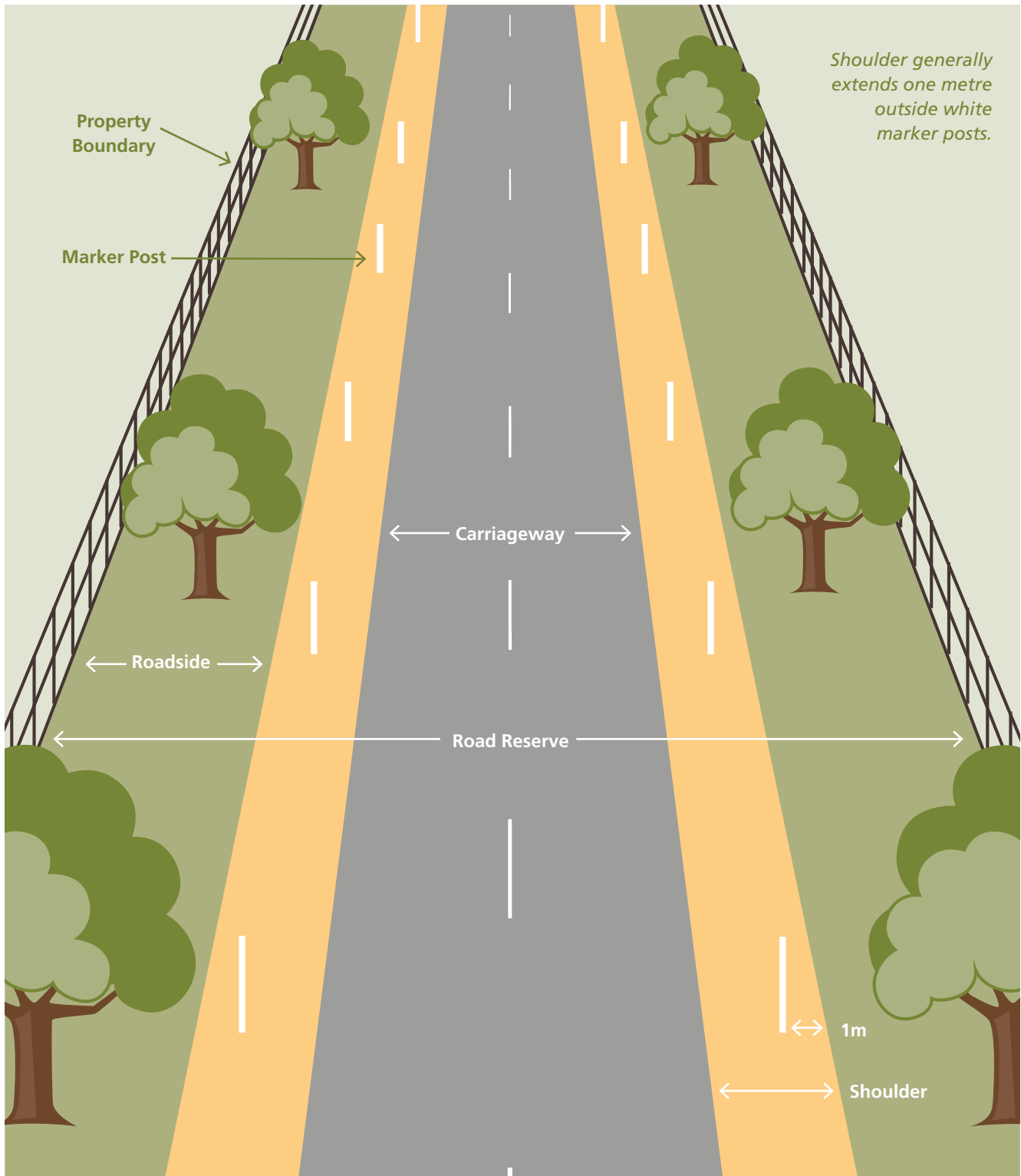


Figure 1: Major components of a typical road reserve

## Management of roads and road zones

Most roads and road reserves are entirely the responsibility of local government (Figure 2). However, about 25% have shared responsibility between local government and the Commissioner of Highways, acting through the Department for Infrastructure and Transport (DIT). In the case of these roads, DIT manages the carriageway including the shoulder on behalf of the Commissioner of Highways and the local Council manages the roadside (Figure 3).

There are also controlled access roads, which are mainly large (often dual lane) arterial roads, such as the Southern Expressway, South Eastern Freeway/Highway, Northern Expressway, Port River Expressway, sections of the Sturt Highway and sections of Port Wakefield Road. Controlled access roads are under the care, control and management of the Commissioner.

The shoulder is generally considered to extend to 1m outside of the white posts that mark the road.

**To determine if a particular road is managed by local government or DIT, please refer to the maps linked on this webpage: [www.sa.gov.au/topics/driving-and-transport/roads-and-traffic/road-responsibilities](http://www.sa.gov.au/topics/driving-and-transport/roads-and-traffic/road-responsibilities)**

## Responsibility for management of roadside weeds

Responsibility for managing roadside weeds is shared among Landscape Boards, local government and DIT.

Managing all declared plants in road reserves is the responsibility of Landscape Boards, regardless of whether the road reserve is under the control and management of local government or DIT.

Managing vegetation, including other weeds is also required for reasons such as maintaining visibility, managing fire risk and asset protection. This is the responsibility of local government or DIT. In local government managed road reserves (Figure 1), the Council is responsible for the appropriate management of vegetation other than weeds declared under the LSA Act. On road reserves containing DIT managed roads, responsibility for managing vegetation and weeds not declared under the LSA Act is divided between local government and DIT, depending on the road zone (Figure 2). DIT's publication: *Operational Instructions 20.1 - Care, Control & Management of Roads by the Commissioner of Highways* explains which parts of the road reserve DIT has responsibility to maintain. **The document can be found under 'Road and Traffic Management / Road Maintenance & Operation' at [www.dpti.sa.gov.au/standards/tass](http://www.dpti.sa.gov.au/standards/tass)**

Landscape Boards and Green Adelaide have the statutory responsibility for the management of declared plants within public road reserves.

Local government, DIT and land owners may also manage declared plants on road reserves as part of their weed management activities, but are not legally responsible for management of weeds declared under the LSA Act.

## Land owners and community groups must seek written permission

If a landowner or community organisation wishes to control roadside weeds adjoining their property, written permission must be obtained from the appropriate managing authority. For roads that are managed by local government, permission must be sought from the local Council.

Outside Council areas, on controlled access roads or roads vested with the Commissioner of Highways, permission should be sought from DIT. **For details about this process visit: [www.sa.gov.au/topics/driving-and-transport/industry-services/getting-permission-to-carry-out-roadworks](http://www.sa.gov.au/topics/driving-and-transport/industry-services/getting-permission-to-carry-out-roadworks)**

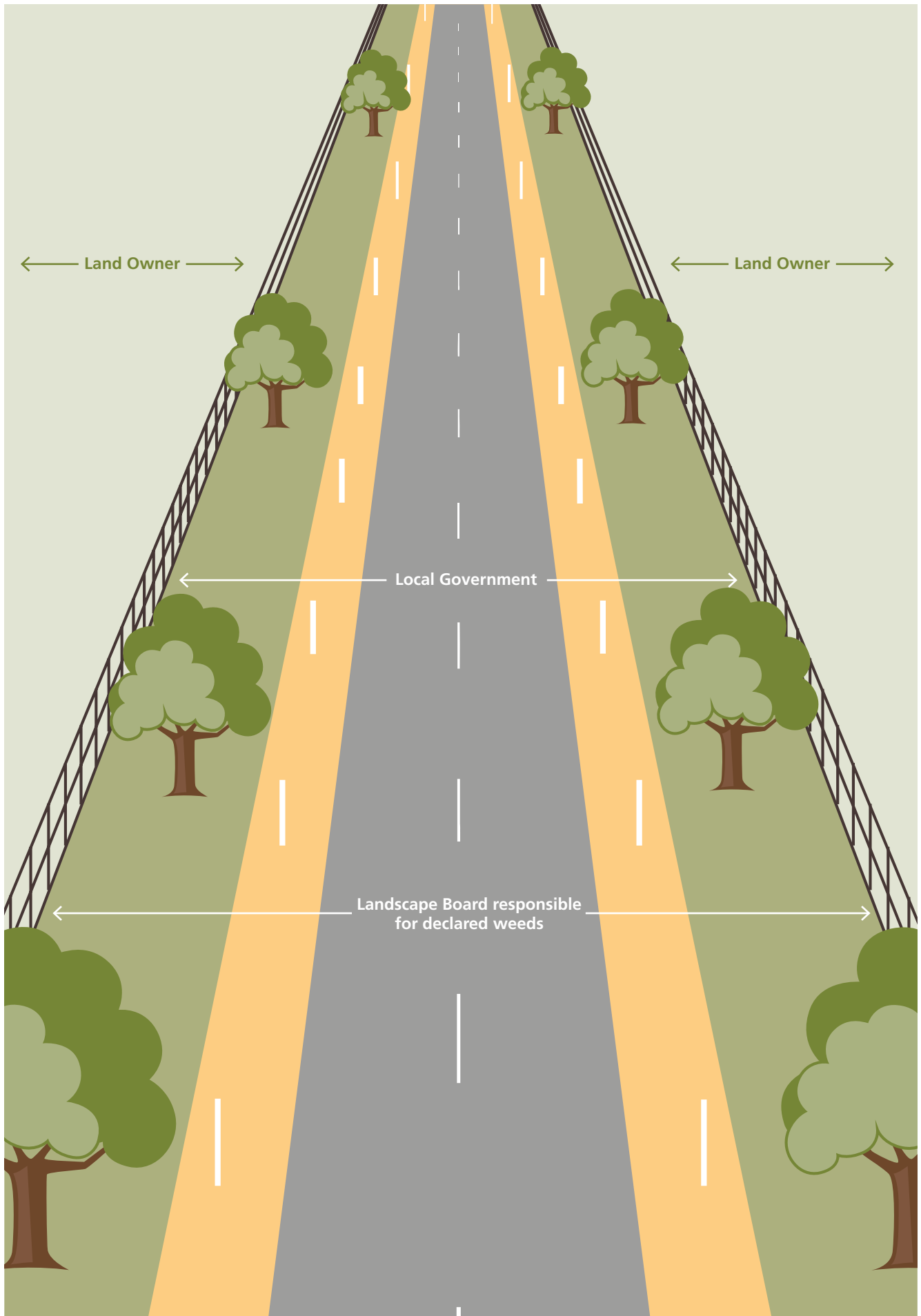


Figure 2: Zones for management of weeds and other vegetation on road reserves that are the responsibility of local government.

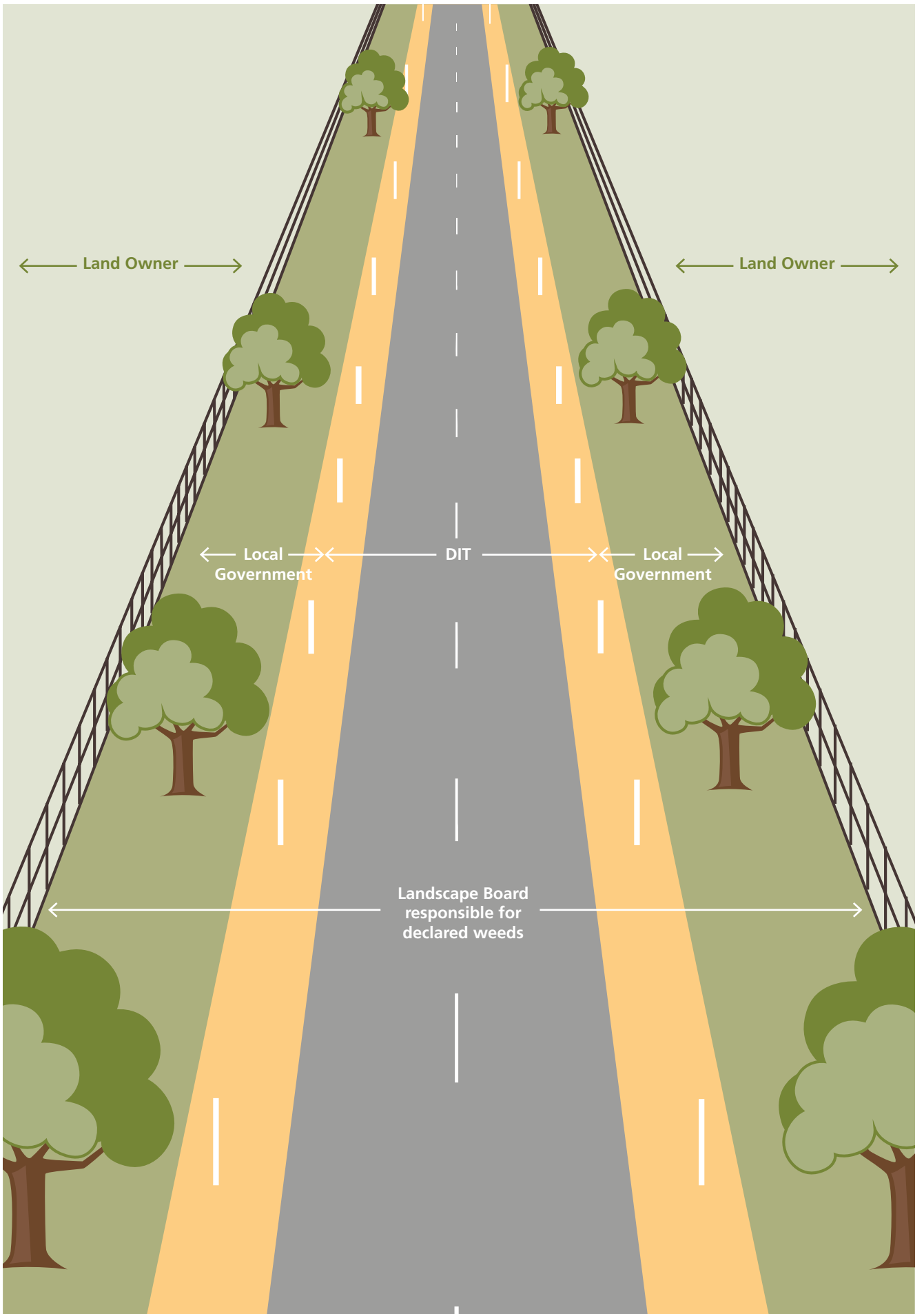


Figure 3: Zones for management of weeds and other vegetation on road reserves where responsibility is shared between DIT and local government.

# YOUR ROLE AND RESPONSIBILITIES IN ROADSIDE WEED MANAGEMENT

It is important for each stakeholder in roadside weed management to clearly understand their own role and responsibilities and those of all the other stakeholders.

## Understanding roles and responsibilities helps avoid:

- overlooking tasks, resulting in missed opportunities or penalties
- duplication, resulting in inefficiencies and increased costs
- frustration and conflict

## Understand your role in roadside weed management

### The most important Acts determining roles in roadside weed management are:

- *Landscape South Australia Act 2019*
- *Local Government Act 1999*
- *Highways Act 1926*

It is important to recognise that stakeholders can also have roles beyond those that are legally assigned in legislation. Stakeholders are, to a degree, able to delegate the management aspect of their roles (but not their administrative accountability) to other stakeholders in order to improve the efficiency and effectiveness of roadside weed management.

## THE MAIN ROLES IN ROADSIDE WEED MANAGEMENT ARE:

### Landscape Boards

- Administer and manage the control of declared plants on road reserves and within their region subject to regional plans and priorities
- Provide advice regarding effective weed management strategies and control techniques to other parties conducting roadside weed control

### DIT

- Manage weeds and other vegetation within those areas of road reserves under the care, control and management of the Commissioner of Highways for the purpose of road safety, and to maintain asset function
- Administer authorisations to make alterations to a highway, such as weed control activities, within the areas for which the Commissioner of Highways has assumed maintenance responsibility

### Local Government

- Manage road reserve of roads vested in local government for the purpose of road safety, fuel reduction, aesthetics and to maintain asset function
- Administer access to road reserves vested in local government for purposes including weed control works

### SA Power Networks

- Undertake vegetation clearance to ensure community safety, mitigate bushfire risk and deliver a reliable electricity supply to customers

### PIRSA

- Administer the list of declared plants
- Manage provision of information to stakeholders regarding declared plants

The terms 'manage' and 'administer' used in this manual have distinct meanings. Refer to the Terms and Acronyms section on page 4.

# Know your responsibilities

Each stakeholder role has a set of responsibilities, some of which are unique to a particular role and some of which apply to all the roles. It is important that stakeholders understand the responsibilities of their role to ensure that they are compliant with any applicable legislation and are undertaking efficient and effective roadside weed management.

Below are summaries of the 'legally assigned' responsibilities for which each stakeholder is accountable. For further information see the Appendix.

## THESE RESPONSIBILITIES ALWAYS APPLY TO EVERYONE

Three Acts assign important legal responsibilities to everyone involved in conducting work on roadsides:

- *Work Health and Safety Act 2012 (SA)*
- *Native Vegetation Act 1991*
- *Landscape South Australia Act 2019*

### Everyone conducting work on roadsides must:

**Comply with statutory safety requirements.** When roadside weed management activities are being conducted, the roadside becomes a workplace. The *Work Health and Safety Act* requires those administering, managing and/or conducting work to ensure, as far as is reasonably practicable, that their health and safety and that of other persons is not put at risk from work carried out. In part, this means conforming to standards or codes that exist for conducting work on roads and roadsides. A Council or DIT, as the body controlling a road reserve, has a duty of care to ensure a safe work place as far as is reasonably practicable. When granting permission to conduct roadside weed management, the Council or DIT should include any relevant conditions to ensure that the work place is safe. The *Road Traffic Act 1961* enables any authority, body or person to be authorised to install traffic control devices on the road, which includes signage to meet safety requirements for roadside weed management works.

**Comply with the *Native Vegetation Act* and Regulations.** Road reserves frequently contain native vegetation, which cannot legally be cleared without Native Vegetation Council (NVC) approval or endorsement. The *Native Vegetation Act 1991* includes provisions that apply to everyone conducting roadside weed management activities in the presence of or in close proximity to native vegetation.

**Comply with the LSA Act in relation to declared plants.** Any roadside works, including weed control, run the risk of accidentally spreading declared plants and other weeds. Everyone should ensure they do not spread declared plants when undertaking any activities on roadsides.

## Landscape Boards

In addition to responsibilities that apply to all stakeholders:

- Coordinate and promote detection, reporting and mapping of weeds within their region
- Set regional priorities, plan and conduct control activities on roadsides for weed species that are declared under section 192 of the LSA Act.
- Develop and implement weed management plans that include roadsides, where relevant, as part of statutory regional planning processes
- If native vegetation is present, undertake any weed control in accordance with the Native Vegetation Council (NVC) *Guideline for Plant and Animal Control* to minimise impacts.
- Pay the cost of controlling weeds declared under section 192 and not declared under section 194 of the LSA Act

## DIT

In addition to responsibilities that apply to all stakeholders:

- Plan and conduct control activities for any weed species (or other vegetation) on roadsides under the care, control and management of the Commissioner of Highways to maintain road safety and asset function. Within local government areas, this is usually within white marker posts and generally extending to 1m outside of white marker posts

## Local Government

In addition to responsibilities that apply to all stakeholders:

- Manage weeds as required for purposes such as safety and asset maintenance on local government roads.
- For roads under the care, control and management of the Commissioner of Highways within local government areas – manage weeds, as appropriate, outside of the zone managed by the Commissioner of Highways (generally 1m outside of white marker posts) and extending to the edges of the road reserve
- Assess applications from anyone intending to conduct weed control works (including providing advice plant species, vegetation communities and significant marker sites that need to be protected along roadsides) and grant access, with any necessary provisions, to applicants where appropriate.

## Land Owners

in addition to responsibilities that apply to all stakeholders:

- Pay Landscape Board costs for controlling weeds declared under section 194 of the LSA Act, on roadsides adjoining their property, if required to do so by the Landscape Board
- Obtain permission from local government or DIT if wishing to conduct roadside weed management

## SA Power Networks

In addition to responsibilities that apply to all stakeholders:

- Keep all vegetation clear of powerlines under its control in accordance with the principles of vegetation clearance  
[www.sapowernetworks.com.au/safety/vegetation-around-powerlines/](http://www.sapowernetworks.com.au/safety/vegetation-around-powerlines/)
- Carry out a cyclic cutting program of not more than three years

## Other Stakeholders e.g. Community Groups.

In addition to responsibilities that apply to all stakeholders:

- Obtain permission from local government or DIT to conduct roadside weed management

Although not a stakeholder that actively carries out weed management activities, the NVC has an important statutory role to administer the preservation of native vegetation on road reserves.

Utility companies, such as gas and telecommunications suppliers, also conduct roadside works that can affect weeds and other vegetation. The statutory arrangements for these are varied. Contact the utility in question or your local Council for more information.

# Collaboration and role expectations

All stakeholders can undertake actions, additional to those mandated by their legislated responsibilities, that can improve roadside weed management. It is recommended that all stakeholders collaborate to improve outcomes, especially Landscape Boards, local government, DIT and SA Power Networks. For example:

- All stakeholders should advise their regional Landscape Board of any intended management that includes declared plants on roadsides
- Landscape Boards may consult and plan with local government before conducting any control activities on roadsides
- Land owners can collaborate with their Landscape Board and local government in planning and conducting weed management activities on their land to align with roadside management programs
- Land owners may also apply to their local Council or DIT for permission to manage weeds on roadsides adjoining their property
- It is good practice for Councils to develop Roadside Vegetation Management Plans endorsed by the NVC

In addition to understanding roles and responsibilities, each member of each stakeholder group will have desires and beliefs about what the other stakeholders could or should be doing. These beliefs are referred to as role expectations, and it is very important for stakeholders, and members within stakeholder groups, to discuss them. Effective discussion should aim to reach agreement on what people expect of one another or one another's agencies, and what individual participants perceive their own roles to be.





# UNDERSTAND THE LAWS

The management of roadside weeds in South Australia requires compliance with multiple Acts, these include:

- *Work Health and Safety Act 2012 (SA)*
- *Road Traffic Act 1961*
- *Native Vegetation Act 1991*
- *Landscape South Australia Act 2019*
- *Highways Act 1926*
- *Local Government Act 1999*
- *Fire and Emergency Services Act 2005*
- *National Parks and Wildlife Act 1972*
- *Development Act 1993*
- *Environment Protection and Biodiversity Conservation Act 1999*
- *Environment Protection Act 1993*
- *Acts Interpretation Act 1915*
- *Electricity Act 1996*

**See the Appendix for further details.**

It is important that anyone involved in roadside weed management has a sound understanding of how these laws apply to them. Interpreting these Acts can be difficult and may require specialist legal advice. It is each individual's responsibility to ensure that they have the appropriate understanding and to seek advice if required.

Developing a plan for coordinated, effective roadside weed management and ensuring compliance with these Acts can be complex. It requires good communication between government agencies, private landowners, Landscape Boards and industry.

# WHO PAYS?

**Under the LSA Act, Landscape Boards are responsible for controlling declared plants on road reserves and, for those plants declared under Section 194 of the LSA Act, may recover the costs of this work from the owners of adjoining land.**

Up to date information on the legal requirements to manage declared plants is available on the PIRSA website: [www.pir.sa.gov.au/biosecurity/weeds\\_and\\_pest\\_animals/weeds\\_in\\_sa](http://www.pir.sa.gov.au/biosecurity/weeds_and_pest_animals/weeds_in_sa)

Management of non-declared plants is at the cost of the manager of the road reserve, or a land owner, agency, organisation or community group who voluntarily undertakes the work.



# GOOD ROADSIDE WEED MANAGEMENT

Good roadside weed management relies on a planned, structured approach and coordination among stakeholders. The stages of roadside weed management outlined opposite provide a planning framework to help ensure that weed management is effective and efficient.



## The big picture

Weed management is only one of the vegetation management activities conducted on roadsides.

Roadside vegetation ranges from native vegetation of high conservation value to vegetation dominated by introduced species. In addition to the management of weeds, government agencies responsible for particular roads often conduct roadside vegetation management to maintain safe passage and visibility for road users, and to maintain roadside drains and minimise risks from fire.

Good communication amongst stakeholders helps identify opportunities to achieve efficiency.

A holistic approach is required to ensure that weed control is not creating other natural resource management and road maintenance problems such as soil erosion, damage to native vegetation, herbicide resistance or a worse weed problem in the long term.

## Communication and coordination

Communication and coordination among stakeholders are important at every stage of the roadside weed management cycle. The most effective weed control is achieved when all stakeholders cooperate at every stage. Efficiency and cost saving may be achieved by coordinating roadside vegetation management activities to simultaneously achieve multiple outcomes.

Landscape officers, Council and DIT staff can use their community, contractor and company networks to regularly request that people look for and report sightings of State Alert Weeds or any other weeds of concern.

People well placed to detect new weeds include:

- local land owners
- contractors who spray or slash weeds on roadsides
- road maintenance and construction staff employed by Councils and DIT
- contractors employed by utility companies working along roadsides

All these stakeholders working together are more likely to detect State Alert Weed infestations earlier than Landscape Officers on their own. Early detection of small infestations means that they can be managed more effectively than large infestations.

When Landscape South Australia staff confirm a report of the presence of an Alert Weed, that information can be communicated to others. All stakeholders can then be on the lookout for additional individuals or populations of that particular weed. Educating stakeholders about how to identify weeds of concern also maximises the effectiveness of surveillance.

It can sometimes seem difficult for stakeholders to coordinate roadside weed monitoring, planning and management activities with each other due the diverse arrangements for the management of road reserves. However, this is easier if Council staff, natural resources officers, land owners and DIT staff establish and maintain good networks through regular correspondence, conversations and meetings.

A summary of important (including mandatory) communications channels between stakeholders is provided in Table 1.

People who conduct work on road reserves should be provided with a copy of the current year's *Weed Control Handbook for Declared Plants in South Australia*.

**These are available at [www.pir.sa.gov.au/biosecurity/weeds\\_and\\_pest\\_animals/weeds\\_in\\_sa](http://www.pir.sa.gov.au/biosecurity/weeds_and_pest_animals/weeds_in_sa)**



Seven stages can be applied to all roadside weed management, whether a three-year program planned at regional level or ad hoc work at a particular site. Communication and collaboration among land owners, local government, Landscape Boards and other agencies involved is important at every stage. Good communication among stakeholders helps identify opportunities to achieve efficiency.

## 1. Detect and map weeds and native vegetation

- Be on the lookout for new weed species in your area and report alert weeds to the regional Landscape Board or Green Adelaide
- Know which weeds are present, their locations and abundances
- Know where native vegetation occurs
- Store this information for comparison with later monitoring in Stage 7

## 2. Risk assessment and prioritisation

- Understand what threats or problems different weeds species pose to agriculture, infrastructure and native vegetation
- Manage high risk weeds and high risk/value locations as the highest priorities
- Large-scale programs may need formal risk assessments

## 3. Research and select control methods

- Get expert advice on control options
- Select control methods suited to the target weed species and the situation
- Minimise risk of off target damage to desirable vegetation
- Refer to NVC guideline for pest plant control if there is risk of damaging native vegetation
- Choose methods to minimise development of resistance in weeds
- Explore non-chemical control options

## 4. Develop a plan

- Collaborate in planning with other stakeholders.
- Develop realistic management goals and objectives based on risk and feasibility

## 5. Obtain permissions

- Always obtain local government permission to work on roadsides within local government areas and DIT permission outside these or on controlled access roads
- Obtain approval from NVC if required
- There may be a need to collaborate with SA Power Networks at some sites

## 6. Conduct control

- Stick to the plan
- Implement measures to keep weed controllers, road users and the general public safe
- Minimise off target damage to native vegetation, crops, gardens and waterways

## 7. Monitor and evaluate

- After treatment, check for weed survivors and regrowth, and for any delayed damage to native vegetation
- Assess how successfully management goals and objectives have been achieved
- Assess weed and native vegetation populations the following year and compare to the data from Stage 1
- Keep a record of this information to adjust the plan as needed or as a guide for future work at the site

STAKEHOLDER	COMMUNICATING WITH	COMMUNICATING ABOUT
LANDSCAPE BOARD	DIT	Permission to affect traffic on DIT roads
	Native Veg. Council	Weed control exceeding NVC clearance guidelines
	Local Government	Conducting control of roadside weeds
	All	How to identify and report State Alert Weeds
	All	Regional priorities for declared plant management
	All	How other stakeholders can incorporate regional NRM weed priorities in their activities
	All	Best practice weed control techniques for roadsides
	All	Best practice native vegetation enhancement
	All	'Be On Look Out' (BOLO) notices for specific State Alert Weeds reported in the region
DIT	Landscape Board	Reports of State Alert Weed sightings
	All	Safety requirements when granting permission to make alterations to roadsides (i.e. control weeds)
	Contractors, Utilities	Reminders to look for and report State Alert Weeds
	Landscape Board, Local Government	DIT's general roadside vegetation management activities and opportunities to cooperate
	All	Roadside significant sites register
Local Government	Landscape Board	Reports of State Alert Weed sightings
	All	Safety requirements when granting permission to control roadside weeds
	DIT	Permission to affect traffic on DIT roads
	Native Veg. Council	Weed control exceeding NVC clearance guidelines
	All	Locations of significant native roadside vegetation
	Landscape Board, DIT	Councils general roadside vegetation management plans and opportunities to cooperate
	Contractors, Utilities	Reminders to look for and report State Alert Weeds
Landowners	Landscape Board	Reports of State Alert Weed sightings
	Local Government	Permission to conduct control of roadside weeds in local government areas
	DIT	Permission to affect traffic on DIT roads
	DIT	Permission to control weeds on roadsides outside council areas and on controlled access roads
	Landscape Board	Any plans to conduct control of roadside weeds
SA Power Networks	Local Government	Provide at least 30 days written notice to prior to vegetation clearance works commencing (except works undertaken prior to or after an emergency)
	Landscape Board	Reports of State Alert Weed sightings
	DIT	Permission to affect traffic on DIT roads
	Landscape Board	Any plans to conduct control of roadside weeds
	Landscape Board, Local Government	Best practice management of roadside native vegetation
Contractors	Landscape Board	Reports of State Alert Weed sightings
	Local Government	Permission to conduct control of roadside weeds
	DIT	Permission to affect traffic on DIT roads
	Landscape Board	Any plans to conduct control of roadside weeds
	Landscape Board, Local Government	Best practice management of roadside native vegetation
Native Veg. Council	Local Government, DIT	Marking of native vegetation species and communities with conservation significance

*Table 1: Communication channels among stakeholders in roadside weed management. Green shading indicates mandatory communications.*

# 1. Detect and map weeds and native vegetation

## WEED DETECTION

Road corridors are major invasion pathways for weeds. Rapid detection of roadside weeds that are new to a region or locality provides opportunities for cost effective management programs.

All weed management has costs, which ultimately are paid by the community. Prevention of entry is the most cost-effective form of weed control, but prompt eradication of a new introduction can also result in significant savings (Figure 4).

Early detection is essential if new incursions are to be managed while eradication is still possible.

The LSA Act requires landowners to report State Alert Weeds, and other weeds declared as notifiable under section 190(1), to their regional Landscape Board if these are growing on their property. The public and stakeholders are also encouraged to report these weeds on public land including road reserves.

State Alert Weeds, notifiable declared plants, and other weeds believed to represent a new threat to an area should be reported to regional Landscape board or Green Adelaide staff.

The SA Weed Control App provides an efficient and easy way to identify and report State Alert Weeds to regional LSA officers. **For further information go to: [www.pir.sa.gov.au/biosecurity/weeds\\_and\\_pest\\_animals/weeds\\_in\\_sa/weed\\_control\\_app](http://www.pir.sa.gov.au/biosecurity/weeds_and_pest_animals/weeds_in_sa/weed_control_app)**

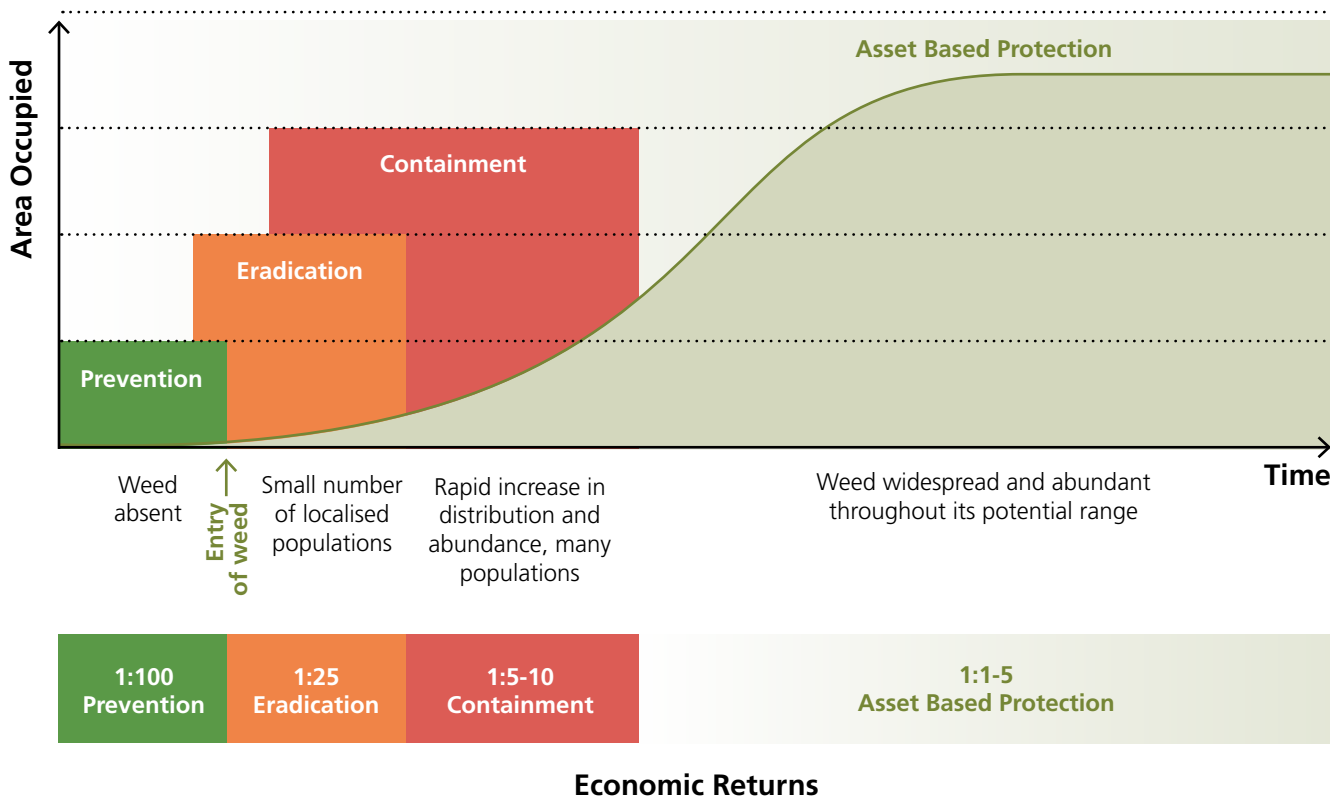


Figure 4: Economics of weed management (Adapted from Invasive Plants & Animals Policy Framework, Department of Primary Industries Victoria.)

## WEED MAPPING

Mapping the distribution and density of weeds provides the foundation for weed management plans. It is important to know the location of weeds that may pose a risk to conservation areas, waterways and infrastructure. Mapping small, new infestations of weeds also helps to prioritise which weeds to control and where.

A weed management map includes the distribution of weeds as well as other features that may impact planning.

A weed management map will allow you to:

- accurately target your weed control activities
- budget costs and time required to control weeds
- monitor how well controls are working

Mapping helps to communicate planning and weed control outcomes to stakeholders and funding bodies.

At a local level, and for the purposes of a land owner conducted site assessment, it may not be necessary to develop elaborate maps. The idea is to keep it as simple as possible, while producing a map or maps that are useful. Using GPS equipment will greatly enhance the speed and accuracy of mapping.

There is no need to map every weed species that occurs at a site. It is a matter of identifying the priority weeds for management in light of the risks they represent and the resources available to do the work. Further information regarding prioritisation is included in the following section.

**Further information about surveying and mapping weeds is contained in the following publications:**

- *A Field Manual for Surveying and Mapping Nationally Significant Weeds*, available at [www.weeds.org.au/wp-content/uploads/2020/04/Weeds\\_Manual.pdf](http://www.weeds.org.au/wp-content/uploads/2020/04/Weeds_Manual.pdf)

## NATIVE VEGETATION INCLUDING PLANTS AND COMMUNITIES OF CONSERVATION SIGNIFICANCE

Maps should also include native roadside vegetation to help avoid damage to these important areas.

In South Australia, a Native Vegetation Marker System is used in some Council areas (Figure 5.) It allows ready identification of significant roadside vegetation sites and any specific management practices required at the site. However, this is not an exhaustive list and all native vegetation is valuable. For further information contact your local Council.

The system comprises a Significant Sites Register, the marking of these sites in the field with blue markers or 'shields' and the development of management procedures to protect the identified sites. Permission must be granted by the relevant Council before any activity - including weed control - is carried out at a site with significant native vegetation.

DIT has developed a similar system to assist in the protection of sites of environmental and cultural significance along DIT managed roads. Roadside Significant Sites markers indicate locations that have significant native vegetation,



Figure 5: Example of native vegetation markers on roadsides

significant trees, rare plants, fauna habitat, cultural sites and other features.

**The DIT Roadside Significant Sites database is available as a spatial layer from DataSA at [www.data.sa.gov.au/data/dataset/roadside-significant-sites](http://www.data.sa.gov.au/data/dataset/roadside-significant-sites) and on the Location SA Map Viewer [location.sa.gov.au/viewer/](http://location.sa.gov.au/viewer/)**

**Further information about roadside native vegetation is contained in the Native Vegetation Council publication; *Guidelines for the Management of Roadside Native Vegetation*, available online at [www.environment.sa.gov.au/managing-natural-resources/native-vegetation/clearing-offsetting/clearance-guidelines](http://www.environment.sa.gov.au/managing-natural-resources/native-vegetation/clearing-offsetting/clearance-guidelines).**

Roadside weed management is just one of many landscape issues requiring resourcing, so it is important that the available funds are used to manage the highest risk weeds and the most important locations.

## 2. Risk assessment and prioritisation

By analysing weed maps together with information from other stakeholders, you can determine your weed priorities and develop objectives and actions to address them.

Prioritisation of weed control should be based on an assessment of the risks each weed poses and the feasibility of their control (Table 2). The following approach may help to decide:

FEASIBILITY OF CONTROL	WEED RISK	
	Low	High
Low	Lowest Priority	Second Priority
High	Third priority	Highest priority

Table 2: Weed management priority matrix

Whether a weed represents a low or high risk is dependent upon factors related to its invasiveness and impacts, for example:

- its ability to establish amongst existing vegetation
- its ability to displace other vegetation
- the likelihood of long distance dispersal (e.g. by birds, stock, wind or water, on machinery etc.)
- the reduction in quality of native/desirable vegetation
- the changes the weed could cause to natural ecosystems
- the potential economic losses it poses to agriculture and other land uses
- its contribution to increasing roadside fire hazard

For further information about risk assessment and priorities for weed management in your region contact your regional Natural Resources Centre (see the list of contacts at the end of this manual or refer to [www.nrm.sa.gov.au](http://www.nrm.sa.gov.au)) or PIRSA (08) 8303 9620. A more comprehensive explanation of weed risk management can be found in the *SA Weed Risk Management Guide*: [www.pir.sa.gov.au/\\_data/assets/pdf\\_file/0016/254221/sa\\_weed\\_risk\\_management\\_guide.pdf](http://www.pir.sa.gov.au/_data/assets/pdf_file/0016/254221/sa_weed_risk_management_guide.pdf)

## 3. Research and select control methods

There are a range of methods and tools to control weeds growing on road reserves, including:

- Competition from enhanced native vegetation and other desirable species
- Herbicides (selective and non-selective, applied by a range of methods including spot spray, splatter gun, cut stump, drill and fill, basal bark and scrape and paint)

- Slashing or mowing (usually for asset protection, reduced seed set or fire risk reduction)
- Hand pulling or grubbing (often for small infestations or in ecologically sensitive areas)
- Releasing and encouraging biological control agents

Select control methods that minimise the risk of

- damage to native vegetation
- off-target damage – including entry of chemicals into aquatic systems via roadside drains
- development of herbicide resistance

Discussion with LSA staff regarding control methods, appropriate chemicals and training is highly recommended.

The PIRSA publication *Weed Control Handbook for Declared Plants in South Australia* is a good source of information for determining appropriate control methods.

Also refer to *Early Intervention of New and Emerging Weeds*.

### HERBICIDE RESISTANCE IS A DEVELOPING PROBLEM IN ROADSIDE WEEDS

While glyphosate is useful for controlling weeds on roadsides, repeated application over a number of years can lead to resistant populations of weeds. Overuse of other herbicides has similar risks.

Roadside weeds that have developed resistance to a particular herbicide group through natural selection can potentially spread into adjoining paddocks via either seed or pollen.

Resistance develops more quickly in annual weeds than in perennials. Even if herbicide use is discontinued, resistance can persist in a population once it has developed. Examples of weeds in South Australia that have developed herbicide resistance include annual ryegrass, brome grasses, fleabane and wild turnip.

There is a small number of herbicides permitted for use in roadside weed management. These are from the B (sulfonyl-ureas such as metsulfuron), C (triazines such as atrazine and simazine), I (synthetic auxins such as MCPA) and M (glyphosate) chemical groups. To avoid development of herbicide resistance, herbicides from different chemical groups should be used at a site in successive years. Management of roadside weeds should also include mechanical control and creating environments that exclude weeds.

DIT has an operational instruction to manage the risk of herbicide resistance along road corridors; *Herbicide Resistance: Environmental Instruction 21:4*, available under 'Vegetation' at [www.dpti.sa.gov.au/standards/environment](http://www.dpti.sa.gov.au/standards/environment)





## 4. Develop a plan

Having mapped and prioritised weed species and locations, talked with other stakeholders, and thought about the possible control methods, the next step is to pull all that information together to create a plan.

Keep in mind these principles of roadside weed management when developing a plan:

- Focus on the high risk species and locations
- Promote the growth of desirable plants (such as indigenous species) to compete with weeds
- Prevent off target damage
- Comply with safety requirements
- Manage herbicide use to prevent herbicide resistance developing in weed populations
- Minimise soil disturbance
- Coordinate roadside weed control with adjoining land owners to gain efficiencies and manage sources of reinfestation

- Conduct control works at the optimum time/s of the year for the species being targeted, e.g. to control new germinants or prevent seed set
- Make the complexity of the plan appropriate for your needs

There are a number of environmental and safety standards applicable to conducting roadside weed management activities. These may be useful when developing your plan.

Detailed information about planning weed management is contained in the *Early Intervention of New and Emerging Weeds*.

Your plan should involve communicating and collaborating with other stakeholders to develop shared goals and objectives.

## PREVENT DAMAGE TO ROADSIDE NATIVE VEGETATION

Land owners who wish to control weeds on the roadsides outside their property should consult Landscape Board or Council staff about any particular plant species or associations that need to be protected and any vegetation management programs or community projects occurring on the road reserve.

There are many measures that can be taken to prevent damaging native vegetation while controlling weeds. These include, but are not limited to:

- ensuring operators can reliably identify target weeds and native species
- mapping both native vegetation and the weeds to be controlled
- establishing buffer zones around significant native vegetation
- strictly adhering to label directions for herbicides
- correctly calibrating spray equipment
- checking weather conditions before spraying and postponing if necessary

Integrated weed management should include a range of control methods appropriate to the site conditions.

Regional LSA staff can provide information about native roadside vegetation that can assist in planning an efficient, effective and compliant roadside weed management program.

For anyone carrying out weed management activities in the presence of native vegetation:

- Seek advice from regional Landscape Board and/or Council staff before carrying out any roadside weed control activities to identify whether native vegetation, threatened species or communities are present (site may contain a Significant Roadside Vegetation Marker).
- If any native vegetation is present, prevent damage by adhering to the *Guidelines for the Management of Roadside Native Vegetation and Regrowth Vegetation* to minimise impacts to native vegetation [www.environment.sa.gov.au/files/sharedassets/public/native\\_veg/roadside\\_vegetation\\_interim\\_guidelines/native\\_veg\\_guideline\\_for\\_roadside\\_sept2020.pdf](http://www.environment.sa.gov.au/files/sharedassets/public/native_veg/roadside_vegetation_interim_guidelines/native_veg_guideline_for_roadside_sept2020.pdf)
- If impacts to native vegetation are unavoidable and likely to exceed the generally permissible level of clearance indicated in the NVC guideline above (including where works are carried out within areas containing threatened species or communities of conservation significance) NVC authorisation will be required.
- Always apply precautionary measures where works are carried out within or near sensitive areas, including areas identified as Significant Native Vegetation as indicated by blue roadside markers.

Remember that damage to native vegetation, even if accidental, can be considered as 'clearance' under the *Native Vegetation Act*, and as such is subject to regulation and possible penalties.

In addition to the *Native Vegetation Act 1991*, the *Environment Protection and Biodiversity Conservation Act 1999* and *National Parks and Wildlife Act 1972* may also need to be considered in some circumstances. Consult the online database to check where protected species and ecological communities occur: [data.environment.sa.gov.au/naturemaps](http://data.environment.sa.gov.au/naturemaps)

## 5. Obtain permissions

If a land owner or a community organisation wishes to control weeds on roadsides adjoining their property, written permission must be obtained from the local council (for roadsides in council areas), or from DIT (outside council areas and controlled access roads). To find out which roads are managed by DIT visit: [www.sa.gov.au/topics/driving-and-transport/industry-services/getting-permission-to-carry-out-roadworks](http://www.sa.gov.au/topics/driving-and-transport/industry-services/getting-permission-to-carry-out-roadworks)

If road traffic on a DIT managed road may be impacted by weed control works (e.g. if traffic management signs are used to slow traffic), or if the road formation may be impacted (e.g. if the unsealed road shoulder is likely to be damaged while removing trees), then permission must be sought via lodgement of a Notification of Works form to DIT, see [www.dpti.sa.gov.au/contractor\\_documents/works\\_on\\_roads\\_by\\_other\\_organisations](http://www.dpti.sa.gov.au/contractor_documents/works_on_roads_by_other_organisations)

If it is possible that the work will require transporting any declared plants, parts of declared plants or soil, vehicles, machinery or other items potentially contaminated with declared plant material a permit will be required. Contact PIRSA (8303 9620).

## 6. Conduct control

### STICK TO YOUR PLAN

Stick to the plan you have developed as much as possible, but adapt it if circumstances change or new information is learned. Don't rush the work, take the time to do the job correctly so that the best possible results are achieved with the minimum of off target damage.

## EMPLOY SAFETY MEASURES

Conform to safety requirements specified by your Council and/or DIT and exercise your General Duty of Care under the *Work Health and Safety Act 2012* as specified in the 'Your Responsibilities' section of this manual.

## PREVENT OFF TARGET DAMAGE

Off-target damage happens in several ways including:

- Herbicide spray drifting onto native vegetation or adjacent crops and pastures, killing, damaging or contaminating them
- Herbicide spray drifting into waterways, wetlands and dams, impacting native fish, frogs, yabbies, birds, vegetation and livestock
- Chemicals and chemical residues being washed into waterways and along roadside drains
- Disturbance of soil during mechanical removal resulting in soil erosion
- Denuded soil resulting in soil erosion in heavily sprayed areas
- Spraying vegetation that subsequently comes into contact with people, livestock or native animals

Spray drift can result in chemical trespass, the term used to describe the trespass of chemicals to off-target properties, crops or the environment that causes:

- Actual or potential contamination of land, animals or plants outside the target area
- Actual or potential harm to human health and safety (within or outside the target area)
- Actual or potential environmental harm (within or outside the target area)

Chemical trespasses must be reported to the PIRSA Rural Chemicals Unit, who may investigate the incident. Penalties can apply.

**Everyone conducting weed control has a moral and legal responsibility to prevent herbicides (and other pesticides) from drifting and contaminating or damaging neighbouring properties and off-target species.**

The PIRSA publication *Weed Control Handbook for Declared Plants in South Australia* contains further information on how to minimise off target damage and avoid chemical trespass.

## PREVENT FURTHER SPREAD

Ensure that the weeds you are controlling are not spread to new areas by hitching a ride on your vehicles, equipment or clothing. Whenever possible, thoroughly clean vehicles and machinery before leaving a site. The most effective cleaning options include:

- Air blasting hard-to-reach spots such as cavities and joints while the vehicle and contaminants are dry
- Washing the vehicle from the top down, using a pressure cleaner, or a spray tank and pump
- Spraying tyres and moving the vehicle forward to ensure all parts of the tyres are cleaned
- Vacuuming inside the cab
- Brushing or scraping contaminants such as burrs and clods of mud from tynes and tyres
- Taking vehicles to a commercial car wash as a secondary measure
- Using detergents to remove grease, dirt and mud, which may contain weed seeds
- Cleaning the undercarriage, springs and axles of trailers
- Cleaning footwear and removing weed seeds from socks and other clothing
- Soil can also contain pathogens such as Phytophthora. If you believe soil may be contaminated, seek advice from a regional LSA office

Contaminated material must be disposed of in a way that ensures no weeds or seeds can spread or grow. Incineration or deep burial are effective disposal options.

Roadside maintenance and infrastructure works such as construction, slashing and grading can spread weed propagules on machinery and when soil or gravel is moved. Organisations undertaking maintenance and construction works have a duty of care to ensure weeds are not transported to other sites as seeds or vegetative propagules. They must comply with machinery hygiene practices and carefully manage and treat spoil. Assessment of the presence of declared plants along road corridors is recommended prior to the planning of roadside maintenance and infrastructure works. It is considered best practice for roadside maintenance and infrastructure works to begin in weed free areas and move into infested areas wherever possible.

Apply to the Invasive Species Unit in PIRSA if it is possible that the work will require transporting any declared plants, parts of declared plants or soil, vehicles, machinery or other items potentially contaminated with declared plant material.

## 7. Monitor and evaluate

Monitoring is often an overlooked aspect of weed management, yet it is a vital part of the weed management cycle.

Monitoring can help evaluate the progress and success of weed control activities and lead to improvements to your management plan.

Monitoring can include regular surveys and mapping, taking photos at selected photo points and recording weed species, density and extent. Baseline information should be collected before activities commence so that changes in weed density or presence can be measured. Monitoring should focus on:

- changes in the distribution and density of both target and non-target weed populations
- establishment of new weeds or populations
- changes in the extent and condition of native vegetation or other desirable vegetation
- unexpected side-effects of weed control activity, such as off target damage, erosion or invasion by other species

Monitoring needs to take place at a similar time each year to be able to make useful comparisons.

You should also make observations about seasonal conditions or other factors that may affect the results of management activities. For example, if the season that has passed was particularly dry, weed populations may have declined due to water stress rather than weed control work. Unexpected site disturbances such as fire or major soil disturbance from roadside infrastructure maintenance also need to be considered when monitoring results and setting plans for the following season and beyond. Any of these or other events may result in the need to revisit priorities and change action plans or objectives.

Sharing monitoring and evaluation results with other stakeholders can help others improve their weed management.



# FURTHER INFORMATION AND RELATED LINKS

## **Weeds in South Australia: declared plants and related information**

[www.pir.sa.gov.au/biosecurity/weeds\\_and\\_pest\\_animals/weeds\\_in\\_sa](http://www.pir.sa.gov.au/biosecurity/weeds_and_pest_animals/weeds_in_sa)

## **SA Weed Control Handbook**

[www.pir.sa.gov.au/\\_data/assets/pdf\\_file/0020/232382/WEB\\_8867\\_PIRSA\\_Weed\\_Control\\_Handbook\\_2018.pdf](http://www.pir.sa.gov.au/_data/assets/pdf_file/0020/232382/WEB_8867_PIRSA_Weed_Control_Handbook_2018.pdf)

## **SA Weed Risk Management Guide**

[www.pir.sa.gov.au/\\_data/assets/pdf\\_file/0016/254221/sa\\_weed\\_risk\\_management\\_guide.pdf](http://www.pir.sa.gov.au/_data/assets/pdf_file/0016/254221/sa_weed_risk_management_guide.pdf)

## **Maps of roads managed by State Government (DIT)**

[www.sa.gov.au/topics/driving-and-transport/roads-and-traffic/road-responsibilities](http://www.sa.gov.au/topics/driving-and-transport/roads-and-traffic/road-responsibilities)

## **Obtaining permission from DIT to carry out road works, including weed management**

[www.sa.gov.au/topics/driving-and-transport/industry-services/getting-permission-to-carry-out-roadworks](http://www.sa.gov.au/topics/driving-and-transport/industry-services/getting-permission-to-carry-out-roadworks)

[www.dpti.sa.gov.au/contractor\\_documents/works\\_on\\_roads\\_by\\_other\\_organisations](http://www.dpti.sa.gov.au/contractor_documents/works_on_roads_by_other_organisations)

## **DIT areas of responsibility for maintenance within road reserves**

[www.dpti.sa.gov.au/standards/tass](http://www.dpti.sa.gov.au/standards/tass)

## **SA Power Networks principles of vegetation clearance**

[www.sapowernetworks.com.au/centric/corporate/trees\\_and\\_powerlines.jsp](http://www.sapowernetworks.com.au/centric/corporate/trees_and_powerlines.jsp)

## **Weed mapping manual**

[www.weeds.org.au/wp-content/uploads/2020/04/Weeds\\_Manual.pdf](http://www.weeds.org.au/wp-content/uploads/2020/04/Weeds_Manual.pdf)

## **Significant roadside sites**

[www.data.sa.gov.au/data/dataset/roadside-significant-sites](http://www.data.sa.gov.au/data/dataset/roadside-significant-sites)

## **NVC Guidelines for Pest Plant and Animal Control**

[www.environment.sa.gov.au/files/sharedassets/public/native\\_veg/nvc-guideline-plant-animal-control-fact.pdf](http://www.environment.sa.gov.au/files/sharedassets/public/native_veg/nvc-guideline-plant-animal-control-fact.pdf)

## **SA Landscape regions**

[www.statewide.landscape.sa.gov.au/](http://www.statewide.landscape.sa.gov.au/)

## **Nature maps**

[data.environment.sa.gov.au/naturemaps](http://data.environment.sa.gov.au/naturemaps)

## **Herbicide resistance instruction (DIT)**

[www.dpti.sa.gov.au/standards/environment](http://www.dpti.sa.gov.au/standards/environment)

## **PIRSA Rural Chemicals**

[www.pir.sa.gov.au/ruralchem](http://www.pir.sa.gov.au/ruralchem)

## **Environment Protection Authority (SA)**

[www.epa.sa.gov.au/](http://www.epa.sa.gov.au/)

## **State Herbarium of SA**

[www.environment.sa.gov.au/Science/Science\\_research/State\\_Herbarium](http://www.environment.sa.gov.au/Science/Science_research/State_Herbarium)

# CONTACTS

## LANDSCAPE SA REGIONAL CONTACTS

### **Alinytjara Wilurara Landscape Board**

aw.landscapeboard@sa.gov.au  
[www.landscape.sa.gov.au/aw](http://www.landscape.sa.gov.au/aw)  
50B McKenzie Street  
Ceduna SA 5690  
08 8625 3144

### **Eyre Peninsula Landscape Board**

ep.landscapeboard@sa.gov.au  
[www.landscape.sa.gov.au/ep](http://www.landscape.sa.gov.au/ep)  
PO Box 22  
Port Lincoln SA 5606  
08 8688 3111

### **Green Adelaide**

dew.greenadelaide@sa.gov.au  
[www.environment.sa.gov.au/topics/green-adelaide](http://www.environment.sa.gov.au/topics/green-adelaide)  
Green Adelaide, Department for Environment and Water  
PO Box 1047  
Adelaide SA 5001  
08 8463 3733

### **Hills and Fleurieu**

hf.landscapeboard@sa.gov.au  
[www.landscape.sa.gov.au/hf](http://www.landscape.sa.gov.au/hf)  
Upper level, Corner Mann & Walker Street  
Mount Barker SA 5251  
08 8391 7500

### **Kangaroo Island Landscape Board**

ki.landscapeboard@sa.gov.au  
[www.landscape.sa.gov.au/ki](http://www.landscape.sa.gov.au/ki)  
PO Box 39  
Kingscote SA 5223  
08 8553 4444

### **Limestone Coast Landscape Board**

lc.landscapeboard@sa.gov.au  
[www.landscape.sa.gov.au/lc](http://www.landscape.sa.gov.au/lc)  
PO Box 1046  
Mount Gambier SA 5290  
08 8735 1177

### **Murraylands and Riverland Landscape Board**

mr.landscapeboard@sa.gov.au  
[www.landscape.sa.gov.au/mr](http://www.landscape.sa.gov.au/mr)  
2 Wade Street  
Berri SA 5343  
08 8580 1800  
110A Mannum Road  
Murray Bridge SA 5253  
08 8532 9100

### **Northern and Yorke Landscape Board**

ny.landscapeboard@sa.gov.au  
[www.landscape.sa.gov.au/ny](http://www.landscape.sa.gov.au/ny)  
155 Main North Road  
Clare SA 5453  
08 8841 3400

### **South Australian Arid Lands Landscape Board**

saal.landscapeboard@sa.gov.au  
[www.landscape.sa.gov.au/saal](http://www.landscape.sa.gov.au/saal)  
PO BOX 78  
Port Augusta SA 5700  
08 8648 5300

## PIRSA INVASIVE SPECIES UNIT

PIRSA.InvasiveSpecies@sa.gov.au  
[www.pir.sa.gov.au/biosecurity/  
weeds\\_and\\_pest\\_animals/](http://www.pir.sa.gov.au/biosecurity/weeds_and_pest_animals/)  
GPO Box 1671  
Adelaide SA 5001  
8429 0593

## NATIVE VEGETATION COUNCIL

nvc@sa.gov.au  
GPO Box 1047  
Adelaide 5001 SA  
8303 9777

## Appendix

# SUMMARY OF APPLICABLE LEGISLATION

## Work Health and Safety Act 2012 (SA)

When managing weeds on road reserves the safety of workers, road users and the general public is a critical concern. When conducting on ground works, the road reserve becomes a workplace and becomes subject to the *Work Health and Safety Act 2012 (WH&S) Act* and *Work Health and Safety Regulations 2012 (SA)*. Councils should be aware of their obligations under *WH&S* when authorising land owners to conduct roadside weed management works.

As such, all stakeholders administering, managing and conducting roadside weed management activities must comply with the *WH&S Act* and all relevant *WH&S Regulations 2012 (SA)* requirements. Particular attention should be paid to the following sections of the *WH&S Act*: Section 19 regarding primary duty of care; Section 20 on duties of person with management or control of workplace; Section 28 on duties of workers; Section 29 on duties of other persons at the workplace; and Section 27 on duties of officers.

Further guidance can be found in the Safe Work Australia publication *Guide to the Model Work Health and Safety Act*.

## Road Traffic Act 1961

Anyone conducting weed control works must ensure that traffic control devices and signs at the site of road works are used in accordance with the *Road Traffic Act 1961 (SA)*. Sections of particular relevance to roadside weed control include: Section 17 - installation of traffic control devices requires approval; Section 20 - duty of 'public authority' to place speed limit signs in relation to work areas or work sites.

The following documents produced by DIT provide further guidance:

- *DIT: The Manual of Legal Responsibilities and Technical Requirements for Traffic Control Devices:*
  - Part 1.** *The Notice from the Commissioner of Highways for the Temporary Use of Traffic Control Devices by personnel other than Road Authorities*
  - Part 2.** *Code of Technical Requirements for the Legal Use of Traffic Control Devices; specifically Section 4 – Speed Control” and*

- *DIT: SA Standard for Workzone Traffic Management*
- *AS 1742.3 Manual of Uniform Traffic Control Devices*
- *DIT: Field Guide, Traffic Control Devices for Workzone Traffic Management*

In the event of an inconsistency between any of the above documents, the higher standard applies.

To order copies of the *DIT SA Standard* and *DIT Field Guide* or to access other DIT publications see [www.dpti.sa.gov.au/standards/tass](http://www.dpti.sa.gov.au/standards/tass).

If traffic control signs are used, at least one person accredited in their use must be on site during all weed control activities. Accreditation for signing at roadworks can be obtained by successfully completing the training course *Work Zone Traffic Management*. A list of DIT approved Workzone Traffic Management training providers is available from [www.dpti.sa.gov.au/standards/tass](http://www.dpti.sa.gov.au/standards/tass).

If weed control works on a road managed by DIT have the potential to impact road traffic (e.g. slow traffic), or road formation (e.g. unsealed road shoulder may be damaged while removing pest trees), then permission must be sought via lodgement of a Notification of Works form to DIT (see [www.dpti.sa.gov.au/contractor\\_documents/works\\_on\\_roads\\_by\\_other\\_organisations](http://www.dpti.sa.gov.au/contractor_documents/works_on_roads_by_other_organisations))

## Native Vegetation Act 1991

*The Native Vegetation Act 1991 (NV Act)* sets the framework for the conservation and management of South Australia's native vegetation. This legislation applies to the whole of the State excluding most of metropolitan Adelaide but includes the Hills Face Zone and Metropolitan Open Space System (MOSS) zones ([www.environment.sa.gov.au/managing-natural-resources/native-vegetation](http://www.environment.sa.gov.au/managing-natural-resources/native-vegetation)).

In some areas roadsides support much of the remaining original vegetation, as most native vegetation on adjoining land has been cleared or highly modified. Roadside vegetation provides habitat and corridors for native wildlife, and often supports threatened flora and fauna. Maintaining native roadside vegetation may also prevent weeds from establishing, lower water tables along the road, and provide shelter for livestock and crops on adjacent farmland. Clearing native vegetation is likely to promote the establishment of weeds unless the area is revegetated. Reflecting this importance, native vegetation is protected in South Australia through the NV Act.

The NV Act, within the portfolio of the Minister for Environment and Water, provides incentives and controls to preserve, maintain and control clearance of native vegetation.

## DEFINITIONS

**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 circumstances involving the use of money paid into the Native Vegetation Fund for the purpose of achieving a significant environmental benefit; or
  - (iv) 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
    - (c) any other Act prescribed by the regulations for the purposes of this paragraph.

**Clearance** in relation to native vegetation, 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 of native vegetation can occur either with the consent of the Native Vegetation Council under Section 29 of the *Native Vegetation Act* (Clearance Application), or in accordance with the Native Vegetation Regulations 2017. The NVC has also prepared Guidelines for certain activities.

For example:

- NV Regulation 11(23) provides for roadside or rail corridor vegetation management and allows for clearance of vegetation on a road reserve, by or on behalf of the authority with the control and management of the land, for the purpose of (a) ensuring the safety of persons entering or passing the land; or (b) controlling pests on the land. This is provided that the clearance complies with any relevant guidelines adopted by the NV Council (under section 25 of the NV Act). If no such specific plan has been prepared and approved, the Regulation allows clearance if it complies with the NVC *Roadside Vegetation Plan Guidelines*
- Native Vegetation Council *Guidelines for the Management of Roadside Native Vegetation and Regrowth* provides guidance for vegetation management (within areas of native vegetation) listed under the *Landscape South Australia Act 2019*:  
[www.environment.sa.gov.au/files/sharedassets/public/native\\_veg/roadside\\_vegetation\\_interim\\_guidelines/native\\_veg\\_guideline\\_for\\_roadside\\_sept2020.pdf](http://www.environment.sa.gov.au/files/sharedassets/public/native_veg/roadside_vegetation_interim_guidelines/native_veg_guideline_for_roadside_sept2020.pdf)

## Landscape South Australia Act 2019

The South Australian *Landscape South Australia Act 2019* (LSA Act) is within the portfolio of the Minister for Environment and Water. It provides for the sustainable and integrated management and protection of the State's natural resources including animals and plants, water and soils.

The LSA Act is administered at a regional level by Landscape Boards that are responsible for developing and implementing regional landscape plans (section 46). Regional landscape plans must include information on the state and condition of natural resources in the region and set out a scheme for implementing natural resource management programs and policies, including the management of weeds.

The LSA Act is the primary legislation for declared plant management in South Australia. Part 9 includes a range of provisions to prevent or control the impacts of plants that have an actual or potential adverse effect on the environment, primary production or the community.

Section 192(7) of the LSA Act requires the Landscape Board to destroy infestations on road reserves of all plants declared for enforced destruction in that region under section 192(1), and to control infestations on road reserves of all plants declared for enforced control in that region under section 192(2).

The LSA Act (section 3(1)) defines a road reserve as "land set aside for the purposes of a public road, whether or not it is being used for that purpose". Section 194 of the LSA Act empowers Landscape Boards to recover the costs of roadside control of declared plants only from the owners of adjoining land, but does not oblige them to recover these costs. It



allows them either to bill each individual landowner for the actual costs of work on the road reserves adjoining their land, up to the middle of the road reserve (subsection 2), or to apply a fixed, standard charge to all landowners in defined circumstances (subsection 3). A standard charge may be more efficient where many small blocks of land are involved, as in rural living developments. Interest may be charged on amounts owed for roadside weed control (subsection 4) and the Landscape Board may recover these amounts as debts (subsection 5); it also has a discretion to remit such amounts (subsection 6).

If the Minister has declared a class of plants under section 192 but not section 194, the Landscape Board must bear all costs for statutory destruction or control of those plants on road reserves.

There is no power under this Act to require landowners or local government to control or destroy declared plants on road reserves because such work is a responsibility of the Landscape Board.

Section 201 provides that a person controlling weeds under the LSA Act must take all reasonable steps to ensure that native vegetation is cleared only in accordance with the guidelines prepared by the Native Vegetation Council under section 25 of the *Native Vegetation Act 1991*; and damage to all other vegetation not declared under the LSA Act is kept to a minimum.

## Highways Act 1926

The *Highways Act 1926*, within the portfolio of the Minister for Transport and Infrastructure, has a broad definition of a road as “any street, road, thoroughfare, terrace, court, lane, alley, cul-de-sac, or place commonly used by the public, or to which the public are permitted to have access, and includes a part of a road”.

Public roads fall into two classes:

- roads vested in, or managed by, the Commissioner of Highways or the Minister under this Act, and
- roads vested in, or managed by, municipal or district councils under the *Local Government Act 1999*.

The roads managed by the Commissioner are generally known as highways, although this term is not explicitly defined in the Act. The Commissioner controls and maintains the road formation of these roads (the carriageway and the verge inside the white marker posts).

By proclamation, the Governor may vest certain major roads, known as controlled access roads, and also other specific roads under section 21A, in the Commissioner.

The Act empowers the Commissioner of Highways to, for the purposes of road safety, remove/cut back any tree/vegetation on or overhanging a road under the care, control and management of the Commissioner of Highways or an adjoining portion of road.

## Local Government Act 1999

The *Local Government Act 1999* (LG Act) within the portfolio of the Minister for local government, uses a definition of a road consistent with the *Highways Act 1926* and the *Roads (Opening and Closing) Act 1991*.

Public roads are either under the control of the Commissioner of Highways, or of a council constituted under this Act. A public road includes not only the paved carriageway that forms the road but the land on either side of a constructed carriageway. Section 4 of the Act defines a public road more precisely to exclude public alleys, laneways and walkways.

Section 221 of this Act prohibits any person (other than a council or a person acting under some other statutory authority) from undertaking any work, which is interpreted to include vegetation removal (which includes weed control), on a public road without authorisation from the relevant council. Exceptions are any public roads managed by the Commissioner of Highways. Landscape authorities should encourage land owners to obtain written authorisation from their council (or the Commissioner for Highways) before carrying out weed control or any other work on road reserves.

Weed control is not mentioned explicitly in the LG Act, but is carried out by councils on lands that they manage.

## Fire and Emergency Services Act 2005

The *Fire and Emergency Services Act 2005* (FES Act), within the portfolio of the Minister for Emergency Services, requires councils and government agencies to control fire hazards on land of which they have the care, control or management (Part 4A). Roadside vegetation can be construed as a fire hazard when it becomes overgrown or accumulates an excessive fuel load.

The FES Act places an onus on rural councils to take reasonable steps to prevent or inhibit the outbreak of fire on roadsides and the spread of fire through roadsides. Section 105G, 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:
    - (i) to prevent or inhibit the outbreak of fire on the land; and
    - (ii) to prevent or inhibit the spread of fire through the land; and
    - (iii) to protect property on the land from fire; and
    - (iv) to minimise the threat to human life from a fire on the land.

Under the FES Act, an authorised person can require an individual to remove flammable debris that is left on or in the vicinity of a rural road as the result of any work.

## National Parks and Wildlife Act 1972

The *National Parks and Wildlife Act 1972* within the portfolio of the Minister for Sustainability, Environment and Conservation, prohibits the removal of native plants from Crown land and certain public land without a permit (Part 4). In some instances this may impact weed control work on roadsides. Threatened flora and fauna, which could be inadvertently impacted by weed control work, are protected under this Act. Section 75A states that a permit under this Act is not required if the person has a permit under the NV Act or is acting in compliance with a requirement under the LSA Act or another Act.

## Development Act 1993

Some trees are regulated or significant trees under Section 4 of the *Development Act 1993* and regulation 6A of the *Development Regulations 2008*, which place restrictions on their removal or pruning. However, trees that are declared plants under the LSA Act, such as desert ash, feral olives and Aleppo pines, are exempt from this section.

## Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places.

Approvals should be sought to undertake weed control on roadsides if the proposed activities could have a significant impact on listed threatened species and communities, listed migratory species, Ramsar wetlands, world heritage properties or national heritage places.

## Agricultural and Veterinary Products Act (Control of Use) Act 2002

The *Agricultural and Veterinary Products Act 2002* is administered by PIRSA Rural Chemicals.

A person who uses agricultural chemicals must do so in a responsible way so that damage to trade, human health and the environment is kept to a minimum.

This Act requires users of chemicals to:

- Only use chemicals for a purpose on the registered label or covered by a Permit from the APVMA, and follow label directions.

- Take reasonable care to prevent off-target chemical damage.
- For further information visit the Rural Chemicals Website at [www.pir.sa.gov.au/ruralchem](http://www.pir.sa.gov.au/ruralchem) or contact: 1300 799 684.

## Environment Protection Act 1993

The *Environment Protection Act 1993* is administered by the Environment Protection Authority (EPA).

This Act and its associated regulations provide a legislative basis for minimising any environmental harm from the use of agricultural chemicals.

The General Environmental Duty of this Act requires that a person must not undertake an activity that pollutes, or might pollute, the environment unless the person takes all reasonable and practicable measures to prevent or minimise any resulting environmental harm.

In some circumstances, a licence may be required under the *Environment Protection Act 1993* to:

- Store bulk chemicals and manufacture chemicals
- Receive, store, treat or dispose of waste agricultural and veterinary chemicals
- Undertake activities that produce chemical waste
- Operate a business for transport of chemical waste.

For further information visit the Environment Protection Authority website at [www.epa.sa.gov.au](http://www.epa.sa.gov.au) or contact: 08 8204 2000 (Freecall 1800 623 445 for South Australia non-metropolitan callers only).

## Electricity Act 1996

The *Electricity Act 1996* imposes a duty on SA Power Networks to take reasonable steps to keep vegetation clear of powerlines under its control in accordance with the principles of vegetation clearance. These principles are set out in the *Electricity (Principles of Vegetation Clearance) Regulations* which provide a mandatory and prescriptive program and regime for the clearance of vegetation in both bushfire risk and non-bushfire risk areas. These include a cyclic cutting program of not more than three years and defined 'clearance zones', with specific references to clearance distances for use in making judgements on the extent and nature of cutting required.

The extent of the clearance zones varies according to whether the vegetation is in a bushfire risk area or a non-bushfire risk area, the voltage of the conductor, swing and sag of the conductor, and whether the line is insulated or bare. Clearance zones take into account movement of the trees and the growth and regrowth rates of the trees during the cyclic cutting interval.

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