



**Macedon  
Ranges**  
Shire Council

# **Macedon Ranges Weed & Pest Animal Strategy 2014 - 2024**

*Adopted 22 Oct 2014*



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# Acknowledgement of Traditional Land Owners

*Macedon Ranges Shire Council acknowledges the DjaDjaWurrung, Taungurung and Wurundjeri peoples as the Traditional Owners of the land on which the Macedon Ranges Shire is located.*

*We wish to show respect to the land and its owners by defending its native biodiversity and natural assets through the implementation of this Strategy.*

*This Weed and Pest Animal Strategy is in two parts. The first part outlines Council's strategic direction relating to the management of weeds and pest animals in the Shire. This part also includes relevant background and contextual information.*

*The second part is an Action Plan identifying how Council will achieve its strategic directions.*

*This Strategy was produced by Macedon Ranges Shire Council with input from Roger MacRaid.*



# The Strategy

## Vision

*Weeds and pest animals are managed throughout the Shire to improve native vegetation quality, productive farmland, landscape values, biodiversity and waterway habitats.*



# Objectives and Strategies

## Theme 1: Weeds

### OBJECTIVES

- Council meets its legal obligations as specified under the CaLP Act, while maximising resource efficiency
- The spread of new and emerging environmental and agricultural weeds on Council managed roadsides and reserves which are not declared under the CaLP Act, are controlled
- The spread of weeds by vehicles and other human activity is minimised
- The spread of weeds to high value agricultural or environmental assets is minimised

### STRATEGIES

- Apply the weed treatment prioritisation criteria (listed in this Strategy) when implementing Council's annual weed program which takes into account the classification of weeds under the CaLP Act, the efficient use of Council resources and the location and conservation value of sites.
- Develop and implement a vehicle hygiene program with relevant Council staff and relevant contractors

## Theme 2: Pest Animals

### OBJECTIVES

- Council meets its legal obligations for pest animal management as specified under the CaLP Act, while maximising resource efficiency
- Minimise the spread of pest animals to high value agricultural or environmental assets
- Support community and stakeholder actions to manage non-declared pests

### STRATEGIES

- Apply the pest animal treatment prioritisation criteria (listed in this Strategy) when implementing Council's annual pest animal program which takes into account the location and conservation value of the site and the efficient use of Council resources.
- Focus pest animal control works in identified project areas and encourage adjoining public and private land owners to undertake complementary works
- Support community led action aimed at managing non-declared pests via in-kind assistance and Council's annual grants program

## Theme 3: Community Capacity Building

### OBJECTIVES

- Increase community capacity to manage weeds and pests on public and private land
- Increase community and organisational awareness about weed species and weed and pest animal control

### STRATEGIES

- Support community led weed and pest animal control initiatives with in kind and financial contributions as appropriate



- Utilise a range of mechanisms such as dedicated information sessions, existing festivals and events, Council publications and the local media to enhance community knowledge about weeds and pest animals

## Theme 4: Monitoring and Evaluation

### OBJECTIVES

- Gain an understanding of the degree of pest animal activity in the Shire
- Gain an understanding of the change in weed and pest animal activity in the Shire over time, including the effectiveness of Council's annual weed and pest animal programs
- Ensure the prioritisation of sites reflects current legislative requirements
- Enhance transparency and accountability
- Ensure Council is achieving value for money
- Ensure Council's treatment priorities and weed and pest animal activities are effective and continue to reflect legislative requirements and community priorities
- Enhance efficiency and effectiveness through innovation

### STRATEGIES

- Enhance Council's management of weed and pest animal data through development of a new and improved Invasive Pests and Weeds Database
- Implement an annual monitoring and site evaluation program to assess the impact of Council's actions and assist with prioritising sites for future treatment
- Review Council priorities for treatment if and when legislative or policy change occurs at a Federal, State or Regional level
- Seek feedback about the effectiveness of the Strategy from community groups and stakeholders
- Facilitate relevant research through partnerships with tertiary institutions
- Explore innovative treatment techniques



# Background

Macedon Ranges Shire Council is responsible for conducting weed and pest animal control works across all Council managed roadsides and reserves across the shire. Council also works with land owners and the community with the aim of achieving integrated, landscape scale outcomes.

Council's current resources enable weed control works to occur across approximately 200 sites per year out of a total of approximately 600 mapped locations. These mapped locations represent approximately 60% of Council managed roadsides and reserves.

The *Macedon Ranges Weed and Pest Animal Strategy 2014-2024* sits within a broader State and Federal response to weeds and pest animals. This Strategy is the third generation of weed strategies for Macedon Ranges Shire Council following on from the 2005 and 2009 strategies.

Council's previous weed strategies focused on a biosecurity approach, targeting new and emerging weeds as a priority. These priorities were broadly, but not explicitly aligned with State Government priorities. To date, there has been no strategy to manage pest animals within Macedon Ranges Shire.

A new strategy is required to help clearly define the shire's priorities and ensure Council's resources are allocated effectively.

This Strategy aims to take an integrated approach to weed and pest animal management while ensuring Council fulfils its legislative requirements. The Strategy aims to align with the biosecurity approach outlined in the Invasive Plants and Animals Policy Framework (IPAPF) (DPI, 2010) which underpins the weed strategies of the North Central and Port Phillip and Westernport Catchment Management Authorities (NCCMA and PPWCMA).

## Why is it important to treat weeds and pests?

It is estimated that the agricultural cost of weeds to Australia is in the vicinity of \$4 billion per annum. The cost to nature conservation and landscape amenity is thought to be of a similar magnitude (NRMMC2007). The effective management of weeds can also significantly impact on fire management. In many circumstances weedy roadsides of the same vegetation type will tend to pose a higher fire risk than those dominated by natives. To take grasslands as an example, *Phalaris* can grow to two metres high, with fuel levels of 29 tonnes per hectare. This contrasts with fuel levels of 6 tonnes per hectare measured for native grasslands dominated by Kangaroo Grass (*Themeda triandra*) during January in an average year (CFA 2011).

Pest animals are invasive species that have been introduced or could be introduced into Victoria or Australia. These species threaten native flora and fauna in a number of ways, including but not limited to, creating competition with native fauna for the same resources and creation of additional grazing pressure on native vegetation communities and agricultural systems. In the case of rabbits, more than 2 rabbits per hectare virtually eliminate the regeneration potential of plant species, and 12 rabbits exhibit the same grazing pressure as 1 dry sheep equivalent (Government of South Australia 2011). Some pest animals, such as foxes, also prey on native fauna and farm animals. The implication of this is that there is a clear conservation and economic need to act strategically to control these species.



## Scope

This *Weed and Pest Animal Strategy* applies to:

- noxious weeds declared under the Catchment and Land Protection Act 1994
- environmental weeds, including Australian natives from other regions whose growing populations have caused community concern as they are a threat to agriculture or native bushland
- established pest animal species declared under the Catchment and Land Protection Act 1994
- undeclared pest animals such as Indian Myna and feral cats

This strategy does not apply to:

- native fauna, including perceived problem wildlife
- invertebrates
- diseases or plant pathogens
- species or controls covered by the Domestic Animal Management Plan

This Strategy has a primary focus on land managed by Council, particularly Council managed conservation reserves and roadsides. The Strategy also extends to interactions with private land owners and land managed by other public authorities such as VicRoads, Melbourne Water, catchment management authorities, the Department of Environment and Primary Industries and Parks Victoria.

## Purpose

The purpose of the *Weed and Pest Animal Strategy* is to:

1. Identify a set of Council priorities for weed and pest animal control actions
2. Establish a weed and pest animal management framework which takes an asset based protection approach and is effective and cost efficient
3. Build the capacity of the local community in invasive weed and pest animal management
4. Facilitate integrated management of public and private land
5. Establish a robust monitoring, evaluation, review and improvement program





# Landscape and climate context

## Geography

Macedon Ranges Shire covers 1,747 square kilometres. The area includes three catchment management authority areas (North Central, Port Phillip and Goulburn Broken).

## Bioregion Geomorphology

The Macedon Ranges municipality spans the bioregions of the Central Victorian Uplands, Victorian Volcanic Plains, and a small portion of Goldfields in the north. These bioregions are underlain by three geomorphic units: Undulating Plains with its red loam and grey loam soils, West Victorian Dissected Uplands with yellow duplex soils, and small areas of Stony Undulating Plains with stony red earth and yellow duplex soils.

## Significant vegetation

Across these bioregions there are several endangered vegetation communities including: Plains Grassy Woodland, Swampy Riparian Woodland, Grassy Woodland, Riparian Woodland, Stream Bank Shrubland, Scoria Cone Woodland, Damp Sands Herb Rich Woodland, Escarpment Shrubland. There are also several species listed as endangered in their own right such as the Blackgum (*Eucalyptus aggregate*), Large-flower Crane's-bill (*Geranium sp. 1*), Sutton Grange Greenhood (*Pterostylus agrestis*) and Matted Flax lily (*Dianella amoena*).

## Natural assets

Macedon Ranges Shire contains a number of parks, bushland reserves, vegetated roadsides and waterways which support a diverse range of threatened species, provide habitat for native wildlife and which enrich the region's biodiversity. Many of these locations are also valued recreation spaces for passive pursuits such as bushwalking and bird watching.

The Shire's natural assets include:

- Campaspe River and its tributaries
- Jacksons Creek and its tributaries
- Deep Creek and its tributaries
- Macedon Regional Park (Parks Victoria)
- Lerderderg State Park (part) (Parks Victoria)
- Cobaw State Forest (DEPI)
- Hanging Rock Recreation Reserve
- A range of bushland and conservation reserves including Bald Hill, Black Hill, Hobbs Road, Sandy Creek, Stanley Park, Barringo, UL Daly and Woodend Grassland reserves
- 1659km of road reserve, many of which contain significant native vegetation



## Climate

The portion of the Great Dividing Range within Macedon Ranges runs east west through the middle of the Shire, attracting higher rainfall and a more temperate climate than areas in the north and south. This is demonstrated by the stands of Mountain Ash (*Eucalyptus regnans*) that exist in these areas. The PPWCMA identify this east west pathway as a potential linkage between the Wombat State Forest and the high country along the ranges, and so the control of many weeds in this area which includes the Cobaw Biolink, will act to defend the integrity of this habitat.

The effect of climate change on weed species in Victoria will be an important determinant in the success of weed management programmes in this state. Modelling done by DPI & DSE in 2008 (now the Department of Environment and Primary Industries - DEPI) suggested that the climatically suitable habitat of some species already present in Macedon Ranges such as, Cotoneaster (*Cotoneaster glaucophyllus*) and Ragwort (*Senecio jacobea*) will reduce considerably. Others such as Bluebell creeper (*Billardiera heterophylla*), Himalayan honeysuckle (*Leycesteria formosa*) and Serrated Tussock (*Nassella trichotoma*) may become easier to control as their vigour is reduced under climate change. Several other species such as Blue heliotrope (*Heliotropium amplexicaule*) are likely to become more widespread and many yet unseen species will become well suited to the area (Steel et al 2008). Much of the change is modelled in a longer time frame than that of this Strategy, but some effects are already detectable, and now is an ideal time to put systems and practices in place to mitigate future impacts.



## Land management context

Management of weeds and pests on public land is complex, involving multiple state government departments and agencies as well as various Council departments.

The following matrix sets out who is responsible for weed and pest animal management on public land at Macedon Ranges Shire Council.

Location	Sub-location	Responsible Department / Agency
Roadsides	Local roads in townships	MRSC - Operations
	Local roads outside townships	MRSC - Strategic Planning & Environment
	Declared main roads	VicRoads
Rail reserves	Rail reserves	VicTrack
Public Reserves	Conservation Reserves	MRSC - Strategic Planning & Environment
	Recreation and sporting reserves	MRSC - Recreation
	State Parks, Regional Parks, Flora Reserves & Crown Land	Parks Victoria / DEPI
Waterways	Council owned or managed	MRSC – Strategic Planning & Environment
	Crown owned or managed	Catchment Management Authorities Water Authorities

MRSC = Macedon Ranges Shire Council

This Strategy provides direction for land managed by Macedon Ranges Shire Council and, particularly, Council's Strategic Planning and Environment Department.

## Legislative context

### Catchment and Land Protection Act 1994

In Victoria, the Catchment and Land Protection Act 1994 (CaLP Act) is currently the main piece of legislation with the objective to provide for the control of noxious weeds and pest animals. The Department of Environment and Primary Industries is the regulating authority for enforcing Council and land owner obligations under the CaLP Act.

The State government is currently in the process of replacing the weed and pest animal provisions of the CaLP Act. These new provisions are intended to improve some of the powers for enforcement of weeds but also to make it much easier and quicker to make alterations to the listing of species. As a result weed control planning needs to be ready to adapt to any change. Good species distribution data will facilitate this planning, and is likely to be particularly pertinent for new and emerging species.

### STATE GOVERNMENT RESPONSIBILITIES

The CaLP Act specifies that the responsibilities of the Secretary of the Department of Environment and Primary Industries are to take all reasonable steps to:

- eradicate State Prohibited weeds from all land in the State
- control restricted pest animals on any land in the State.
- eradicate regionally prohibited weeds on roadsides on Crown land.



The State Government is also responsible for enforcing the CaLP Act as it applies to private land owners. The Secretary delegates responsibilities to Authorised Officers employed by the Department of Environment and Primary Industries to issue enforcement notices as a result of a landowner's failure to meet their obligations under the Act. This means that land owners who fail to control noxious weeds or established pests on their land can be issued with directions or land management notices. Failure to comply with these notices can result in fines or court action.

### **LAND OWNER OBLIGATIONS**

Section 20 of the Act includes in the general duties of a landowner that a landowners must take all reasonable steps to:

- eradicate regionally prohibited weeds;
- prevent the growth and spread of regionally controlled weeds; and
- prevent the spread of, and as far as possible eradicate, established pest animals.

The CaLP Act also states that a person must not (without a permit from the Secretary) transport within Victoria a noxious weed or any part of a noxious weed capable of growing. This has implications for treatment methods and the removal of treated materials for both public and private land managers.

### **COUNCIL OBLIGATIONS**

In addition to its responsibilities under Section 20 of the Act for land owned or managed by Council, in 2013, the CaLP Act was amended to clarify that municipal councils are responsible for controlling declared species on roadsides if the land is a municipal road. These amendments also introduced the opportunity for the Minister for Environment to require municipal councils to prepare a roadside weed and pest animal management plan. Under the CaLP Act, a weed and pest animal management plan must have regard to—

- any information provided by the Minister; and
- any regional catchment strategy applying to the declared municipal district.

In addition, if a weed and pest animal management plan is required by the Minister for a municipal council, a notice must be published in the Government Gazette and a local newspaper inviting comment on the plan for 28 days.

This Strategy could be used as the basis for a roadside weed and pest animal plan if required by the Minister.

### **DECLARED NOXIOUS WEEDS AND PEST ANIMALS**

Weeds and pest animals are given different classifications for different catchment management areas. The latest list of noxious weeds and pest animals declared under the CaLP Act were gazetted on 21 August 2014.

### **NON-DECLARED WEEDS AND PEST ANIMALS**

Non-declared weeds and pest animals are those species which are not listed under current legislation. As a result, Council is under no legal obligation to manage these species. Even so, Council recognises the impact these species can have on the natural environment and, consequently works with the community to minimise their impact. Council also treats non-declared weeds on roadsides and in reserves alongside the treatment of declared noxious weeds in these areas.



**Appendix 1** contains a list of declared noxious weeds for the North Central, Goulburn Broken and Port Phillip and Western Port catchment management areas as well as environmental and agricultural weeds commonly found in the Shire.

**Appendix 2** contains a list of commonly found pest animal species and their classification.

## Relationship to other legislation

There is a significant history of enforcement of the CaLP Act for several species reinforcing the impetus to take reasonable steps to control listed species. However this does come with an obligation not to contravene other Acts such as those that protect native species or sites of cultural heritage significance. Relevant related Acts include the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), the Victorian Planning and Environment Act 1987 (P&E Act), the Victorian Flora and Fauna Guarantee Act 1988 (FFG Act), the Victorian Aboriginal Heritage Act 2006, the Victorian Traditional Owner Settlement Act 2010 (and associated Land Use Agreements) and the Victorian Wildlife Act 1975.

For example ripping of rabbit warrens is the best way to achieve long term control of rabbits, however, in a native grassland context this may create an impact that would be in breach of federal law – i.e. the EPBC Act – due to the high conservation status of many grassland communities and associated grassland species. In addition, ripping may impact sites of Aboriginal cultural heritage sensitivity which are protected under the Aboriginal Heritage Act 2006. In this instance fumigation may be more suitable.

The Wildlife Act 1975 also makes it illegal to “disturb” or “molest” protected wildlife without authorisation or an order from the Secretary for the Department of Environment and Primary Industries. Protected wildlife comprises all the indigenous fauna in the State. That is, any actions that aim to control indigenous fauna such as cockatoos or kangaroos, requires approval from the State Government and, therefore, cannot be considered as a part of general pest control. In addition, any pest control activities, such as baiting or shooting, need to be designed to avoid adverse impacts on native wildlife.

Various model codes of practice and standard operating procedures provide guidance about the humane treatment of pest animals. These should be taken into account when deciding on a treatment technique.



## Policy context

### Regional Catchment Strategies

The Catchment and Land Protection Act 1994 gives rise to much of the policy related to weeds and pest animals. It is through the requirements of the CaLP Act that the Catchment Management Authorities were created and given the directive to establish Regional Catchment Strategies (RCS). The RCSs are intended to set the overarching direction for environmental management policy within catchments, and as a result it is a requirement for several funding opportunities that applications align to the objectives of the RCS.

#### **NORTH CENTRAL REGIONAL CATCHMENT STRATEGY 2013-2019**

The North Central Regional Catchment Strategy 2013 – 2019 has as a key objective to establish a framework for the integrated and co-ordinated management of catchments to maintain and enhance biodiversity, land and water'. This region is one of Australia's most highly cleared and fragmented landscapes, which contains many threatened species and communities. Therefore, invasive plants and animals (including overgrazing by feral animals) have been identified as a key threat to biodiversity. Further, the growth and spread of exotic flora and fauna resulting from rural activities is an important threat to the health of waterways and floodplains. Priority natural assets listed in the strategy include the Kyneton Woodlands area and the Wombat State Forest which is located on the south boundary of Macedon Ranges Shire.

#### **PORT PHILLIP AND WESTERN PORT REGIONAL CATCHMENT STRATEGY 2013**

A key purpose of the Port Phillip and Western Port Regional Catchment Strategy 2013 (draft) is 'to protect the environmental assets that are the cornerstones of healthy and resilient ecosystems in the Port Phillip & Western Port region – native vegetation, native animals, waterways and wetlands'. This strategy identifies invasive weeds as a major barrier to protecting native vegetation. The Strategy identifies that the quality of native vegetation in fragmented patches is vulnerable to ongoing weed invasion. Furthermore, the Strategy emphasises that invasive plants and animals are major threats to native animals through predation, disturbance and competition.

Priority biolinks within Macedon Ranges Shire include land along Jacksons Creek and Deep Creek and the area between the Macedon Ranges and the Cobaws (known as the Cobaw Biolink). Land between the Cobaws the foothills of the Great Dividing Range near King Lake are identified as another potential nature link.

#### **GOULBURN BROKEN REGIONAL CATCHMENT STRATEGY 2013-2019**

The Goulburn Broken Regional Catchment Strategy lists invasive plant and animal control, fire and flood management and continued habitat loss and degradation as all putting pressure on farm productivity and sustainability. The Strategy notes that threats such as weed and pest animal invasions will also change with climate change, causing the likely extinction of some species.

### Council Strategies and Plans

#### **NATURAL ENVIRONMENT STRATEGY**

The *Macedon Ranges Natural Environment Strategy* (NES) provides the municipal scale policy direction working under legislation and the RCSs and creating consistency with the Council Plan and Municipal Statement. The current NES states that:



*“Council will develop a strategic, collaborative, targeted and continuing program for the control of priority pest plants and animals, which tackles environmental as well as agricultural pests on council land and priority roadsides. The program will ensure that initial works are followed up, and that pest plants are replaced with appropriate indigenous species. Because some roadsides have high biodiversity values but are also subject to many competing demands and uses, they will be given special attention to protect their biodiversity. Effective operational procedures will be established for the conservation of native flora and fauna, control of pest plants and animals, and fire protection on road reserves across the Shire.”*

The current NES is due for revision.

### **ROAD MANAGEMENT PLAN 2013**

The prescription of vegetation control and grass mowing/slashing under the road management plan is a point of intersection with this Strategy. The *Road Management Plan* also acknowledges that activities under the Plan may have ecological impacts. Internal communication and partnerships around weed and pest animal issues can help to manage these risks.

### **LOCAL LAWS**

Council’s Local Law No. 10 helps to reinforce weed and pest animal control under this Strategy. It states that residents must not feed or encourage the presence of feral, stray or pest animals or allow pest animals access to food on the land on which other animals are kept. It also states that owners and occupiers must not allow land to be kept in a way that is unsightly taking into account the presence of noxious weeds or conditions that provide harbour for pest animals.

When viewed alongside the requirements of the CaLP Action, Council’s Local Law No. 10 makes a very strong legal case for integrated control of weeds and pest animals.

### **MUNICIPAL FIRE MANAGEMENT PLAN**

The *Fire Management Plan 2012-2015* makes considerable reference to the management of vegetation on roadsides. This includes a table specifying slashing activity by roadside. This table also identifies if Chilean Needle Grass is present at those roadsides, which implies an intention to control the spread of this weed as a result of Council’s fuel reduction program.

Council’s *Fire Management Plan* is due to be revised following review of the relevant regional fire management strategy. These reviews will also take into account the Victorian Fire Risk Register. In general, the review of Council’s fire management strategy is likely to prioritise removal of flammable weeds to create fuel control lines and on the fringe of townships. Council’s roadside slashing program is also being reviewed to ensure efficient and effective outcomes across the Shire. These directions may impact on Council’s priorities for treatment of woody weeds and proposed vehicle hygiene programs.



## Best practice

Striving for best practice is essential as are many factors that can confound or interrupt the effect of treatment works, and many treatment methods in isolation can tend to have a limited effect. Most weed species also create a seed bank in the soil that can be viable for many years. In the case of Gorse, seed can last as long as 30 years.

As the biology and ecology of species vary, Best Practice Management Manuals have been developed for each of the Weeds of National Significance. This expertise should be drawn upon for decision making.

There are some **general principles** that can be broadly applied. These include:

- **integrated management** – this involves a long term management approach, using as many techniques listed below as possible. Using several methods of control reduces the chance that species will adapt to the control technique used – e.g. through herbicide resistance.

Integrated management also involves coordinating weed control, pest animal management and revegetation to maximise resources and achieve improvements in vegetation quality. As a general principle, weed and pest animal control should occur before revegetation to ensure new plantings survive. Similarly, treatment of woody weeds can have the dual effect of controlling invasive flora species, while also removing harbour for rabbits and foxes.

- **appropriate scale** – species such as rabbits are very mobile. Research shows that the likelihood of reinvasion is greatly reduced if there is no significant warren within 3km of the given treatment site. Therefore, rabbit control needs to take a landscape scale approach to be effective.
- **long term time frames with follow up**– many species develop extensive seed banks that can be stimulated by disturbance, so a lack of follow-up can allow a bigger problem to emerge.
- **chemical control**– chemical control is the most commonly thought of measure for weed and pest animal control. The effectiveness of this technique depends on the choice of chemical, timing of application, rate of application to suit the circumstance, and even changing chemicals to avoid plants developing resistance.
- **physical control**– grooming can virtually remove the fire risk of standing biomass without the need to gain permits to transport weed material from a site.

Controlled burning can remove biomass and stimulate the seed bank of weeds and natives to germinate, thus allowing more efficient follow up, potentially reducing the duration of a weed seed bank, and expediting site rehabilitation.

Using bulldozers, excavators or tractors to rip rabbit warrens has been shown to have the greatest impact on a rabbit population's ability to breed the rebound.

- **cultural control** – humans are the most efficient cause of spread for weed and pest animal species. Behavioural measures such as the cleaning of vehicles to remove seeds (especially slashers) can drastically reduce the spread of species such as Chilean Needle Grass (*Nassella neesiana*)



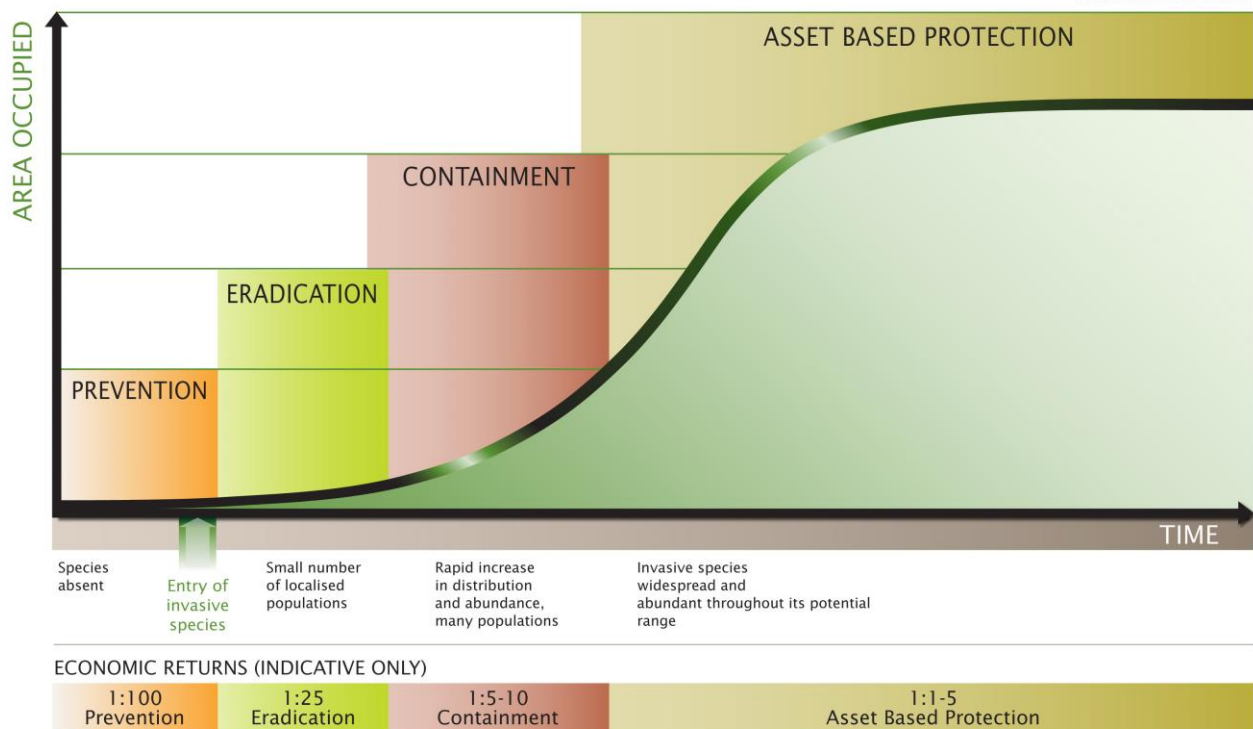


- **biological control** – in some areas the community has been engaged to help spread existing biological controls, such as the gorse spider mite, that are already present in the landscape and help reduce the vigour of infestations ahead of other integrated controls.
- **biosecurity** – taking a biosecurity approach involves preventing incursions of new species, eradicating high threat species that have low infestation levels, containing species that are wide spread but could spread further, and only targeting wide spread infestations that have reached their natural range where they threaten areas of high conservation or agricultural value. This approach is cost effective as it maximises the return from investment in weed and pest control. A diagrammatic explanation of a biosecurity approach is provided at **Figure 1**. This approach generally aligns with the classification of weed species for each catchment as defined under the CaLP Act.

**Figure 1: Generalised Invasive Curve**

GENERALISED INVASION CURVE SHOWING ACTIONS APPROPRIATE TO EACH STAGE

Version 1.0: 30 APR 2009



DEPI, [www.depi.vic.gov.au](http://www.depi.vic.gov.au), accessed 29 May 2014



## Existing partners

Management of weeds and pest animals requires integrated management through partnerships with state government agencies, Catchment Management Authorities and the community.

### Stakeholder partnerships

Stakeholder	Type of partnership / activity
DEPI	Community grants and Good Neighbour Program. Control of State Prohibited weeds. Enforcement of the CaLP Act.
DTPLI	Funding provided to Council's for roadside weed and pest animal management.
NCCMA	Grants and support via Landcare facilitators. Extension programs, including on-ground works via: <ul style="list-style-type: none"> <li>• Kyneton Woodlands Project</li> <li>• Caring for the Campaspe</li> </ul>
PPWCMA	Grants and support via Landcare facilitators.
Parks Victoria	Management of weeds and pest animals on neighbouring State managed parks and reserves
VicRoads	Management of weeds and pest animals on VicRoads managed roadsides.
VicTrack	Management of weeds and pest animals on rail reserves
Coliban Water and Western Water	Management of weeds and pest animals on water assets such as dams and reservoirs
Melbourne Water	Local government and community grant programs including: <ul style="list-style-type: none"> <li>• Stream Frontage Management Program</li> <li>• Corridors of Green</li> </ul>
Neighbouring Councils	Partnership with grant programs through Landcare and the CMAs.  Information sharing about partner programs and grant opportunities.
State Sponsored Community Weed Groups: <ul style="list-style-type: none"> <li>• Vic Serrated Tussock Working Party</li> </ul>	Extension programs to increase the capacity of landowners to control the target weed.



- Vic Gorse Taskforce
- Vic Blackberry Taskforce

Incentive programs available to community groups to conduct on ground works

**Landcare and ‘Friends of’ groups**

**Landcare networks including:**

- Deep Creek Landcare Network
- Jacksons Creek Eco Network
- Upper Campaspe Landcare Network

Management of weeds on roadsides and reserves supported by Council. Current participating groups include:

- Carlsruhe Landcare
- Ashbourne Landcare
- Woodend Landcare
- Bullengarook Landcare
- Greening of Riddell

Community led action that encourages private land owners to take action to tackle specific weeds. Existing programs in Macedon Ranges include:

- Gorse Grief (Pipers Creek Landcare)
- Ashbourne Weed Action Group (Ashbourne Landcare & VicBlackberry Taskforce)
- Serrated Tussock Riddells Creek Extension Project (Jacksons Creek Eco-Network & Serrated Tussock Working Party)
- Cobaw Biolink – Newham and District Landcare (including Hanging Rock and surrounding areas)

**Community pest animal programs**

Macedon Ranges Indian Myna Action Group



# Community priorities

## Weeds

The community in Macedon Ranges Shire strongly values the natural environment, is generally well informed about conservation principles and is relatively active in terms of responding to environmental threats.

In recent years Council has received increased numbers of requests from residents relating to weed control. Most of these requests relate to weed control on roadsides. For example, in 2013 Council received approximately 60 requests from residents relating to weed control on roadsides, compared to less than 10 requests relating to weeds on private property.

Council takes into account a range of criteria when prioritising its annual weed control works. Sites which are the subject of individual community requests, although important, may score lower than other high priority sites in the Shire. This means that not all individual community requests are acted upon immediately.

High priority weeds for the community, as demonstrated by individual resident requests and current community led action include:

- Gorse
- Blackberry
- Texas Needle Grass
- Chilean Needle Grass
- Serrated Tussock
- Thistles (various types)

## Pest Animals

Council receives few requests relating to pest animals such as rabbits or foxes. This may indicate that infestations of these species are relatively low as supported by monitoring conducted by the Department of Environment and Primary Industries. Alternatively, the low number of resident requests could indicate that land owners not aware of Council's role and areas of responsibility, or do not feel that Council has been effective in this area in the past. Surveys in and around Hanging Rock Reserve and as a part of Melbourne Water's Stream Frontage Program indicate that rabbits in some areas are a problem, despite the low numbers of community requests about this issue.

In terms of community led action, the most active group in Macedon Ranges currently targeting pest animals is the Macedon Ranges Indian Myna Action Group. This group facilitates the trapping and extermination of Indian Myna birds by community members. The group has numerous volunteers involved in their program, demonstrating that a relatively high level of community concern exists about this species amongst sections of the community.



## Existing Council activities

### Annual weed control program

Council currently implements an annual weed control program across Council managed roadsides and bushland reserves. Approximately 250 sites are sprayed or groomed each year out of a total 650 sites in the Shire with mapped weed infestations. The value of Council's current weed control program is approximately \$250K per year.

All of the new sites identified by Council staff or the community are mapped and assessed for the weed species present, current weed coverage and the recommended treatment required.

Council has tendered out its current weed control works to seven contractors. The tender is for a five year period from 2013 to 2018.

As well as contractors, Council also funds local Landcare and 'Friends of' groups to undertake weed control activities on selected roadsides and in conservation reserves.

### Pest animal control

Council currently does not implement a coordinated, annual pest control program.

In terms of non-declared pest animals, Council administers a cat trapping program as a part of implementation of its Domestic Animal Management Plan. Through this program residents are able to hire traps from Council for use on public or private land.

### Other activities

In addition to the on-ground works, Council also conducts the following activities related to weeds and pest animals:

- Advice to residents adjoining sites targeted for weed control works, encouraging them to benefit from the cost efficiencies of contractors operating in proximity to their property
- Promotion of weed control through Council publications (such as the monthly Environment eNews and quarterly ShireLife magazine) and at festivals, events and agricultural shows.
- Publication and distribution of weed guides in partnership with adjoining Councils
- Provision of subsidized Agricultural Chemical Users Permit training for community groups in partnership with Newham Landcare
- In kind assistance for community led weed programs to control Gorse, Blackberry, Serrated Tussock and Texas Needle Grass
- Consultation with partnering agencies on weed management, revegetation and land management
- Advice to land owners about best practice land management and weed control techniques



# SWOT Analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• Long standing annual weed control program (approx. 12 years)</li> <li>• Noticeable effect of annual weed program on weed coverage across the Shire (anecdotal)</li> <li>• Long term strategic approach to weed control steadily improving</li> <li>• Effective partnerships developed between Council and some Landcare and 'Friends of' groups to control weeds on public land.</li> <li>• Strong, skilled Landcare and 'Friends of' groups which have been successful in leading community weed programs</li> <li>• Funding and in kind assistance provided to Landcare and 'Friends of' groups for community weed programs</li> <li>• Online information available showing current weed control works</li> <li>• Production and distribution of "Weeds of Central Victoria" booklet in partnership with adjoining councils.</li> <li>• Implementation of EnviroMark site identification signage in select locations.</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of effective data management, leading to reduced efficiency of the annual weed program</li> <li>• Lack of a consistent, robust monitoring and evaluation framework to assess the effectiveness of weed control actions</li> <li>• The current weed program targets known (reported) infestations. The weed coverage across the remaining Council reserves and roadsides needs to be assessed to ensure that Council can continue to plan for and implement a coordinated and comprehensive weed program across the Shire</li> <li>• Lack of baseline data about the presence and extent of pest animals in the Shire</li> <li>• Lack of an annually funded pest animal control program</li> <li>• Lack of integration between management of weeds and pest animals</li> <li>• Lack of awareness amongst new residents, particularly on rural residential properties on the fringe of towns, about land management, including weeds and pest animals</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>• Develop an updated database to store invasive species and biodiversity data for Council managed sites, and to implement and evaluate Council's annual weed and pest control program</li> <li>• Develop a regular site auditing program to evaluate the impact of Council's weed and pest animal activities</li> <li>• Map and assess the condition of all Council managed conservation sites and roadsides</li> <li>• Enhance knowledge in the community about weed and pest animal species and appropriate treatment techniques</li> <li>• Enhance knowledge within Council and amongst contractors about vehicle hygiene</li> <li>• Enhance coordination between Council's weed and pest animal control activities and the activities of adjoining public land managers</li> <li>• Improve integration with Council's annual weed program and fuel reduction program</li> <li>• Additional partnership programs with adjoining Councils</li> <li>• Enhance community knowledge about the respective roles of Council and the State Government in terms of management of weeds, pest animals, non-declared pest animals and problem wildlife</li> <li>• Ensuring the most humane technique is used for pest animal control</li> </ul>	<ul style="list-style-type: none"> <li>• Changes in temperature, rainfall and fire associated with climate change is likely to result in an increase in the spread of existing and new and emerging weed species</li> <li>• Spread of weeds from vehicles and machinery, including mowers, slashers and grooming equipment</li> <li>• Spread of weeds and pest animals from adjoining public and private land has potential to undermine Council's control actions</li> <li>• Change in legislative context could require review of the strategy and associated administrative resources</li> <li>• Lack of guarantee around level of State funding for roadside weed and pest animal management</li> <li>• The impact of non-declared pest animals, such as feral cats, on native fauna populations</li> </ul>



# Treatment Prioritisation

The volume of work necessary to treat the weeds and pest animals on the hundreds of hectares of Council managed roadsides and reserves each year is always likely to exceed the available budget. As a result a robust method needs to be implemented to determine which sites are of highest priority. This will enable the highest return on investment by taking action at sites that pose the biggest threat to environmental, economic and social assets. It will also address the liability that Council faces as a land manager through the potential for prosecution related to CaLP listed weeds.

## Weed treatment priorities

A prioritisation framework has been established as a part of this Strategy which enables Council to attribute a priority score for each weed and pest animal control site in the Shire. This will enable Council to maximise efficiency and effectiveness by allocating its resources to the highest priority sites.

A combination of the following matters informs the priority score for each site:

1. **Conservation value** –higher priority given to sites supporting high quality native vegetation, including species or communities listed under the EPBC Act, FFG Act, or included on DEPI's threatened species advisory lists.
2. **Weed classification** –higher priority given to sites containing regionally prohibited or regionally controlled weeds (declared under the CaLP Act). Medium priority given to regionally restricted weeds. Lower priority given to sites supporting unlisted environmental and agricultural weeds only.
3. **Fire hazard**–higher priority given to sites requiring fuel reduction as determined by Council's Municipal Fire Management Officer.
4. **Community action or concern** – higher priority given to weed species targeted by a State sponsored community response group such as the Gorse or Blackberry Taskforces. Medium priority given to weed species that are the subject of a local Landcare response. Lower priority given to sites that have attracted concern raised by an individual community member.
5. **Neighbouring property asset value**– higher priority given to sites adjoining land with high conservation value, such as conservation or bushland reserves and private land with high quality pasture and minimal weed invasion. Note that chemical weed control on sites immediately adjoining certified organic farms will be avoided where possible.
6. **Previous site treatment** – higher priority given to sites where grooming of woody weeds occurred the previous season. This will assist Council to protect its previous treatment investment by reducing the likelihood that the weed will germinate and re-establish<sup>1</sup>.
7. **Fauna harbour**–higher priority given to sites where the weed coverage provides harbour for foxes and rabbits<sup>2</sup>.

<sup>1</sup> While conducting follow up on sites that have been sprayed is important, some sites may only need to be sprayed every two years. Consequently previous spraying has not been added to the prioritisation scoring system.

<sup>2</sup> Destroying warrens and dens instead of the animals themselves is the most effective way to minimise breeding, particularly of rabbits.



8. **Cost efficiencies** – higher priority given to sites with multiple weed species present that require the same method of treatment at the same time<sup>3</sup>.
9. **Community partnerships**—higher priority given to sites where arrangements have been made with community groups such as Landcare to manage the weeds on reserves or roadsides. These arrangements need to be honoured as a priority.

## Pest Animal Treatment Priorities

Previous surveys and the low number of resident requests relating to pest animals suggests that Council's pest animal problem is relatively isolated and low level. This does not mean that Council should be complacent about pest animal control. Instead low infestation levels mean that a small investment in pest animal control works now can prevent major costs in the future.

As pest animals are highly mobile, treatment is best conducted at a landscape scale. Therefore, rather than target roadsides scattered throughout the Shire, it is recommended that Council conduct pest animal control works in project areas where officers can work with relevant public and private land managers to achieve a landscape scale outcome. Initially it is recommended that Council focus these project areas around its existing bushland reserves, given the high conservation value of these reserves and that complementary conservation works are proposed in these areas.

The criteria below could be used to identify the location of new project areas or additional isolated works once additional data has been collected relating to pest animal activity in the Shire. Council may need to budget or apply for funding to address community requests for pest animal control works.

1. **Population density**— higher priority given to sites with a high population density of pest animals
2. **Community action** – higher priority given to sites where complementary pest animal control is being undertaken by partners (e.g. Landcare and CMAs)
3. **Conservation value** –higher priority given to sites supporting high quality native vegetation, including species or communities listed under the EPBC Act, FFG Act, or included on DEPI's threatened species advisory lists
4. **Complementary weed control** – higher priority given to sites where complementary weed control is being undertaken – e.g. grooming of woody weeds to remove harbour
5. **Waterways** – Higher priority will be given to sites along waterways. Rabbit burrows can destabilise the banks of rivers and creeks, contributing to erosion.

It is noted that Council's pest animal program will be limited to treatment of established pest animals declared under the CaLP Act. Treatment of non-declared pests and problem wildlife will not form part of Council's annual treatment works. Instead Council plays a support and advisory role in relation to these species.

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<sup>3</sup> This maximises cost effectiveness by enabling Council to treat several types of weed species at one time, rather than requiring several visits to apply treatment at different times.

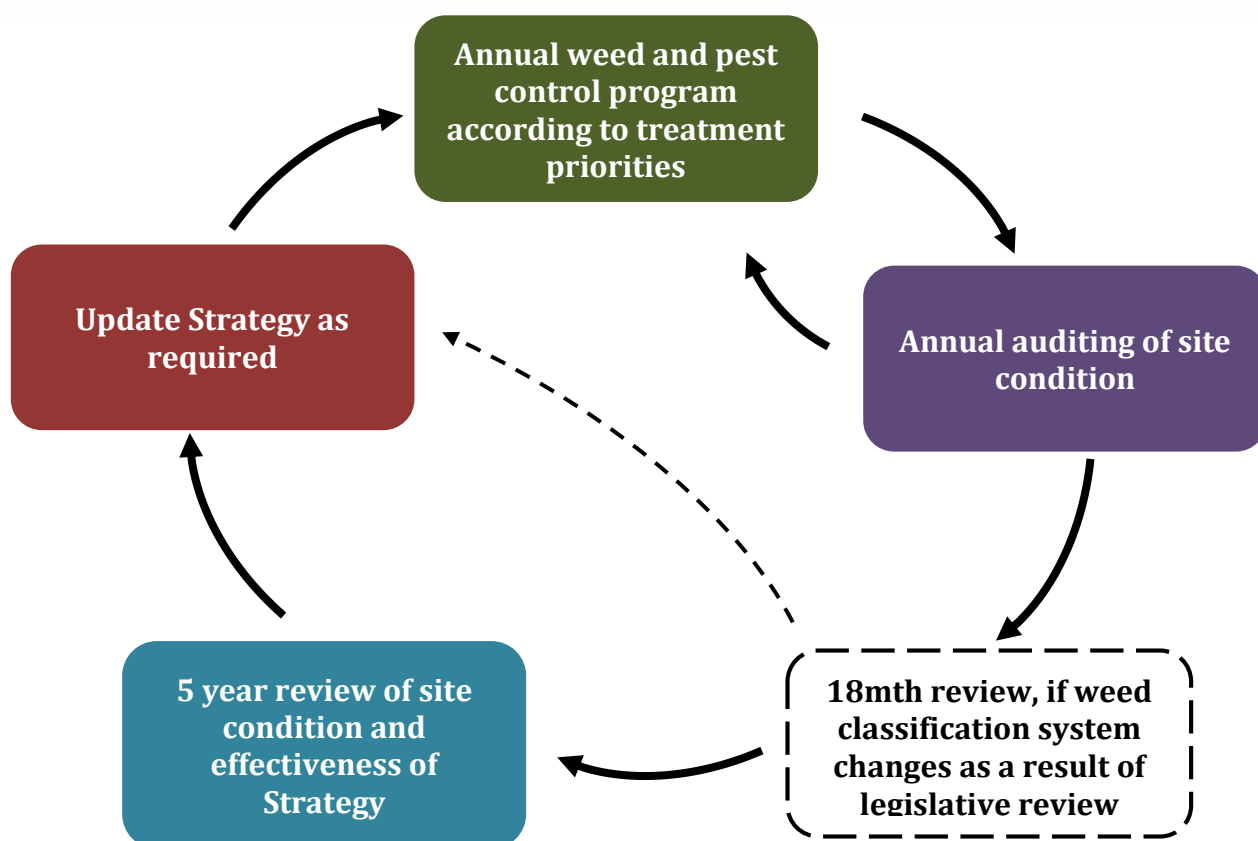




# Monitoring, Evaluation, Reporting and Improvement

With the increasing responsibility for roadside weed management and the incorporation of pest animal management, an increasing budget is needed to adequately manage the extensive area for which Council is responsible. Consequently, it is important that Council's weed and pest animal activities are monitored and evaluated to facilitate improvements. This will ensure Council's investment is as effective as possible.

The following diagram sets out Council's process for ensuring its annual weed and pest animal treatment programs continue to respond to Council's priorities. The process includes annual site audits which inform the annual prioritisation of treatment works. A mid strategy review is proposed after 5 years which would involve a more thorough assessment of site's across the Shire, as well as a review of the effectiveness of the Strategy's actions. An 18 month review is also proposed should current legislation change which impacts on Council's legislative responsibilities or the State Government's existing classification of weed species.



# Action Plan

## Theme 1: Weeds

Objectives	Action	Measure	Priority	Resources
Council meets its legal obligations relating to weed management as specified under the CaLP Act.	Continue to implement an annual weed control program for Council managed roadsides and reserves	Number of Council managed roadsides sites and reserves treated each year and over the life of the Strategy	Very high	<p>Council's annual weed program and fire prevention budget allocation</p> <p>DEPI's annual grant allocation</p> <p>External grants as relevant</p> <p><i>Estimated cost: \$250,000 annually (based on Council's total funds for weed control in 2013/14)</i></p>
	Weed control on Council managed recreation reserves, such as Hanging Rock, are incorporated into Council's annual weed program	Number of Council managed recreation reserves treated each year and over the life of the Strategy	Very high	<i>Estimated cost: \$1,000 - \$5,000 per recreation reserve</i>
	Give highest priority to the treatment of sites that contain Regionally Controlled or Regionally Prohibited weeds	Density and spread of Regionally Controlled and Regionally Prohibited weeds	Very high	Internal resources

Objectives	Action	Measure	Priority	Resources
	Give medium treatment priority to sites that contain Regionally Restricted weeds.	Density and spread of Regionally Restricted weeds.	Medium	Internal resources
	Give priority to sites that have been treated previously (to reduce regrowth)	Number of sites over the life of the Strategy that transition from requiring annual treatment to requiring monitoring only	Very high	Internal resources
The spread of new and emerging environmental and agricultural weeds on Council managed roadsides and reserve which are not declared under the CaLP Act, are controlled	Give lower priority to environmental and agricultural weeds.	Density and spread of environmental and agricultural weeds.	Medium	Internal resources
Weed control reduces the fire risk hazard on roadsides	Give high priority to the treatment of sites with high densities of woody weeds in bushfire prone areas close to townships	Density and spread of woody weeds in bushfire prone areas close to townships	Very high	Council's annual fire prevention budget allocation  <i>Estimated cost: \$60,000 annually (based on Council's 2013/14 budget allocation)</i>
The spread of weeds by vehicles and other human activity is minimised	Promote vehicle hygiene practices within Council and to the broader community, including the use of engineered solutions to prevent the transport of seeds on vehicles (eg, slasher covers, wash downs etc)	Number of contractors implementing vehicle hygiene practices as observed by Council's Fire Management Officer as a part of his/her annual audit of slashing contractors	High	Internal resources

Objectives	Action	Measure	Priority	Resources
		<p>Number of Council staff implementing appropriate vehicle hygiene practices</p> <p>Relevant communications material developed for Council staff, contractors and the general public (eg brochures, maps of weed infested roadsides etc)</p>		
	Implement regular vehicle hygiene information sessions with Council staff and contractors	<p>Number of information sessions delivered on an annual or bi-annual basis</p> <p>Number of Council staff implementing appropriate vehicle hygiene practices (</p>	Very high	<i>Estimated cost: less than \$1,000</i>
	Encourage council staff and relevant contractors to complete the WeedStop training.	Number of staff and contractors who have completed the Weed Stop training	Medium	<p>Council's annual training budget</p> <p><i>Estimated cost: WeedStop course costs are approx \$250 per person</i></p>
	Investigate preparation of a vehicle hygiene policy, vehicle hygiene standing operating procedure and wash down manual	Use of policies and procedures, if prepared	Medium	Internal resources

Objectives	Action	Measure	Priority	Resources
	Investigate incorporating vehicle hygiene practices into the position descriptions for council staff operating machinery	Inclusion of vehicle hygiene practices into relevant position descriptions	High	Internal resources
	Start slashing runs from weed free areas and finish in weedy areas with clean down	Maps of weed infested areas, and the location of wash down bays provided to slashing staff and contractors  Implementation of slashing runs that follow these maps	High	Internal resources
	Review the use of EnviroMark or implement a similar signage program to assist Council staff and contractors to identify roadsides that contain weeds	Number of signs installed that identify roadside weeds	High	Internal resources
The spread of weeds to high value agricultural or environmental assets is minimised	Coordinate weed control activities with adjoining public land managers where possible	Number of coordinated weed control programs implemented in partnership with adjoining public land managers such as DEPI, Parks Victoria, Melbourne Water, VicTrack and the relevant catchment management authorities	High	Internal resources
	Advocate for increased weed and pest animal control on State Government managed land,	Completed advocacy initiatives	High	Internal resources



Objectives	Action	Measure	Priority	Resources
	particularly land managed by VicTrack and Parks Victoria			
	Advocate for increased State Government enforcement of private land owners responsibilities under the CaLP Act	Completed advocacy initiatives	High	Internal resources
	Give priority to sites adjoining high value agricultural or environmental assets	Density and spread of weeds adjoining high value agricultural or environmental assets	Very high	Internal resources
	Facilitate reporting of uncontrolled weeds on private land by providing DEPI's enforcement details on Council's website	Council's website updated	High	Internal resources



## Theme 2: Pest Animals

Objectives	Action	Measure	Priority	Resources
Council meets its legal obligations for pest animal management as specified under the CaLP Act.	Develop and implement a pest animal program on Council managed roadsides and reserves	Number of Council managed roadsides and reserves subject to pest animal control on an annual basis and over the life of the Strategy	Very high	Council's annual pest animal program budget allocation  <i>Estimated cost: \$20,000 annually based on 2014/15 budget allocation</i>
	Give highest priority to the treatment of established pest animals such as foxes, rabbits, feral pigs and feral goats	Number and density of established pest animals observed at treated sites.	Essential	Internal resources
	Take into account the model codes of practice and standard operating procedures for pest animal control that include guidance and best practice directions about humane treatment techniques	Alignment of pest animal control techniques employed and the recommendations in the relevant codes of practice and standard operating procedures.	Very high	Internal resources
Minimise the spread of declared pest animals to high value agricultural or environmental assets	Establish project areas for pest animal works (particularly rabbit and fox control) and liaise with adjoining public and private land owners to implement an integrated and coordinated program.	Number of pest animal project areas established.  Number of external public and private land managers participating in each program.	Very high	<i>Estimated cost: less than \$1,000 annually</i>

Objectives	Action	Measure	Priority	Resources
	This would include mail-outs and information sessions with public and private land managers in each project area.			
	Give priority to sites for pest animal and weed control that removes harbour adjoining high value agricultural or environmental assets	Number and density of pest animals observed at site adjoining high value agricultural or environmental assets	Very high	Internal resources
Support community and stakeholder actions to manage non-declared pests	Provide in kind assistance to community groups targeting non-declared pest animals, provided their actions are ethical and justified.  This could be in the form of promotional activities, mail-outs and assistance with information sessions.	Number and type of in kind assistance provided to community groups if requested	Medium	Internal resources
	Refer enquiries relating to management of problem wildlife to DEPI and raise awareness about DEPI's functions through Council publications	Number of articles in Council publications each year	High	Internal resources





## Theme 3: Community Capacity Building

Objectives	Action	Measure	Priority	Resources
Increase community capacity to manage weeds and pests on public and private land	Host weed identification and treatment information sessions across the Shire for Landcare, 'Friends of' groups and the general public, including in partnership with stakeholders where relevant.  Prioritise Council hosted workshops for new residents, particularly on the fringe of towns where community awareness about land management is low.	Number of information session held each year	High	<i>Estimated cost: \$1,000 - \$2,000 annually</i>
	Facilitate access to chemical users training for Landcare, 'Friends of' groups – e.g. through subsidised courses	Number of Landcare or 'Friends of' members to receive training over the life of the Strategy	High	<i>Estimated cost: \$1,000 - \$2,000 annually</i>
	Notify adjoining land owners of Council's weed and pest animal control program to encourage land owners to conduct complementary works on their land	Letters sent out prior to implementation of Council's annual weed and pest animal program	Very high	<i>Estimated cost: less than \$1,000 annually</i>
	Support community led actions such as "Gorse Grief"	Number of community led weed control initiatives progressed or completed	Very high	Internal resources

Objectives	Action	Measure	Priority	Resources
	Include information about weeds and pest animals in new residents kits	Information provided for new residents kit	Medium	Internal resources
	Update existing "Weeds of Central Victoria" booklet in collaboration with neighbouring Councils	Weed booklet updated	Medium	<i>Estimated cost: \$1,000 - \$5,000 (cost to be shared with partner councils)</i>
Increase community and organizational awareness about weed species and weed and pest animal control	Continue to include regular articles in Council's Environment eNews and ShireLife magazine	Number of weed and pest animal eNews and ShireLife articles published	Very high	Internal resources
	Continue to promote weed and pest animal issues at festivals, markets and agricultural shows in the Shire	Number of festivals, markets and agricultural shows attended	Very high	Internal resources
	Continue to maintain up to date information about weed and pest animals on Council's website	Currency of information on Council's website	Very high	Internal resources
	Work with the Agribusiness Forum to promote weed and pest animal control amongst the agribusiness community	Development of an agreed communications strategy with the Agribusiness Forum to engage the agribusiness community	Very high	Internal resources

# Theme 4: Monitoring, Evaluation, Reporting and Improvement

Objectives	Action	Measure	Priority	Resources
Gain an understanding of the degree of pest animal activity in the Shire	Collect base line data of pest animal activity sighted on Council managed roadsides and reserves, particularly rabbits	Number of sites with base line pest animal audit data input into Council's Weed and Pest Animal database	Very high	Forms part of Council's annual weed and pest animal program budget allocations
Gain an understanding of the change in weed and pest animal activity in the Shire over time, including the effectiveness of Council's annual weed and pest animal programs	Conduct annual audits of Council managed roadsides and reserves to monitor the presence and coverage of weed and native flora species and the presence and density of pest animals observed	Number of sites with weed, native vegetation and pest animal data input annually into Council's Weed and Pest Animal database	Very high	<i>Estimated cost: \$40,000 based on Council's 2014/15 budget allocation</i>
	Promote use of FeralScan.org.au to record pest animal sightings on public and private land	Number of pest animal sightings within the Shire recorded in Feral Scan	Medium	Internal resources
	Establish a fauna monitoring program, including use of motion sensing cameras, to collect data on native and pest animal activity in Council reserves	Number of camera monitoring projects implemented in Council reserves annually	Very high	<i>Estimated cost: less than \$1,000 annually</i>
	Establish a medium and long term target for the reduction in weed coverage and pest animal activity across the Shire	Targets established	High	Internal resources

Objectives	Action	Measure	Priority	Resources
Enhance transparency and accountability through reporting	Report changes in weed and pest animal species infestations to Council and the community via Council's online and print publications	Annual updates provided in Council's Environment eNews, website and other publications	Very high	Internal resources
Ensure Council is achieving value for money	Compare contractor costs for sites with similar infestation attributes and ensure consistency between contractors	Contractor rates and quotation requirements reviewed prior to seeking tenders for Council's 2018-2022 weed program	High	Internal resources
	Review Council's Specifications & Criteria for evaluating tender release in 2018 to ensure submissions use the same units of measurement to make them directly comparable	Contractor rates and quotation requirements reviewed prior to seeking tenders for Council's 2018-2022 weed program	High	Internal resources
Ensure Council's treatment priorities and weed and pest animal activities are effective and continue to reflect legislative requirements and community priorities	Investigate conducting a survey of land owners to understand their level of engagement with weeds and pest animals	Land owner survey distributed and analysed prior to the 5 year review of this Strategy (if survey is favoured)	Medium	<i>Estimated cost: \$3,000 - \$8,000</i>
	Review this strategy taking into account a range of factors including the outcomes of community surveys, legislative reviews and site condition changes.	A Review report prepared no later than 5 years following adoption of the Strategy, and the Strategy updated accordingly	Very high	Internal resources

Objectives	Action	Measure	Priority	Resources
	Continue to seek feedback from community groups and relevant stakeholders (such as local Landcare Networks and the Agribusiness Forum) about weed and pest animal priorities and opportunities for new engagement activities or projects	Number of presentations and discussions about weeds and pest animals conducted with relevant community, stakeholder and advisory groups.	Very high	Internal resources
	Assess species prioritisation following implementation of any changes to existing legislation	Prioritisation reviewed	Very high	Internal resources
Enhance efficiency and effectiveness through innovation	Trial new and innovative control techniques where available and likely not to have a negative off target effect	Compare cost and control outcomes of trial with comparable sites managed with standard methods	Medium	Forms part of Council's annual weed and pest animal program budget allocation
	Explore opportunities to partner with tertiary institutions to conduct relevant research related to weed and pest animal management	Number of discussions held with tertiary institutions	Medium	Internal resources



# References

CFA (2011), *Fire Ecology, guide to environmentally sustainable bushfire management in rural Victoria*

DEPI (2009), *Generalised Invasion Curve*, [www.depi.vic.gov.au](http://www.depi.vic.gov.au), accessed 29 May 2014

DEPI (2010), *Invasive Plant and Animal Policy Framework (IPAPF)*

South Australia State Government (2011), *Rabbit Technical Note 2 How Much Do Rabbits Eat?*

Natural Resource Management Ministerial Council (NRMMC) (2007), *Australian Weeds Strategy – A national strategy for weedmanagement in Australia*

North Central Catchment Management Authority (NCCMA) (2013), *2013-19 North Central Regional Catchment Strategy*

Port Phillip and Westernport Catchment Management Authority (PPWPCMA) (2012), *Draft Port Philip and Westernport Regional Catchment Strategy*

Steel, J. Kohout, M. and Newell G. (2008), *Whither the weeds under climate change*, Department of Primary Industries, Melbourne.



# Appendix 1 – Weed Classifications

Common Name	Scientific Name	Classification North Central	Classification Port Philip & Westernport	Classification Goulburn Broken
African Love Grass	<i>Eragrostis curvula</i>	Regionally Controlled	Regionally Controlled	Regionally Controlled
Angled Onion	<i>Allium triquetrum</i>	Restricted	Restricted	Restricted
Apple Tree	<i>Malus</i>	Environmental Weed	Environmental Weed	Environmental Weed
Arrowhead	<i>Sagittaria</i>	Regionally Controlled	Regionally Prohibited	Regionally Controlled
Bathurst Burr	<i>Xanthium spinosum</i>	Regionally Controlled	Regionally Controlled	Regionally Controlled
Bent Grass	<i>Agrostis capilaris</i>	Environmental Weed	Environmental Weed	Environmental Weed
Black Locust	<i>Robinia pseudoacacia</i>	Environmental Weed	Environmental Weed	Environmental Weed
Blackberry	<i>Rubus fruticosus aggregate</i>	Regionally Controlled	Regionally Controlled	Regionally Controlled
Blue Canary Grass	<i>Phalaris coeruleascens</i>	Agricultural weed	Agricultural Weed	Agricultural weed
Blue Periwinkle	<i>Vinca major</i>	Environmental Weed	Environmental Weed	Environmental Weed
Boneseed (Bitou Bush)	<i>Chrysanthemoides monilifera</i>	Regionally Prohibited	Regionally Controlled	Regionally Controlled
Boxthorn (African Boxthorn)	<i>Lycium ferocissimum</i>	Regionally Controlled	Regionally Controlled	Regionally Controlled
Bridal Creeper	<i>Asparagus asparagoides</i>	Restricted	Restricted	Restricted
Cape Broom	<i>Genista monspessulana</i>	Restricted	Regionally Controlled	Regionally Controlled
Cape Ivy	<i>Delairea ororata</i>	Environmental Weed	Environmental Weed	Environmental Weed
Cape Tulip (one leaf)	<i>Moraea flaccida</i>	Regionally Controlled	Regionally Controlled	Regionally Prohibited
Cape Tulip (two leaf)	<i>Moraea miniata</i>	Regionally Controlled	Regionally Controlled	Regionally Prohibited
Cape Weed	<i>Arctotheca calendula</i>	Agricultural weed	Agricultural Weed	Agricultural weed





Common Name	Scientific Name	Classification North Central	Classification Port Philip & Westernport	Classification Goulburn Broken
Chilean Needle Grass	<i>Nassella neesiana</i>	Restricted	Restricted	Restricted
Cootamundra Wattle	<i>Acacia baileyana</i>	Environmental Weed	Environmental Weed	Environmental Weed
Cotoneaster	<i>Cotoneaster species</i>	Environmental Weed	Environmental Weed	Environmental Weed
Desert Ash	<i>Fraxinus angustifolia</i>	Environmental Weed	Environmental Weed	Environmental Weed
English Broom	<i>Cytisus scoparius</i>	Restricted	Regionally Controlled	Restricted
English Ivy	<i>Hedera helix</i>	Environmental Weed	Environmental Weed	Environmental Weed
Galenia	<i>Galenia pubescence</i>	Environmental Weed	Environmental Weed	Environmental Weed
Gazania	<i>Gazania spp.</i>	Environmental Weed	Environmental Weed	Environmental Weed
Gorse (Furze)	<i>Ulex europaeus</i>	Regionally Controlled	Regionally Controlled	Regionally Controlled
Hawthorn	<i>Crataegus monogyna</i>	Restricted	Regionally Controlled	Regionally Controlled
Hemlock (or Carrot Fern)	<i>Conium maculatum</i>	Restricted	Regionally Controlled	Regionally Controlled
Holly	<i>Ilex aquifolium</i>	Environmental Weed	Environmental Weed	Environmental Weed
Horehound	<i>Marrubium vulgare</i>	Regionally Controlled	Regionally Controlled	Regionally Controlled
Morning Glory	<i>Ipomoea indica</i>	Environmental Weed	Environmental Weed	Environmental Weed
Olives (African)	<i>Olea cuspidate</i>	Environmental Weed	Environmental Weed	Environmental Weed
Olives (European)	<i>Olea europaea</i>	Environmental Weed	Environmental Weed	Environmental Weed
Pampas Grass	<i>Cortaderi aselloana</i>	Environmental Weed	Environmental Weed	Environmental Weed
Parrots Feather	<i>Myriophyllum aquaticum</i>	Environmental Weed	Environmental Weed	Environmental Weed
Paterson's Curse	<i>Echium plantagineum</i>	Regionally Controlled	Regionally Controlled	Regionally Controlled
Phalaris	<i>Phalaris aquatica</i>	Environmental Weed	Environmental Weed	Environmental Weed
Plum Tree	<i>Prunus</i>	Environmental Weed	Environmental Weed	Environmental Weed
Poplars	<i>Populus spp.</i>	Environmental Weed	Environmental Weed	Environmental Weed



Common Name	Scientific Name	Classification North Central	Classification Port Philip & Westernport	Classification Goulburn Broken
Prairie Ground Cherry	<i>Physalisviscosa Linnaeus</i>	Regionally Controlled	Regionally Controlled	Regionally Controlled
Quaking Grass	<i>Briza maxima</i>	Environmental Weed	Environmental Weed	Environmental Weed
Radiata Pine	<i>Pinus radiata</i>	Environmental Weed	Environmental Weed	Environmental Weed
Ragwort	<i>Senico jacobaea</i>	Restricted	Regionally Controlled	Regionally Prohibited
Salvinia	<i>Salvinia molestra</i>	State Prohibited	State Prohibited	State Prohibited
Serrated Tussock	<i>Nassella trichotoma</i>	Regionally Prohibited	Regionally Controlled	Regionally Prohibited
Silverleaf Nightshade	<i>Solanum elaeagnifolium</i>	Regionally Controlled	Regionally Prohibited	Regionally Controlled
Soursob	<i>Oxalis pes-caprae</i>	Restricted	Restricted	Restricted
Spanish Heath	<i>Erica lusitanica</i>	Environmental Weed	Environmental Weed	Environmental Weed
Spiny Rush	<i>Juncus acutus</i>	Regionally Controlled	Regionally Controlled	Regionally Controlled
St. John's Wort	<i>Hypericum perforatum</i>	Regionally Controlled	Regionally Controlled	Regionally Controlled
Swallow Wattle or Coast Wattle	<i>Acacia longifolia</i>	Environmental Weed	Environmental Weed	Environmental Weed
Sweet Briar (Wild Briar, Briar Rose)	<i>Rosa rubiginosa</i>	Regionally Controlled	Regionally Controlled	Regionally Controlled
Sweet Pittosporum	<i>Pittosporum undulatum</i>	Environmental Weed	Environmental Weed	Environmental Weed
Sweet Vernal Grass	<i>Anthoxanthum odoratum</i>	Environmental Weed	Environmental Weed	Environmental Weed
Thistles (Artichoke)	<i>Thistle spp.</i>	Regionally Controlled	Regionally Controlled	Regionally Prohibited
Thistles (Golden)	<i>Thistle spp.</i>	Regionally Controlled	Regionally Controlled	Regionally Controlled
Thistles (Saffron)	<i>Thistle spp.</i>	Restricted	Regionally Controlled	Regionally Controlled
Thistles (Slender)	<i>Thistle spp.</i>	Restricted	Regionally Controlled	Restricted
Thistles (Spear)	<i>Thistle spp.</i>	Restricted	Regionally Controlled	Restricted
Thistles (Variegated)	<i>Thistle spp.</i>	Restricted	Regionally Controlled	Regionally Controlled



Common Name	Scientific Name	Classification North Central	Classification Port Philip & Westernport	Classification Goulburn Broken
Tiger Pear	<i>Opuntia aurantiaca</i>	Regionally Prohibited	Regionally Controlled	Regionally Controlled
Tradescantia (Wandering Creeper)	<i>Tradescantia fluminensis</i>	Environmental Weed	Environmental Weed	Environmental Weed
Watsonia	<i>Watsonia meriana</i>	Restricted	Regionally Controlled	Restricted
Wheel Cactus	<i>Opuntia robusta</i>	Regionally Controlled	Regionally Prohibited	Regionally Controlled
Wild Garlic (Crow and Field)	<i>Allium vineale</i>	Regionally Controlled	Restricted	Regionally Prohibited
Willows	<i>Salix spp.</i>	Restricted	Restricted	Restricted
Yellow Alstroemeria	<i>Alstroemeria aurea</i>	Environmental Weed	Environmental Weed	Environmental Weed



# Appendix 2 – Pest Animal Classifications

Common Name	Classification
Cat	Not a declared pest animal
Cockatoo	Problem wildlife
European hare	Established pest animal
European rabbit	Established pest animal
Goat	Established pest animal
Indian Myna	Not a declared pest animal
Mice	Not a declared pest animal
Pig (feral or wild)	Established pest animal
Red Fox	Established pest animal
Wild dog	Established pest animal

