

Nillumbik Shire Council



Invasive Species Action Plan 2015





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Aboriginal Land Statement

Nillumbik Shire Council acknowledges the Wurundjeri as the traditional custodians of the land now known as the Shire of Nillumbik and values the significance of the Wurundjeri peoples' history as essential to the unique character of the Shire.

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Executive Summary

The introduction and spread of invasive plants, animals and pathogens is one of the greatest threats to biodiversity, primary production and amenity in Nillumbik (Biodiversity Strategy 2012). Invasive species compete with indigenous plants, animals and other desirable species for resources, spread disease and prey on desired species for food.

The most effective way to manage invasive species is to prevent their initial incursion. Invasive species have the ability to establish rapidly in new areas and require a timely and rapid response. Many invasive species are already widely established in Nillumbik and their eradication across large areas is not achievable with existing resources. Priorities for the control of these species needs to focus resources where the benefits of management are greatest.

Council recognises that the management of invasive species across the Shire requires the engagement and involvement of numerous stakeholders. Creating a shared understanding of invasive species issues, the most effective control techniques and our strategic direction for management is critical to success.

The *Nillumbik Invasive Species Action Plan* aims to prevent new incursions, contain existing populations and adaptively manage widespread species. The Plan seeks to foster a cooperative culture where all relevant stakeholders contribute with the aim of minimising the impacts of invasive species in Nillumbik.

The vision of the *Nillumbik Invasive Species Action Plan* is that:

'We are working together to minimise the negative impacts of invasive species'.

The Plan identifies five goals to realise this vision:

1. Improving agricultural assets on private land through control of invasive species.
2. Improving biodiversity assets on private land through control of invasive species.
3. Minimising the impacts of invasive species on roadsides.
4. Managing invasive species in Council's bushland and wetland reserves.
5. Managing invasive species information.

In order to do this, Council will take a Shire-wide view of invasive species management, implement a biosecurity approach, prioritise the protection of high value environmental and agricultural assets and work in partnership with all stakeholders.

The goals, objectives and actions of the *Nillumbik Invasive Species Action Plan* aim to deliver specific measurable outcomes that complements Nillumbik's targets for biodiversity enhancement as identified in the *Nillumbik Biodiversity Strategy 2012* and the *Green Wedge Management Plan 2010-2025*.

1.0 Introduction

1.1 About the Plan

Invasive plants, animals and pathogens are having significant impacts on the environmental, cultural, social and economic values of the Shire of Nillumbik. Impacts include loss of biodiversity, reduced agricultural productivity, deterioration of the quality of sporting grounds and playgrounds, damage to aboriginal and heritage sites, issues of safety and site access and increased fuel loads.

This Plan supports a landscape view of invasive species management across the Shire and within the Port Phillip and Westernport Region. The Plan provides a strategic and coordinated approach to invasive species management across the Shire. It lays out the scope, vision, goals, guiding principles and actions that staff, external agencies, contractors and landowners can use to manage invasive species within Nillumbik.

1.2 Vision

The vision of the *Invasive Species Action Plan* is that:

'We are working together to minimise the negative impacts of invasive species'.

1.3 Goals

Nillumbik has five invasive species management goals:

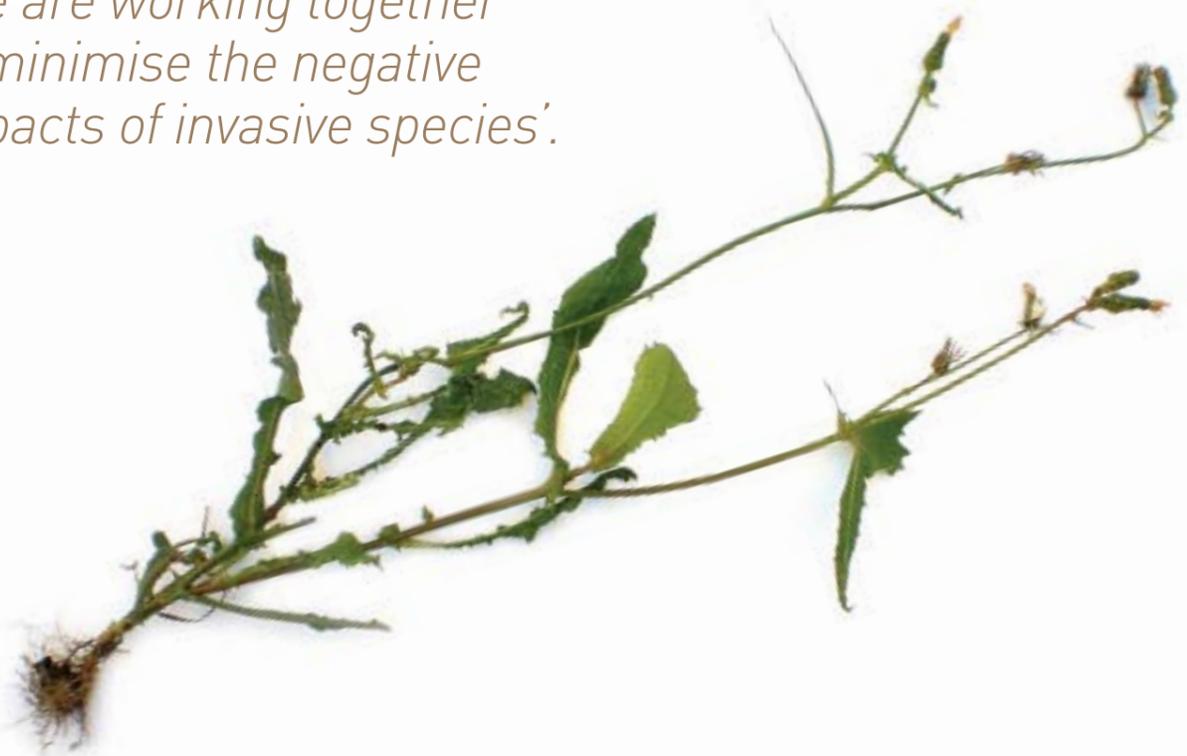
1. Improving agricultural assets on private land through control of invasive species.
2. Improving biodiversity assets on private land through control of invasive species.
3. Minimising the impacts of invasive species on roadsides.
4. Managing invasive species in Council's bushland and wetland reserves.
5. Managing invasive species information.

1.4 Scope

The Plan is designed to build on the effort and dedication of Council, external agencies and community over the years to provide an effective and coordinated strategy for moving forward in the management of invasive species across the Shire. The Plan provides a response to invasive species management with a focus on the roles and responsibilities of Council. It includes actions to be undertaken directly by Council staff in managing public land and in supporting residents and community groups to mitigate the impact of invasive species on private land.

The Plan ensures that Council:

- Aligns with National and State legislation and policy relating to invasive species.
- Implements best practice in invasive species management on council-owned land.
- Works strategically within council and externally with community and other agencies.
- Maximises opportunities to engage and support private landholders to manage invasive species on their land.



The Plan follows the biosecurity approach as adopted by the Victorian Government 'Invasive Plants and Animals Policy Framework' (DEPI 2010) as an effective way to plan, manage and invest funds in invasive species control. The Plan will guide Council, land owners and external agencies in the:

- **Prevention** of the entry and establishment of new infestations of high threat invasive species.
- **Eradication** of high threat invasive species in the early stage of establishment.
- **Containment** of high threat invasive species that are of limited distribution.
- **Asset based management** of key biodiversity and agricultural assets within the Shire by reducing the impact of high threat invasive species.

The biosecurity approach supports the management of invasive species at all stages of invasion – from preventing the entry of new species to managing widespread infestations.

The Shire's 'assets' are the natural ecosystems and agricultural resources that require protection from the impacts of invasive species to maintain and improve amenity, biodiversity and productivity. In addition, endangered species such as the Rosella Spider Orchid or Brush-tailed Phascogale are also considered a Shire asset in need of protection from invasive species. 'High threat invasive species' are those plants, animals or pathogens not native to the region, that due to their proven ability to rapidly establish and flourish in new environments, have the potential to seriously threaten the agricultural production and environmental biodiversity of the Shire.

The invasive species considered in the Plan are those that Council has a legal responsibility to manage on its land as declared under the *Catchment and Land Protection Act 1994* (CaLP Act 1994), or that Council recognises as a significant environmental or agricultural weed or pest in the Shire. Limited resources restrict the number of invasive species that can realistically be managed within Nillumbik. Consequently species and actions are prioritised.

The impacts of native wildlife species are not within the scope of this Plan. Native species such as the Eastern Grey Kangaroo, Brush-tail possum, flocking Sulphur-crested Cockatoo etc., that may occur in large numbers and be considered a problem in some situations, are protected under the *Victorian Wildlife Act* (1975) and in the case of the Grey-headed Flying-fox the *Commonwealth's Environment Protection and Biodiversity Conservation Act* (1999). Any action to control such species comes under the oversight of the Department of Economic Development, Jobs, Training and Resources (DEDJTR).

The Plan provides the framework for invasive species management for the next 5 years. It supersedes the *Nillumbik Rabbit Action Plan* (2009) and *Nillumbik Weed Action Plan* (2008). The Plan will be reviewed in 5 years with invasive species lists amended on an as-needs basis.



The biosecurity approach supports the management of invasive species at all stages of invasion – from preventing the entry of new species to managing widespread infestations.

1.5 Guiding principles

The *Nillumbik Invasive Species Action Plan* promotes the following principles in the management of invasive species.

a) Risk management

- Management of invasive species that pose the greatest risk.
- Management methods that reduce the risk to biodiversity, cultural and productive assets and to people.

b) Asset based

- Protecting the highest value assets at the greatest risk.

c) Biosecurity approach

- Management of invasive species at all stages of invasion.
- Economic returns for managing invasive species are much higher when infestations are new or small.

d) Landscape scale

- Invasive species can disperse long distances and therefore need to be managed collectively at a landscape scale to achieve long term benefits.
- Managing at a landscape scale means considering invasive species at all scales, from the impact on an individual plant or animal, a reserve or property, the Shire, the State or the Country.

e) Collaborative / Cross-tenure

- Management of invasive species is only achieved at a landscape scale when we work together across different land tenures.

f) Strategic

- Decisions are based on the best available evidence.
- Planning manages risks, is asset based and follows the biosecurity approach.
- Planning is targeted, coordinated and integrated across different programs and different stakeholders.

g) MERI approach

- This is an approach for monitoring, evaluating, reporting on and improving the delivery of natural resource management projects (Australian Government, 2009).
- MERI consists of four elements:
 - Monitoring – Collecting the data
 - Evaluation – Interpreting the data
 - Reporting – Presenting the monitoring and evaluation
 - Improvement – Changing processes based on the monitoring and evaluation.

h) Ethical

- Invasive species are living creatures.
- Control methods should minimise pain (humane control methods).
- Prevention and methods that keep species at lower numbers reduces the need for culling.



1.6 Stakeholders

Developing partnerships is critical to the success of invasive species management programs. Invasive species spread across Shire boundaries and waterway frontage, private and public land and from commercial and private enterprises. The benefits of partnerships for invasive species management can include the sharing of knowledge, experience and resources. It encourages the coordination of activities to achieve more effective outcomes. Helping people to understand the key invasive species issues, involving people in invasive species control using the most effective techniques and focusing people's energy in the right direction is critical to invasive species management.

Acronyms:

ARI:	Arthur Rylah Institute
DE:	Department of Environment
DEDJTR:	Department of Economic Development, Job, transport and Resources
DELWP:	Department of Environment, Land, Water and Planning
CCS:	Community Correctional Services
CFA:	Country Fire Authority
MAV:	Municipal Association of Victoria
PPWCMA:	Port Phillip and Westernport Catchment Management Authority
NSC:	Nillumbik Shire Council



Regulation

- DEDJTR
- NSC
- PPWCMA
- DE (Federal)
- Ministers & local members



Funding

- DEDJTR
- DELWP
- NSC
- Parks Victoria
- Melbourne Water
- DE (Federal)
- PPWCMA

Planning & Project Support

- DEDJTR
- DELWP
- PPWCMA
- DE (Federal)
- NSC
- Parks Victoria
- Melbourne Water
- Scientist and Academics (universities)
- ARI
- Wurundjeri Council
- MAV
- Other Local Governments
- CFA (advice)



Services

- Environmental contractors
- Environmental consultants
- Nersuries
- CCS (Dept of Justice)
- Conservation Volunteers
- Wurundjeri Council

Community

- Nillumbik residents
- Nillumbik ratepayers
- Friends groups
- Adjoining landholders & surrounding residents
- Reserve users (walkers, horse riders, bike riders)
- Landcare groups
- Fireguard & other groups
- Schools
- Weed spotters
- Community Action groups
- Community recreation groups

Land Managers

- Parks Victoria
- NSC
- Melbourne Water
- Vic Roads
- DELWP
- Trust for Nature
- Vic Rail Companies
- Utilities
- Telstra
- Power Corp
- SP Ausnet
- Land for Wildlife
- private Landowners

1.7 Nillumbik Shire

Nillumbik is known as the Green Wedge Shire – the 'lungs' of Melbourne. The Shire is characterised by a unique natural environment, rich agricultural land, open spaces and healthy waterways.

There are approximately 200 active agribusinesses within Nillumbik, which provide important local food production, support biodiversity, undertake landscape management and protect cultural values.

The Shire of Nillumbik is home to over 1,000 indigenous flora species, 64 of which are listed as significant species including the Rosella Spider Orchid and Clover Glycine. Supporting and often relying on these plants are 342 indigenous fauna species, 63 of which are listed as significant species including the Brush-tail Phascogale, Lace Monitor, Eltham Copper Butterfly and Wedge-tailed Eagle (*Biodiversity Report 2012*).

The total area of the Shire is approximately 43,000 hectares. Of this DELWP estimates 20,000ha of land is remnant vegetation. The percentage of intact vegetation by land tenure within Nillumbik is as follows:

- 61 per cent private land
- 24 per cent national park/reserve
- Eight per cent other crown land
- Five per cent Melbourne Water
- Two per cent Nillumbik Shire Council.

The eastern and northern boundaries of the Shire are dominated by bushland reserves including Kinglake National Park, Parks Victoria reserves along the Yarra and Plenty Rivers, Panton Hill Bushland Reserve System and the Warrandyte-Kinglake Nature Conservation Reserve. In addition, 376km of roadside reserves are classified as high conservation value.

Private land also supports many significant biodiversity values. Within Nillumbik, 2,750 (ha) (10.5%) of private land is protected under Trust for Nature Conservation Covenants. The extent of conservation land in private ownership indicates that invasive species management must have considerable regard for private land as well as public reserves.

Nillumbik is known as the Green Wedge Shire – the 'lungs' of Melbourne.



2.0 Invasive Species in Nillumbik

An invasive species is defined as:

“a species occurring, as a result of human activities, beyond its accepted normal distribution and which threatens valued environmental, agricultural or other social resources by the damage it causes” (Department of Environment 2014).

Nillumbik is characterised by an environment of relatively intact bushland, rich agricultural land, open spaces and healthy waterways. However, as an urban fringe shire these characteristics are under constant threat from the pressures of invasive species from residential and agricultural development.

Given the huge potential for invasive species establishment in Nillumbik and limited resources available, it is necessary to prioritise action. This requires the assessment of a species current distribution and its ability to establish and spread. This determines whether it is a high threat to biodiversity, agricultural and amenity assets within the Shire. There are three types of invasive species:

- New – a species that is not yet in the Shire, but may be in neighbouring areas or regions of similar climate and conditions. These species would have significant potential to invade and spread if they were to establish within the Shire.
- Emerging – a species that has recently been detected in the region or has been here for some time but has only recently begun to expand its distribution.
- Established – a species that is already established and widespread within the Shire.

Climate change modelling suggests the region will be subject to higher temperatures and lower rainfall that will affect species' distribution. The potential for more frequent extreme weather such as flood and fire events increases the opportunity for invasive species establishment.

The challenge for the Shire is to support the protection and restoration of our valuable natural and agricultural assets from the ongoing invasion of a diversity of invasive species. On an annual basis Nillumbik Shire Council spends approximately \$1M on the management of invasive species.

2.1 Invasive plants

In Nillumbik it is estimated that over 375 invasive plant species are present. Despite the large number of plants that have already established in Nillumbik, there is potential for even more species to do so. Thousands of plant species are present in Australia, but not yet naturalised in Victoria or Nillumbik. The current rate of new plant naturalisations in Victoria is at least ten per year, with an estimated 825 species already naturalised (Spencer, R 2006).

Weed plants, seeds and cuttings can enter and spread across the Shire through nursery sales, garden plantings, dumped garden cuttings, on vehicles and machinery, in waterways, by wind, by animals and on clothing.

Invasive plants can destroy habitat, out-compete native plants, choke waterways, reduce farm productivity, harm livestock and reduce the amenity value of public parks and gardens. Bushland, open space and agricultural land are not only under threat from non-native weeds, but also from weedy non-indigenous (non-local) natives introduced as garden plants such as Cootamundra Wattle. These non-indigenous native weeds grow easily in the local environment, can be hard to identify and have the potential to hybridise with local plants.

2.2 Invasive animals

Feral or pest animals are species that have been introduced to Nillumbik since European settlement. Invasive non-indigenous animals can have significant impacts on Nillumbik's natural environment, as well as being detrimental to agriculture and amenity. They may prey upon indigenous fauna, compete with indigenous animals for resources such as food and shelter, graze on indigenous plant species, reduce crop production and prey on livestock.

Introduced animals have become established in the Shire through escape from captivity and domestication, deliberate release (legal and illegal) and accidental relocation via transport. The species that establish in the wild typically have few natural predators or diseases, high reproductive potential, a generalised diet, are adaptable to a modified landscape and have a climatic match between the place where they become established and the place where they occur naturally. These factors result in populations which do not naturally diminish and can multiply rapidly if conditions are favourable.

There are at least 50 introduced vertebrate species established on the Australian mainland, including 25 mammals, 20 birds, four reptiles and one amphibian (Vertebrate Pest Committee 2007). Of these, 19 mammals and 15 birds are present in Victoria (DSE 2007). Most invasive mammals established in Australia have already established themselves to a greater or lesser extent in Victoria.

Invasive vertebrate animals of major concern within Nillumbik include rabbits, foxes, feral cats, deer, hares, feral goats, feral pigs, Common mynas, European starlings, invasive fish, rats and house mice.

Invasive invertebrate animals in Nillumbik include European Wasps, European Honey Bees and Tramp Ants. Also of concern is Grape Phylloxera which can have a significant impact on vineyards and has been found in the Yarra Valley.

DEDJTR also lists the following animals as new and emerging invasive species in Victoria: Red-eared Slider Turtle, Asian Black-spined Toad, Smooth Newt, Cane Toad, and Northern Palm Squirrel. The Red-eared Slider Turtle has been found in a Melbourne lake and the Asian Black-spined Toad in Sunbury. These are species not yet known to occur in Nillumbik but have the potential to invade rapidly if introduced.

2.3 Invasive pathogens

Invasive pathogens can include diseases, fungi and parasites. Invasive pathogens can have significant impacts on many native plants and animals, agricultural crops and domesticated animals. In many cases invasive pathogens can rapidly spread through natural bushland affecting the health and resilience of indigenous species. In Nillumbik, Cinnamon Fungus (*Phytophthora cinnamomi*) has been recorded at several sites in Kinglake National Park and Strathewen and has been traced back to horticultural sources and contaminated crushed rock products. Across the Shire the impact of Myrtle Rust (*Uredo rangelii*) on plants regenerating in fire-affected areas is of particular concern with the pathogen being recorded in Manningham over the last few years.

Decline and disappearance of some frog species in Nillumbik may partly be due to a disease caused by a Chytrid fungus. The fungus attacks the frog's skin affecting its ability to breathe. It is spread through contact with infected frogs and tadpoles. Wombat populations across Nillumbik show evidence of mange. Wombats become infested with the mange mite that burrows under its skin to lay eggs causing irritation and scabs that can become flyblown.



2.4 Pathways of threat

Invasive species are successful because of their ability to disperse from many sources and through many processes. Without managing these pathways of threat, management may be ineffective in the long-term. To determine a priority for response, invasive species mapping and monitoring is critical to identify where invasive species are dispersing from and at what rate. The following factors represent potential pathways for the spread of invasive species into and within Nillumbik:

- Ongoing development and associated movement of people and vehicles can result in the spread of weed species and pathogens.
- The continued selling and planting of invasive plants through nurseries and landscape businesses.
- The movement and spread of pathogens via the nursery industry (e.g. Myrtle Rust).
- Limited community interest, knowledge and skills in identifying and managing invasive species.
- Dumping of garden cuttings in parks and reserves.
- Unrestricted access to highly significant bushland in reserves by recreational users.
- Movement of machinery used in landscaping, maintenance and earth works including soil disturbance.
- Transporting of stock feed and soil.
- Movement of landscape materials, especially quarry products.
- Properties with threats not managed due to age of owner, ability of residents, inexperience, absence and attitude.
- Occurrence of fire and drought which will impact on species establishment and expansion.
- Movement of weeds and pathogens by animals, spread by water, wind movement and soil disturbance.

2.5 Impacts of invasive species

Invasive species affect the environment, economy and social well-being.

2.5.1 Environmental impacts

Within natural ecosystems, invasive plants and pathogens alter the vegetative structure and reduce floristic diversity. This change often favours exotic fauna at the expense of indigenous species. It can also contribute to an increase in fuel loads.

Invasive animals are a significant threat to biodiversity through competition, predation, habitat destruction and through the spread of diseases. Small native mammals, ground-nesting birds and some small reptiles are particularly susceptible to predation by foxes and feral cats. Rabbits, deer and feral pigs have a significant impact on native habitat preventing the regeneration of native plants, spreading weeds and causing soil damage and erosion.

2.5.2 Economic impacts

It is estimated that the annual cost of invasive plants to Australian agriculture is \$4 billion through yield losses and product contamination (*Australian Weed Strategy 2007*). Agricultural weeds compete with crops and affect quality and yield of produce. They reduce the carrying capacity of pastures. Invasive plants can poison or cause injury to livestock or contaminate fibre. In all cases their control increases the cost of production. Some water weeds, such as Water Hyacinth (*Eichhornia crassipes*) degrade the quality of waterways which then impacts on agriculture.

Additionally, invasive species cost the economy when their impact on environmental services, health implications, increased fire risk, damage to infrastructure and the value of volunteers who do significant weed control at little or no cost to government, are taken into account. An example is the significant cost for labour and materials for the provision of guards to manage rabbit predation on new plants.

Invasive animals have a significant impact on primary industries through direct loss of productivity and cost of control by land managers. Well-known problem species include European Red Fox and European Rabbit. Foxes prey on livestock (mainly lambs) and poultry, while rabbits compete with livestock for pasture and damage soil cover and composition.

2.5.3 Social impacts

Social impacts of invasive species are difficult to quantify. However they may include:

- Conflict between neighbours and between sections of the community with differing attitudes to invasive species management.
- Stress to farm businesses due to the financial consequences of invasive species.
- Interference with recreational activities, damage to infrastructure or culturally significant sites.
- Distress caused to farmers when invasive animals injure or kill livestock.
- Development of human health problems following contact with invasive species e.g. asthma associated with exposure to Perennial Ragweed (*Ambrosia psilophorus*).
- Disturbance from nuisance pest animals such as the Common Myna.

3.0 Framework for management

3.1 Legal responsibilities

In Victoria the primary legislation with respect to invasive species management is the *Catchment and Land Protection Act (CaLP) 1994*. Under Section 20 of the CaLP Act the general duties of land owners is:

- (1) In relation to his or her land a land owner must take all reasonable steps to-
 - (a) avoid causing or contributing to land degradation which causes or may cause damage to land or another land owner; and
 - (b) conserve soil; and
 - (c) protect water resources; and
 - (d) eradicate regionally prohibited weeds; and
 - (e) prevent the growth and spread of regionally controlled weeds; and
 - (f) prevent the spread of, and as far as possible eradicate, established pest animals.

Under the CaLP Act, noxious weed species are divided into 4 categories, based on the stage of invasion (refer to Appendix 3 for more detail):

3.1.1 State prohibited weeds

These invasive plants either do not occur in Victoria, but pose a significant threat if they invade, or are present, pose a serious threat and can reasonably be expected to be eradicated. If present, infestations of a State prohibited weed are relatively small. They are to be eradicated from Victoria if possible or excluded from the State. The Victorian Government is responsible for their eradication, but under Section 70(1) of the *CaLP Act*, it may direct land owners to prevent their growth and spread.

3.1.2 Regionally prohibited weeds

Regionally prohibited weeds are not widely distributed in a region but are capable of spreading further. It is reasonable to expect that they can be eradicated from a region and they must be managed with that goal. Landowners, including public authorities responsible for crown land management, must take all reasonable steps to eradicate regionally prohibited weeds on their land.

3.1.3 Regionally controlled weeds

These invasive plants are usually widespread in a region. To prevent their spread, ongoing control measures are required. Land owners have the responsibility to take all reasonable steps to prevent the growth and spread of Regionally controlled weeds on their land.

3.1.4 Restricted weeds

This category includes plants that pose an unacceptable risk of spreading in this State and are a serious threat to another State or Territory of Australia. Trade in these weeds and their propagules, either as plants, seeds or contaminants in other materials is prohibited.

The DEDJTR also takes into account the Weeds of National Significance (WONS) status of a species when reviewing the noxious weeds under the CaLP Act. There are currently 32 WONS weeds listed. Unless classified as a State prohibited weed, individual landowners and managers are ultimately responsible for managing these weeds.

In regard to invasive animals, the CaLP Act establishes the following categories:

3.1.5 Restricted pest animals

These are high threat species not yet established in the wild of Victoria, however they are or have the potential to become a serious threat to primary production, the environment or community health in Victoria. The importation, keeping, breeding and trading of restricted pest animals is illegal and is the responsibility of DEDJTR to enforce.



3.1.6 Established pest animals

These are established in the wild of Victoria and are a serious threat to primary production, the environment or community health. Landowners have the responsibility to

take all reasonable steps to prevent the spread of, and as far as possible eradicate, established pest animals on their land. Council is responsible for managing these invasive pests on council owned and managed land.

3.2 Enforcement

The DEDJTR has responsibility for enforcing the noxious weed and restricted animal provisions of the CaLP Act. In practice, enforcement and application of penalties is discretionary with the focus being limited to high priority invasive species and in areas where there is strong community agreed action.

Nillumbik Shire Council has enforcement powers under the *Amenity Local Laws (2013) Part 6/28 Condition of Land*.

An owner or occupier of land must ensure that the land: a) does not constitute or is not likely to constitute a danger to health or a source of infestation or contamination to property, in that it is

a haven for vermin, (including European Wasps and feral bees), noxious weeds or has overgrown vegetation or a substance thereon which could cause danger to health or property.

In addition under Section 45E of the *Environment Protection Act (1970)*, Council's Local Laws officers can enforce against dumping of soil and garden waste. Section 45U allows Council to require the covering of trailer and utility loads when soil and green materials are being carried.

The preferred method of enforcement is under the *CaLP Act*.

3.3 Biosecurity approach

Thousands of invasive plants, pathogens and animals have the potential to threaten the biodiversity, agricultural and amenity values of Nillumbik. It is impossible to eradicate them all, and so it is necessary to focus on the high threat species and apply an appropriate level of management to attempt to eliminate or reduce the threat. The biosecurity approach acknowledges that economic returns for managing invasive species are much higher when infestations are new or small compared to the cost of trying to remove a species once it is widespread and established.

Remnant vegetation that is largely intact is considered a high value asset. Farmland that is productive and well managed is considered a high value asset. Rare and threatened species such as the Brush-tail Phascogale or Rosella Spider Orchid are considered high value assets that need to be protected from invasive species.

Table 2: Invasive species management categories

Category	Aim
Prevention	Prevent the establishment of new high threat invasive species in the Shire.
Eradication	Eradicate from the Shire newly established invasive species with a restricted distribution and low abundance.
Containment	Prevent the further increase in distribution and abundance of invasive species already present throughout the Shire.
Management	Invasive species are identified and actively managed within and adjacent to high value assets, but are not actively controlled outside these areas.

3.4 Priorities for species management

Management priority is based on the threat of the invasive species (high or low) against the feasibility of controlling the threat (easy or hard). High priority invasive species are species which must be removed, medium priority invasive species are species that should be removed, and low priority invasive species are species that could be removed. Invasive species management priorities can be decided using this approach:

Table 3: Determining invasive species management priorities

	Invasive species threat Threat Low	Invasive species threat Threat High
Feasibility of control		
Hard	Low Priority (4 th)	Medium Priority (2 nd)
Easy	Medium Priority (3 rd)	High Priority (1 st)



A fuller description of the invasive species management categories and the actions relating to them is provided in Appendix 2.

3.5 Scale of management

The threat potential of all species can also be considered at different scales including at the local level of an individual property, a particular wetland or bushland reserve, or a Landcare area. For example, while pine trees and cherry plums are classified as an established invasive species across the Shire only to be managed to protect high value assets, if one were to appear on an individual property as a new and emerging weed, the owner would treat that pine tree or the cherry plum as an invasive species to be eradicated immediately. Consequently the management plans for individual properties and reserves will reflect the biosecurity approach at a local level that may vary from the Shire-wide application of this Plan. At a Shire-wide level such species would occasionally be subject to special campaigns.

Refer to Appendix 1 for an example of the biosecurity approach applied at a local level.

3.6 Data management and reporting

Council is working towards developing a consistent and shared system for mapping, monitoring and reporting on invasive species. Having a shared system helps all areas of Council, community groups and agencies make informed and coordinated decisions about invasive species management at the site level and across the landscape. By linking planning at all levels, the system supports application of biosecurity principles to deliver effective and efficient invasive species management. It provides a framework for Council, other government agencies and the community to collectively plan and share results for true landscape-scale management.



4.0 Invasive species management in Nillumbik

Managing invasive species at a Shire level is challenging. To be responsive and effective, all stakeholders need to be working together. This includes; Council staff and contractors who manage local bushland, wetland, open space, parks, gardens and roadside reserves; external agencies including those who manage reserves, waterways and roadsides within the Shire; private landowners of biodiversity land; farmers of agricultural land; and other urban and rural residential landowners.

4.1 Council land management

What are the main challenges?

- Limited budget to effectively manage large areas of land.
- Community assessment of Council land as a benchmark for invasive species management.
- Dependency of the knowledge and skill of contractors to identify, manage and monitor invasive species.
- A large percentage of intact vegetation within the Shire is managed by private landholders and external agencies.
- Ensuring Council staff has adequate invasive species identification skills.
- The incidence of unplanned events, such as the 2014 Yirrip Reserve bushfire, that requires the input of significant resources.
- The need for continual data collection and sharing to improve our collective knowledge regarding the priority for control of particular species in particular locations.

4.1.1 Bushland and wetlands reserves

Nillumbik Shire Council is responsible for the management of 99 environmentally significant bushland and wetland reserves covering an area of 495 hectares. Council's reserves are located on both Council freehold land and Crown Land Reserves where Council is the Committee of Management.

The primary purpose of many of these reserves is for the conservation of natural values; however they are also very important from social, recreational, cultural and historical perspectives. These reserves are home to an array of native plants and animals, and often provide the last remaining refuges for threatened and endangered species in a fragmented landscape.

The significance of these reserves is under constant threat from a range of processes such as weed invasion, predation by and competition with pest animals, pressure from residential development, altered fire regimes and habitat destruction. On an annual basis Council develops works programs for these

reserves to manage these threatening processes and improve the condition of the reserves.

During the 2012-2013 financial year, Council spent \$728,870 (of which \$112,851 was funded by external grants programs) on contractors and materials for wetland and bushland reserve management works such as weed control, rabbit control, revegetation, fire prevention works and recreational trail management.

4.1.2 Roadsides

Roadsides provide potential conduits for the spread of invasive species, which is further exacerbated by the potential for vehicles, machinery, animal and human traffic to facilitate their movement. Disturbance by machinery and vehicles, water run-off and dumping of soil also increases potential weed and pathogen spread.

Council is responsible for the management and maintenance of approximately 1,200 km of rural and semi-rural roadsides. Roadsides are the areas within the road reserve which are not used by motorised vehicle traffic, including land either side of the road and between carriage ways.

Works on roadsides are planned and prioritised by Council through the Nillumbik Roadside Management Plan (2012). Council has undertaken extensive weed mapping of roadside reserves and developed prioritised invasive plant control based on species invasiveness, vegetation quality and the location of infestation in relation to environmentally significant reserves and agricultural land.

The Roadside Management Plan 2012 also operates in the context of a range of Council works on road reserves including fire hazard reduction, stormwater management, recreational trail construction and maintenance, road reconstruction and maintenance of the carriageway. In addition, other agencies carry out works on road reserves that Council has limited control over. This includes utility installation and maintenance, and works carried out by VicRoads on roads for which they are responsible.

The major pest animals on roadside reserves are rabbits, foxes and feral cats. However, the species are difficult to manage, as pest animals don't follow property boundaries and are generally in transit between the roadside and the adjoining private land.

Council also provides support to Landcare groups to direct weed control works on roadsides. Works must be undertaken by an approved contractor in accordance with legislative requirements. Roadside Landcare groups also map and monitor invasive animal species such as rabbits and hares.

4.1.3 Open space and other land managed by Nillumbik Shire Council

Council is responsible for the maintenance of some shopping precincts, 60 playgrounds, and 33 sports grounds covering approximately 600 hectares of open space. Invasive plant management activities in these reserves are mostly undertaken by Council staff and include weed control by herbicide application and slashing.

4.1.4 Landfill

Council is responsible for the management of two decommissioned landfill sites at Plenty and Kangaroo Ground which cover a combined area of 31 hectares. As required Council engages contractors to undertake rabbit and weed control across both sites.

4.2 Community engagement

Managing invasive species on private land is complex. Effective, strategic work is dependent on being able to engage and influence private landholders to take action. Council officers work within a strategic framework of targeting private landholders managing high biodiversity and productive properties, of delivering a range of programs that provide knowledge, skills and financial incentives, and encouraging and supporting individuals to work together in local community groups.

While many private landholders are working tirelessly and effectively to manage invasive species on their land, others may find it challenging to find the time between work and family commitments to manage invasive species effectively.

To maximise successful engagement, Council needs to understand the circumstances of the different private landholder groups and tailor engagement and responses to those specific groups.



The primary purpose of these reserves is for the conservation of natural values; however they are also important from social, recreational, cultural and historical perspectives. These reserves are home to an array of native plants and animals, and often provide the last remaining refuges for threatened and endangered species in a fragmented landscape.

4.2.1 Private landholders

Private landholders within Nillumbik can be divided into five broad categories:

- Urban landholders – residents living in built up, urban streetscapes on privately owned parcels of land.
- New landholders – people who have relocated to large properties.
- Established landholders (recreational focus) – people owning rural properties for lifestyle use.
- Established landholders (environmental focus) – people owning areas of land primarily to protect their high biodiversity value.
- Established landholders (agricultural focus) – people owning rural land engaged in some form of primary production activity. This may also include conservation land.

What are the main challenges?

Within the Nillumbik community there is a significant amount of awareness and understanding of the issues as well as a range of efforts being undertaken on private land to manage invasive species. Relatively few people with limited resources have worked together to achieve outstanding 'wins' in the battle against invasive species. To build upon this work, Council needs to address some of the barriers to engagement.

Council has adopted a number of programs to engage community in a strategic approach to invasive species management.

4.2.2 Community groups

Encouraging individual landholders to join with their neighbours in a Landcare group is an effective way to drive a strategic and targeted invasive species control program on private land. Inexperienced landholders receive guidance and advice from their neighbours and are more likely to participate in communal invasive species projects, such as rabbit baiting, due to mutual benefit, enhanced outcomes and some peer pressure.

Council provides assistance to ten Landcare groups through the Community Action Group Grants within the Land Management Incentive Program, and provides supports to the Nillumbik Landcare Network. From August 2012 Council has hosted a Landcare Facilitator, funded by the Victorian Government to assist groups coordinate projects and help the groups grow. From early 2014 an Environmental Geographic Information System (GIS) Officer has also been hosted to work with Landcare groups in mapping invasive species on their properties.

Nine Nillumbik Landcare groups were successful in receiving funding from the DELWP for the Nillumbik's Conservation Corridors Project under the State Government's Communities for Nature grant program. The project seeks to engage the local community to protect and improve habitat for a range of threatened plants and animals in the Shire. Support and assistance is provided for on-ground and coordinated management works including invasive species control.

Council supports 22 Friends groups working throughout the Shire on Council-managed reserves. Each group is supported by Council officers to ensure works are aligned with Council's works plan objectives for reserves. Council provides the volunteers with tools, safety equipment, plants and associated materials, weed removal and onsite assistance where possible.

4.2.3 Education and resources

Council uses a range of communication tools to engage different audiences.

Publications and website

Council's website provides information about invasive species control. Council has produced a weeds booklet *Common Weeds of Nillumbik* to assist landowners with invasive plant identification and a *Sustainable Gardening in Nillumbik* booklet which includes information about garden escapees. Council's *Live Local Plant Local* booklet promotes the planting of indigenous species and the importance of controlling environmental weeds, while *Rabbit control in urban and peri-urban areas* provides information on rabbit control.

Council also produces brochures about Friends and Landcare groups, and about Council's financial assistance programs for land management, including the Land Management Incentive Program. Council has a number of regular publications through which invasive species information can be disseminated: *Nillumbik News*, *Fringe Focus* and *Nillumbik Environment Network updates*.

Environmental Activities Program

Council holds and supports a number of environmental activities and events throughout the year including property management planning courses, weed identification, and the like.

Mail outs

Residents living near a council-managed reserve or adjoining a high value environmental or agricultural asset will be targeted to receive information on invasive species identification and management, as well as information on opportunities for involvement.

Extension Services

Council's Land Management Officer provides one-on-one land management advice to private landholders regarding invasive species identification and management. It is a valuable opportunity to build relationships with landowners to increase their awareness of services and assistance available, and to encourage their involvement in a local community Landcare group. Staff also handle phone enquiries regarding invasive species and assist with identification and control recommendations. Council officers also provide extension services to community groups such as Landcare and Friends Groups. Council periodically runs free workshops for residents to build their knowledge and skill.

Financial incentives

The Land Management Incentive Program offers flexible grants to support a range of integrated land management activities for private landholders and community groups. Invasive species management will be supported if the species is part of medium or large scale collaborative projects where the identified pest and the proposed control techniques are consistent with recommendations of approved local strategies and programs.

The Sustainable Agriculture Rebate offers a council rate rebate for owners of farms of over 30 hectares who can demonstrate (via a property management plan) that they are managing their land and natural resources in a positive and sustainable way.

A rate rebate is also provided to landowners who have placed a Trust for Nature conservation covenant on their property.



Encouraging individual landholders to join with their neighbours in a Landcare group is an effective way to drive a strategic and targeted invasive species control program on private land.



4.3 Other public land management

Melbourne Water, DELWP, Parks Victoria, VicRail and VicRoads all have a responsibility for managing invasive species within Nillumbik. Council actively works with these public land managers to coordinate and collaborate on projects. The Urban Fringe Weed Management Initiative is a successful example of the implementation of this interagency collaboration. The Urban Fringe Weed Management Initiative is a four-year partnership program which seeks to adopt a 'biosecurity approach' to weed control across the Kinglake to Warrandyte Habitat Corridor. The program involves many stakeholders and land managers including Council, Parks Victoria, Melbourne Water, DELWP, private landowners and community groups. The program adopts a tenure-blind landscape-scale approach to weed control. Coordination across property boundaries and the scale of the project will allow the project partners to:

- Prevent new weeds entering the corridor.
- Contain the range of established weeds and prevent their dispersal into environmentally significant area.
- Control established weeds strategically to protect the biodiversity values of the corridor.

4.4 Industry engagement

4.4.1 Nursery and landscape industries

Two-thirds of the established weeds in Australia are escaped garden plants, with 55 per cent of these still available for sale (Groves et. al. 2005). The nursery and landscape businesses operating within Nillumbik and surrounds have a critical role in mitigating a major pathway of threat. There are 242 landscape businesses operating in Nillumbik. The majority of landscapers would purchase their plants from the Plantmark wholesale supplier in Thomastown. A total of 37 nursery outlets are operating within the region with seven being major garden centres.

4.4.2 Aquarium and pet trade

The escape and release of former pets has been identified as a pathway for the introduction of invasive animals into natural environments and productive land. Not only can these former pets become invasive, but so can other organisms associated with pets and pet care. Possible sources of invasive species introduction through the pet trade pathway include:

Intentional

- Release of unwanted pets or live pet food (e.g. feeder fish, crickets).
- Outdoor disposal of unwanted plant material associated with aquariums, terrariums, or water gardens.
- Outdoor disposal of pet food containing viable seeds or rootable plant material.

Unintentional

- Escape of pets or live pet foods that are poorly contained.
- Introduction of pathogens and parasites that "hitchhike" on pets.
- Introduction of plant material, pathogens, or parasites when pet housing (e.g., aquariums/terrariums, bird cages), toys, feeding dishes, and other supplies are cleaned outdoors.

Many pets and associated organisms that escape or are released into the natural environment are unable to survive due to inappropriate climatic conditions, predation, or the hazards of road traffic. However, under ideal conditions, not only do these organisms survive, they thrive and become invasive species that displace native species, degrade ecosystems and reduce biodiversity and productivity. Access to food via exposed rubbish, pet food, and outdoor cafes can further result in invasive animal success.

When plants (including seeds) associated with pet care enter the natural environment, they can establish and spread to such an extent that they outcompete native plants and cause wide-scale disruptions to ecological systems.

An education campaign to raise awareness targeting high threat invasive species of concern to Council and associated with the pet trade, could be directed towards these local businesses and their customers.

4.4.3 Contractors and Developers

Contractors and developers operating within Nillumbik have a major role to play in limiting the spread of weeds and pest animals. Weeds seed and material can be transported through contaminated soil or on machinery brought in from other locations. It is important to raise awareness about machinery hygiene practices and the importance of clean fill.



5.0 Action Plan

The Action Plan provides a response to invasive species management with a focus on the priorities, roles and responsibilities of Council. It includes actions to be undertaken directly by Council's operations and services and actions that support resident's and community groups' responses.

The vision, goals, objectives and actions in this document were derived through interdepartmental discussions and review and community feedback.

The Action Plan has been divided into the following goals:

- Improving agricultural assets on private land through control of invasive species.
- Improving biodiversity assets on private land through control of invasive species.
- Minimising the impacts of invasive species on roadsides.
- Managing invasive species in Council's bushland and wetland reserves.
- Managing invasive species information.

These actions have been developed through considerable internal and external consultation and are designed to ensure effective implementation of the plan. The implementation of these actions will involve the community, Council and external organisations. All actions will be reviewed regularly and revised where necessary.

Some actions will need to be supported financially by Council. Council will advocate for additional funding to be allocated to the management of the Green Wedge and, if successful, this could see additional resources allocated to invasive species management. Larger projects associated with the Strategy will be included in Council's Strategic Resource Plan and Major Projects Plan to ensure appropriate budget allocations are provided.

The table of actions are separated into Number, Action, Responsibility, Timeframe and Status.

Number is assigned to the action for ease of reference.

Action details the action to be undertaken.

Responsibility refers to the main Council unit that will be primarily responsible for implementing the specified action, including applying appropriate resources to ensure effective implementation.

Internal Section and Units

Comms	Communication
EP	Environmental Planning
EM	Emergency Management
EW	Environmental Works
GV	Governance
IM	Infrastructure Maintenance
IT	Information Technology
LS	Leisure Services
OS	Open Space Maintenance
SP	Strategic Planning

Timeframe refers to the timeline in which Council aims to achieve the action.

Status provides an update on how the implementation of the action is tracking.

The implementation of these actions will involve the community, Council and external organisations.



Goal 1

Improving agricultural assets on private land through control of invasive species

Program objectives

- To support private landholders to proactively manage invasive species on their land, prioritising the protection of high value agricultural assets.
- To support the eradication of new and emerging invasive species from private land where these are identified as a threat to the productivity of agriculture in the area.
- To educate and inform the community about invasive species.
- To target different community audiences with specific projects, programs or customised messages.

Program description

Programs are designed to encourage the adoption of best practice in the agricultural landscape and to support sustainable agricultural enterprises into the future.

Invasive species and their management are a significant financial burden in agriculture. The implementation of the biosecurity approach with targeted and cross tenure priorities will aim to reduce the pressures from such species. Specifically agricultural programs will focus on:

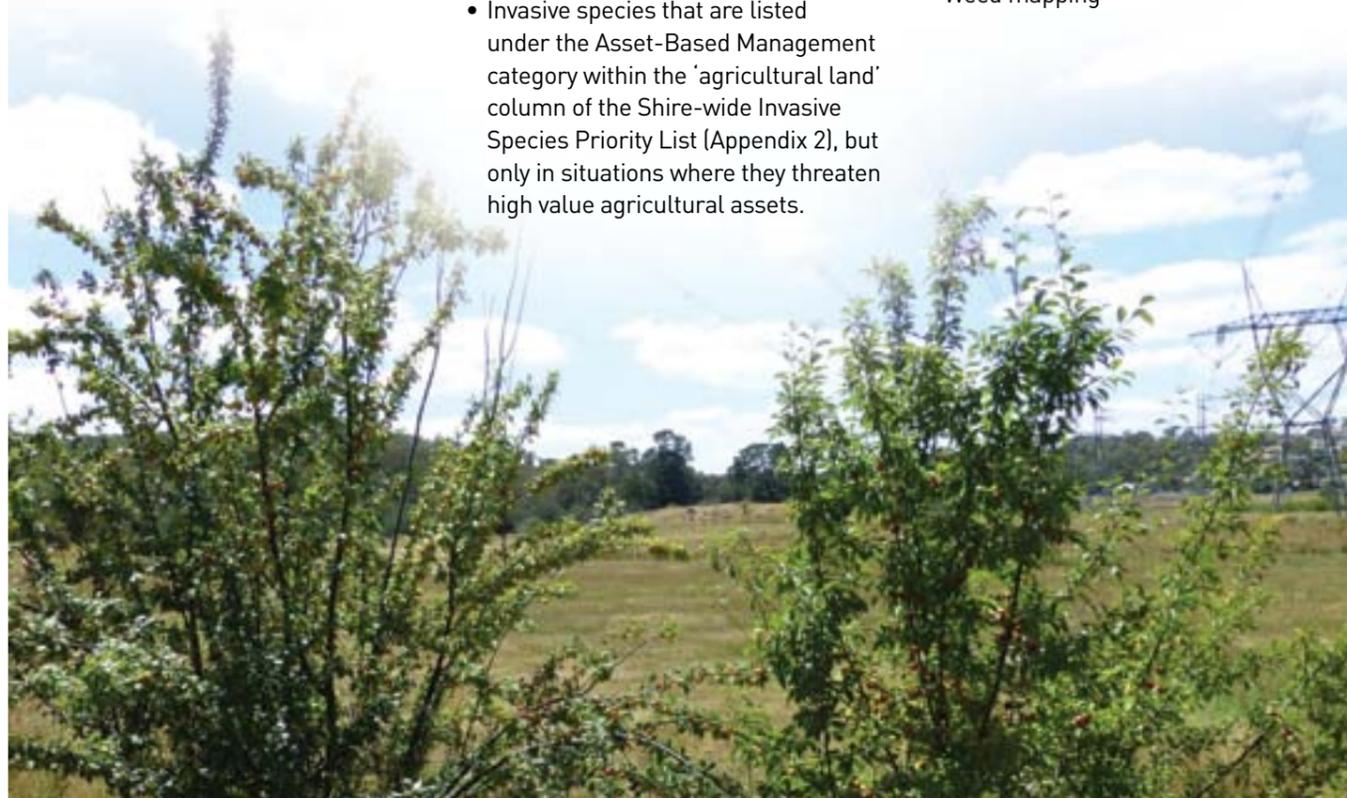
- Invasive species that are listed under the Prevention and Eradication categories within the 'agricultural land' column of the Shire-wide Invasive Species Priority List (Appendix 2).
- Invasive species that are listed under the Containment category within the 'agricultural land' column of the Shire-wide Invasive Species Priority List (Appendix 2), but only in situations where they threaten high value or key agricultural assets.
- Invasive species that are listed under the Asset-Based Management category within the 'agricultural land' column of the Shire-wide Invasive Species Priority List (Appendix 2), but only in situations where they threaten high value agricultural assets.

Stakeholders

Landcare, Landholders, Nillumbik's Conservation Corridors Steering Committee, Nillumbik Landcare Network, Agricultural Advisory Committee, Environmental Advisory Committee, Council, Melbourne Water, Department of Environment & Primary Industries, VicRoads, Parks Victoria and private contractors.

Potential target projects

- Christmas Hills, Strathewen and St Andrews targeted deer control
- Chilean Needle Grass Outliers Targeted Control Project
- Patersons Curse Targeted Control Project (Yarrambat)
- Buttermans Track area targeted weed control project
- Targeted community rabbit control groups
- Nillumbik Roadside weed program
- Landcare demonstration site
- Weed mapping



No.	Actions	Responsibility	Timeframe	Status
Research and investigation				
A1	Pilot on-ground assessment and mapping of the extent of infestation by species (in consultation with relevant agencies, Landcare Groups and the Agriculture Advisory Committee).	Environmental Planning	June 2015	In progress
A2	Continuously review the priority invasive species and priority control zones (in consultation with relevant agencies, Landcare Groups and the Agriculture Advisory Committee).	Environmental Planning	Ongoing	In progress
Coordination				
A3	Continue to support Landowners, Landcare groups and Nillumbik Landcare Network to manage invasive species.	Environmental Planning	Ongoing	In progress
A4	Coordinate Council and agency works with private landholder works.	Environmental Planning	Ongoing	In progress
Community awareness				
A5	Work in partnership with DEDJTR to increase community awareness about species listed under the Prevent and Eradicate categories (Appendix 2).	Environmental Planning	Ongoing	To commence November 2015
A6	Coordinate with and support awareness raising activities of the Nillumbik Landcare Network through its website, walks and field days organised by individual landcare groups.	Environmental Planning	Ongoing	In progress
Extension and technical support				
A7	Hold targeted invasive species management field days that relate to agricultural land.	Environmental Planning	2 per year	In progress
A8	In conjunction with the Nillumbik Landcare Network, conduct whole property planning courses.	Environmental Planning	1 per year	In progress

No.	Actions	Responsibility	Timeframe	Status
Extension and technical support				
A9	Undertake private property site inspections to provide advice in relation to improved agricultural land management with the additional potential of providing assistance via Council's incentive programs.	Environmental Planning	25 per year	In progress
A10	Continue to provide technical and administrative support to the Nillumbik Landcare Network.	Environmental Planning	June 2015	In progress
A11	Provide advice and assistance for landholders to develop property management plans.	Environmental Planning	10 per year	In progress
Incentives				
A12	Provide small grants in targeted areas to landholders for actions to manage invasive species on their land.	Environmental Planning	30 per year	In progress
A13	Provide medium grants to assist groups of adjoining landowners to cooperatively manage invasive species across their properties.	Environmental Planning	20 per year	In progress
A14	Provide grants to Landcare Groups for invasive species management each year.	Environmental Planning	3 per year	In progress
A15	Continue to administer and assess the Sustainable Agricultural Rebate (SAR) for large (30ha+) agricultural properties across Nillumbik and review a proportion of SAR Property Management Plans each year.	Environmental Planning	15 per year	In progress
A16	Monitor and review the effectiveness of the Land Management Incentive Program.	Environmental Planning	Annually	In progress

Sources of potential funding and other resources

Partner with Nillumbik Landcare Network to seek, administer and utilise other sources of funding for management of invasive species on private land.

Landcare equipment hire/borrow opportunities (e.g. Landcare tool trailers).

Work in partnership with State Government.

Advise landowners (if eligible) to apply for funding through Melbourne Water's Stream frontage program.

Monitoring and Reporting

Report on the effectiveness of the project through the Nillumbik State of Environment Report.

Collate project information in Nillumbik's GIS in partnership with Nillumbik Landcare Network and Environmental Works.

Goal 2

Improving Biodiversity assets on private land through control of invasive species

Program objectives

- To support private landholders to proactively manage invasive species on their land, prioritising the protection area's high value biodiversity and or significant species.
- To support the eradication of new and emerging invasive species from private land where these are identified as being a threat to the integrity of that natural asset.
- To educate and inform the community about invasive species.
- To target different community audiences with specific projects, programs or customised messages.

Project description

The Biodiversity Strategy 2012, documents the strategic direction for biodiversity conservation in the Shire. The Invasive Species Action Plan complements this direction by setting the direction for invasive species management in biodiversity areas. Specifically projects are designed around:

- Actions focusing on all invasive species that are listed under the Prevent and Eradicate categories within the 'bushland column' of the Shire-wide Invasive Species Priority List (Appendix 2).
- Invasive species that are listed under the Contain category within the 'bushland column' of the Shire-wide Invasive Species Priority List (Appendix 2), but only in situations where they threaten assets with medium to high value biodiversity.
- Invasive species that are listed under the Asset-Based Management category within the 'bushland column' of the Shire-wide Invasive Species Priority List (Appendix 2), but only in situations where they threaten assets with high value biodiversity.

Stakeholders

Landcare, Landholders, Nillumbik's Conservation Corridors Steering Committee, Nillumbik Landcare Network, Environmental Advisory Committee, Council, Melbourne Water, Department of Environment & Primary Industries, VicRoads Parks Victoria and private contractors.

Potential target projects

- Arthurs Creek, Christmas Hill, Strathewen and St Andrews deer control.
- Targeted fox control program.
- Nillumbik's Conservation Corridors Project.
- Buttermans Track area targeted weed control project.
- Targeted community rabbit control.
- Eltham Copper Butterfly Recovery Project
- Landcare demonstration site.
- Targeted Boneseed, Bridal Creeper, Bluebell Creeper, Sweet Pittosporum, Watsonia and Blue Periwinkle control.
- The trial of different control methods for the reduction of high threat grassy weeds in high quality bushland areas.
- Set up and monitoring of Myrtle Rust sentinel sites.
- Weed mapping and identification of priority areas for control.
- Set up of an online register for the reporting of species listed under the *Prevent and Eradicate* categories (Appendix 2).



...to proactively manage invasive species on their land...

No.	Actions	Responsibility	Timeframe	Status
Research and investigation				
B1	Undertake on-ground assessment and mapping of the extent of infestation by species.	Environmental Planning Environmental Works Landcare	Ongoing	In progress
B2	Continuously review the priority invasive species and priority control zones.	Environmental Planning Environmental Works Landcare Environmental Advisory Committee	Quarterly	In progress
Coordination				
B3	Continue to support and coordinate land management actions with Landowners, Landcare groups, Nillumbik Landcare Network, Nillumbik Conservation Corridors Project and other agencies such as DELWP, Parks Victoria, Melbourne Water, VicRoads, VicTrack and the Port Phillip & Westernport Catchment Management Authority.	Environmental Planning	Ongoing	In progress
B4	Coordinate Council and agency land management works with private landholder works.	Environmental Planning Environmental Works Melbourne Water Parks Victoria	Ongoing	In progress
Community awareness				
B5	Promote priority invasive species through Landcare Groups, Friends Groups, Nillumbik Landcare Network, Nillumbik Conservation Corridors, Nillumbik News and Fringe Focus.	Environmental Planning Environmental Works	Quarterly	To commence April 2016
B6	Promote the uptake of Trust for Nature Conservation Covenants to protect high quality bushland.	Environmental Planning	Ongoing	To commence April 2016
Extension and technical support				
B7	Hold two targeted invasive species management field days that relate to private bushland management each year.	Environmental Planning Nillumbik Conservation Corridors Project	2 per year	In progress
B8	Undertake private property site inspections to provide advice in relation to improved bushland management with the additional potential of providing assistance via Council incentive programs.	Environmental Planning	25 site inspections per year	In progress

No.	Actions	Responsibility	Timeframe	Status
Extension and technical support				
B9	Continue to provide support to the Nillumbik Conservation Corridors Project.	Environmental Planning	Until June 2016	In progress
B10	Provide support for the development of bushland management plans.	Environmental Planning	5 plans per year	In progress
B11	Provide technical support to landowners including pest species identification and bushland management advice.	Environmental Planning	As required	In progress
Incentives				
B12	Provide assistance and funding to landholders to assist management of invasive species.	Environmental Planning, Melbourne Water, Nillumbik Conservation Corridors Project	Ongoing	In progress
B13	Provide small grants to landholders for actions to manage invasive species within private bushland.	Environmental Planning	15 grants per year	In progress
B14	Provide medium grants to assist groups of adjoining landowners to cooperatively manage invasive species across their properties.	Environmental Planning	10 grants per year	In progress
B15	Provide grants to Landcare Groups for invasive species management.	Environmental Planning	2 grants per year	In progress
B16	Partner with Nillumbik Landcare Network and Nillumbik's Conservation Corridors project to seek, administer and utilise other sources of funding for management of invasive species on private land.	Environmental Planning	Ongoing	In progress

Sources of potential funding and other resources

Council's Land Management Incentive Program provides some financial assistance to undertake weed control.

Landcare equipment hire/borrow opportunities (e.g. Landcare tool trailers).

Council's Land Management Officers are able to provide extension and technical advice to landowners.

Nillumbik's Conservation Corridors project grant (until June 2016).

Landowners (if eligible) can apply for funding through Melbourne Water's Stream Frontage program.

Funding sources and grants from external programs run by organisations such as the Department of Environment, Land, Water and Planning, Department of Economic Development, Job, Training and Resources and the Port Phillip and Westernport CMA.

Green Army as a potential source

Private landowner contributions.

Monitoring and Reporting

Report on the effectiveness of target projects through the Nillumbik State of Environment Report.

Monitor the effectiveness of programs through the Land Management Incentive Program.

Goal 3

Minimising the impacts of invasive species on roadsides

Project objectives

- Council implements the Broad Weed Management Objectives as outlined in the Roadside Management Plan 2012.
- Minimise the impacts of pest animals on roadsides through appropriate and effective integrated methods and minimise impacts on remnant vegetation and native wildlife habitat.

Project description

Council is responsible for the management and maintenance of approximately 1,200 kilometres of rural roadsides.

The Broad Weed Management Objectives outlined in the *Roadside Management Plan* are used by Council staff in implementing the Roadside Weed Control Program. This adopts a prioritised approach, based on available funding, with the highest priority for roadside weed control being impacts of public safety, access and egress, visibility of signage and fire risks. The second priority is to focus on new and emerging weeds, and the third priority is to focus on high threat established weeds on high conservation roadsides. At this point the available funding only allows the roadside weed control program to focus on the first and second priorities of the broad weed management objectives, and partly the third weed control priority, such as treating *Nassella* species.

Stakeholders

Landcare, Landholders, Nillumbik Landcare Network, Environmental Advisory Committee, Council, Melbourne Water, Department of Environment & Primary Industries, VicRoads and Parks Victoria.

Potential target projects

- Chilean Needle Grass targeted weed control.
- Weed mapping and identification of priority areas for control.
- Landcare roadside partnership.

The second priority is to focus on new and emerging weeds...



No.	Actions	Responsibility	Timeframe	Status
Coordination				
R1	Undertake phased mowing where weedy grasses are mixed with significant flora and there is a prospect of timing the mowing to reduce the spread of weedy seeds.	Open Space	Ongoing	In progress
R2	Continue to implement the broad weed management objectives as outlined in the Roadside Management Plan. These broad weed management objectives are used as the basis for setting specific weed management objectives and actions.	Open Space	2017	In progress
R3	Work with Landcare Groups to prioritise targeted weed control.	Open Space & Environmental Planning	Ongoing	In progress
Community awareness				
R4	In targeted areas erect weed alert signage.	Open Space & Environmental Planning	Ongoing	In progress
R5	Incorporate weed mapping information into the data management system and communicate with the community via the website.	Open Space	Ongoing	To commence February 2016
Incentives				
R6	Actively seek funding opportunities or sources to enable Council's roadside weed control program to more effectively address high and medium weed management priorities as outlined in the Roadside Management Plan.	Open Space & Environmental Works	Ongoing	In progress
R7	Work with adjoining landowners and landcare groups to implement landscape-scale pest animal control programs including roadsides.	Open Space, Environmental Works & Environmental Planning	Ongoing	In progress

Sources of potential funding and other resources

State Government

Monitoring and Reporting

Monitor the effectiveness of the program through the reporting on the *Roadside Management Plan 2012*.

Goal 4

Council bushland and wetland reserves

Project objectives

- The biodiversity values and ecological integrity of Council's bushland and wetland reserves are enhanced and protected.
- Environmental works within reserves and wetlands are strategically planned to enhance and protect the conservation, social, recreational and cultural values of these areas.
- Landowners and land managers adjoining bushland and wetland reserves are engaged to establish a coordinated, landscape scale approach to protecting and enhancing biodiversity and conservation values.
- Friends Groups working within Council's bushland reserves and wetlands are engaged and supported to take action to protect and enhance conservation, social, recreational and cultural values.

Project description

Nillumbik Shire Council is responsible for the management of 99 bushland and wetland reserves covering an area of 495 hectares. Weed and pest encroachment from adjoining public or private land impacts on conservation, social or cultural values of reserves. Weeds and pests spreading from Council reserves to adjoining public or private land also needs to be addressed.

Stakeholders

Friends Groups, Parks Victoria, DEDJTR, Melbourne Water, VicRoads, adjoining private and public land owners.

Potential target projects

- Water Sensitive Urban Design Maintenance Guidelines.
- Conservation management Plans.

Weeds and pests spreading from Council reserves to adjoining public or private land also needs to be addressed.



No.	Actions	Responsibility	Timeframe	Status
Research and investigation				
BW1	Continue to implement the Bushland and Wetland Reserves Prioritisation and Planning Guidelines for setting pest animal and weed control objectives for reserves.	Environmental Works	Ongoing	In progress
BW2	Develop Conservation Management Plans for all Bushland and Wetland Reserves which identify invasive species and implement the levels of service outlined in the Bushland and Wetland Reserves Prioritisation and Planning Guidelines.	Environmental Works	June 2018	In progress
BW3	Prepare Works Plans for bushland and wetland reserves.	Environmental Works	Annually	In progress
Coordination				
BW4	Coordinate Council's Rabbit Control Program at a landscape scale and actively seek opportunities to work with adjoining landowners and agencies.	Environmental Works & Environmental Planning	Annually	In progress
BW5	Prepare a new project proposal for the continuation of the Urban Fringe Weed Management Initiative (or similar initiative) in partnership with the Warrandyte to Kinglake Habitat Corridor Public Land Managers Network	Environmental Works	February 2015	In progress
Community Awareness				
BW6	Continue to support the 22 Friends Groups working on Council land to implement on-ground conservation works by providing contractor and planning support, tools, equipment, training and advice.	Environmental Works	Ongoing	In progress
BW7	Support Friends of the Eltham Copper Butterfly (ECB) to implement the Backyards for Butterflies program as part of the Eltham Copper Butterfly Recovery Program to work with private landowners adjoining ECB Reserves to remove weeds that may impact on ECB habitat.	Environmental Works	June 2016	To commence March 2015

Sources of potential funding and other resources

- Melbourne Water Corridors of Green grant
- State Government
- Communities for Nature grant
- Green Army

Monitoring and Reporting

- Report on the effectiveness of the programs through the Nillumbik State of Environment Report.
- Monitoring the implementation of the Conservation Management Plans.

Goal 5

Managing invasive species information

Project objectives

- To ensure a consistent method of capturing and presenting information relating to invasive species location, distribution and control across the Shire.
- To engage stakeholders in invasive species management.

Project description

Having a landscape scale understanding of invasive species distribution and density can inform control programs or community education and engagement. Different methods of capturing information relating to invasive species can make interpreting and using the information difficult, so this needs to be addressed.

Stakeholders

Landcare Groups, Friends Groups, Parks Victoria, DEDJTR, Melbourne Water, VicRoads, adjoining private and public land owners.

Potential target projects

- Nillumbik's Conservation Corridors Project.
- Weed mapping and identification of priority areas for control.
- Integration of Landcare and contractor data.

No.	Actions	Responsibility	Timeframe	Status
Coordination				
11	Streamline an approach to capturing invasive species information/data for all areas of Council.	Environmental Works, Environmental Planning, Open Space & Information Technology	May 2015	In progress
Community Awareness				
12	Promote priority invasive species through Landcare, the Nillumbik Landcare Network, Nillumbik News and Fringe focus.	Environmental Planning	Monthly	To commence September 2015
13	Provide Nillumbik's Weed Booklet at Council's information stands, through Landcare and at community events.	Environmental Planning	Ongoing	In progress
14	Develop an information pack for Real Estate Agents to distribute to new landholders.	Environmental Planning and Communication	Update annually	To commence in December 2015
15	Update Council's website to provide clear information on invasive species, including photos, control information and identification details (Appendix 2).	Environmental Planning	December 2015	To commence May 2015
16	Install roadside signage to promote the control of specific weeds in targeted locations.	Environment Planning	Ongoing	To commence November 2015

No.	Actions	Responsibility	Timeframe	Status
Community Awareness (continued)				
17	Investigate the practicalities and costs of expanding the Murrindindi Weed App into Nillumbik.	Environmental Planning	March 2015	To commence August 2015
18	Promote the Land Management Incentive Program for targeted projects and Landcare groups.	Environmental Planning	4 times per year	In progress
19	Create an interactive interface for weed information	Environmental Planning and Communications	Ongoing	To commence September 2016
Extension and technical support				
110	Undertake staff training to improve and maintain skills in identification of invasive species that are listed under the <i>Prevention and Eradication</i> categories (Appendix 2).	Environmental Planning, Environmental Works & Open Space	2 per year	To commence May 2015
Incentives				
111	Provide small grants through the Land Management Incentive Program to manage invasive species.	Environmental Planning	30 per year	In progress
112	Provide medium grants to assist groups of adjoining landowners to cooperatively manage invasive species across their properties.	Environmental Planning	Ongoing	In progress
113	Provide grants to Landcare Groups for invasive species management.	Environmental Planning	3 per year	In progress

Sources of potential funding and other resources

Port Phillip & Westernport Catchment Management Authority

Monitoring and Reporting

Report on the effectiveness of the programs through the Nillumbik State of Environment Report.



5.1 Funding priorities

The level of service Council can provide to undertake invasive species management depends on the amount of funding available from Council and external sources. The following priorities related to invasive species control appear for the most part in the *Nillumbik Biodiversity Strategy* (BS) or the *Environmental Education Strategy* (EES). Others have been added in recognition of the impact of invasive species on agricultural land and other assets.

This list of priorities does not include consideration of funding for work required to train operational staff, review operational procedures or incorporate invasive species management (reporting and controlling) in open space reserves and sportsgrounds. These of course are very important in achieving the objectives of this plan.

Priorities for Council funding:

- Prioritise pest plant, pathogen and animal control programs in high biodiversity Council reserves and private land where there is an identified immediate and unacceptable threat to a biodiversity asset (BS).
- Continue to recruit staff with excellent technical knowledge and resources to provide education and expert advice to landholders and community groups (BS).
- Update and align existing environmental education programs and resources related to invasive species identification and management to align with Education and Sustainability principles (EES modified).
- Provide innovative and targeted educational programs and material to raise community awareness (BS/EES modified).
- Organise training in invasive species identification and management for landholders and community groups to develop skills and knowledge (BS modified).
- Build partnerships and strong networks between all land managers to facilitate a coordinated approach to invasive species management (BS – modified).
- Make funding incentives available for invasive species management to Friends and Landcare groups and landholders in areas identified as supporting high biodiversity and agricultural values (BS modified).
- Seek funding for invasive species management on Council land (BS).
- Seek funding for targeted invasive species management on Council land to compliment Landcare activities and protect high agricultural assets. Support establishment and operation of Friends and Landcare groups in areas identified as supporting high biodiversity values (BS).
- Support ongoing ecological management of Council's environmentally significant reserves (BS).

5.2 Monitoring and reporting

5.2.1 Reporting to the community

Information generated for the *Nillumbik Invasive Species Action Plan Progress Report* will be reported through the *Nillumbik State of Environment Report* and made available on the Council website.

5.2.2 Review of the Nillumbik Invasive Species Action Plan

The Plan will be reviewed every five years to revise the vision and objectives, accommodate new actions and revise existing actions. The community will be invited to have input into the review. The status of invasive species will be reviewed on a regular basis by staff based on feedback from community, contractors and staff observations.



6.0 Appendices

Appendix 1

This is an example of the biosecurity approach at a local level (i.e. property or reserve level) on a high biodiversity property. The new and emerging invasive species are particular to the location of the private property and targeted for prevention and eradication on that parcel of land. High threat established invasive species on the property are targeted for containment to prevent their spread.

Heat threat Species	Management Action			
	Prevent	Eradicate	Contain	Asset based management
New and Emerging Species				
Chilean Needle-grass (<i>Nassella neesiana</i>)	Orange			
Bridal Creeper (<i>Asparagus asparagoides</i>)	Orange			
Montpellier Broom (<i>Genista monspessulana</i>)	Orange			
Radiata Pine (<i>Pinus radiata</i>)	Orange			
Briar Rose (<i>Rosa rubiginosa</i>)	Orange			
Plum (<i>Prunus spp.</i>)	Orange			
Sweet Pittosporum (<i>Pittosporum undulatum</i>)	Orange			
Spanish Heath (<i>Erica lusitanica</i>)	Orange			
Boneseed (<i>Chrysanthemoides monilifera subsp. monilifera</i>)		Orange		
Bluebell Creeper (<i>Billardiera hertophylla</i>)		Orange		
Early Black Wattle (<i>Acacia decurrens</i>)		Orange		
Sallow Wattle (<i>Acacia longifolia</i>)		Orange		
Flinders Ranges Wattle (<i>Acacia iteaphylla</i>)		Orange		
Cootamundra Wattle (<i>Acacia baileyana</i>)		Orange		
Blackberry (<i>Rubus fruticosus</i> Agg)		Orange		
Freesia (<i>Freesia spp.</i>)		Orange		
European Wasps		Orange		
Rabbit		Orange		
Fox		Orange		
Established High Threat Species				
Sweet Vernal-grass (<i>Anthoxanthum odoratum</i>)			Orange	
Quaking Grass (<i>Briza maxima</i>)			Orange	
Annual Veldt Grass (<i>Ehrharta longifolia</i>)			Orange	
Yorkshire Fog (<i>Holcus lanatus</i>)			Orange	
Hare's Tail Grass (<i>Lagurus ovatus</i>)			Orange	

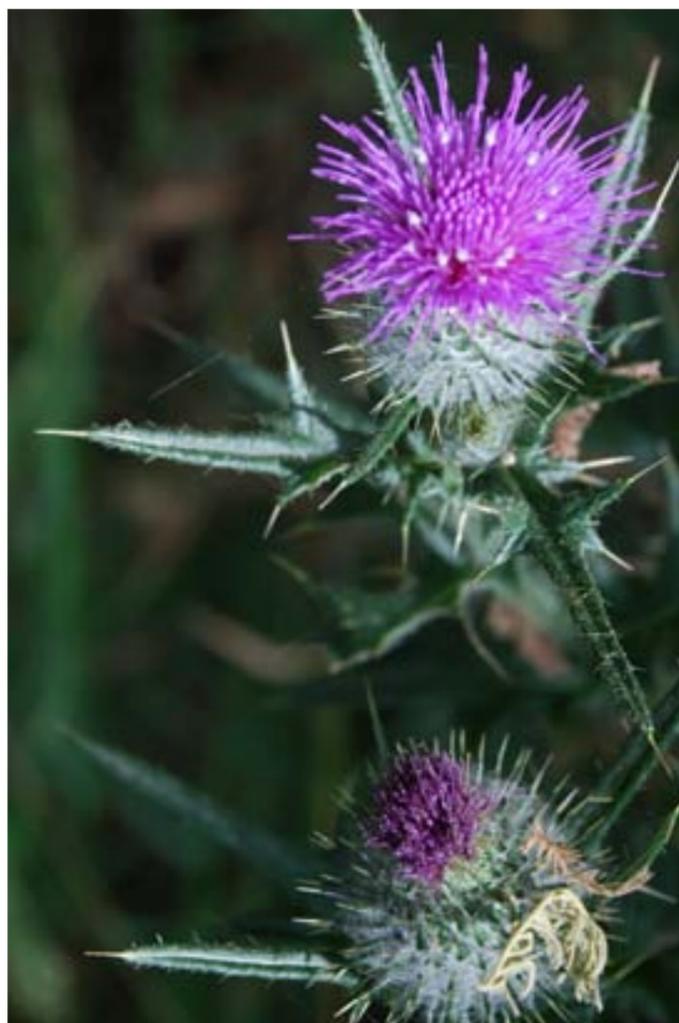
Appendix 2

Shire-wide Invasive Species Priority Lists

There are literally hundreds of invasive species that pose a threat to the biodiversity and agricultural values of Nillumbik. With limited resources, it is necessary to ensure that the following lists of invasive species take a shire-wide approach, are realistic in terms of the category of management and are working lists to be reviewed on a regular basis. Refer to the Council website for the most up-to-date list of Nillumbik Invasive Species.

Key to Invasive Species Status in terms of National (Weeds of National Significance- WoNS) or State (CaLP Act) classification:

- WoNS** = Weed of National Significance
- S** = State Prohibited
- P** = Regionally prohibited
- C** = Regionally controlled
- R** = Regionally restricted
- EP** = Established pest
- EW** = Nillumbik Environmental Weed



Prevention

Species in this category are not present within the Shire of Nillumbik. Council's objective is to prevent the introduction, spread and establishment of these high threat species. Actions for this category are as follows:

- Ensure the species identification skills of target groups i.e. staff, contractors, and Landcare groups are high.
- Monitor regularly for these particular species, particularly in areas of high biodiversity, amenity and agricultural value.
- If any new incursions of these species are discovered, immediately include the species under the "Eradication" category of management.

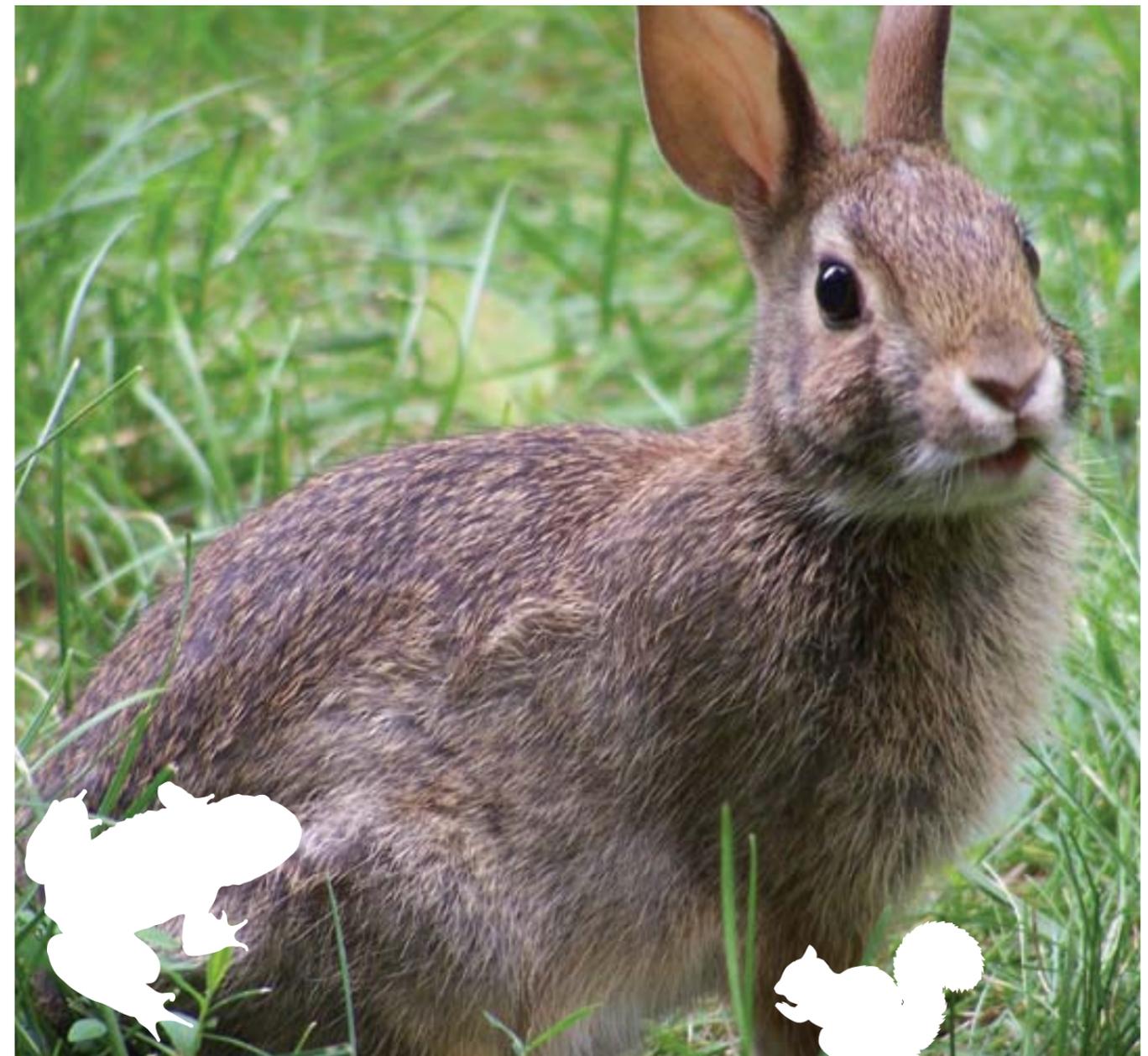
- Report any new incursion to DEDJTR and seek support for urgent eradication

Some species are categorised differently in Nillumbik depending on whether they exist in bushland or on agricultural land. For example the Common Olive (*Olea europaea*) is listed on the Eradication list in relation to Bushland, this is not appropriate in agricultural situation where that species is a potential crop. In these situations, the appropriate field in one of the final two columns is populated as 'No'.

Scientific names	Common name	Status CaLP Act Category and/or WoNS	Status Prevent if affecting Bushland	Status Prevent if affecting Agriculture
Flora				
<i>Acacia erioloba</i>	Giraffe Thorn	S	Yes	Yes
<i>Acacia karroo</i>	Karoo Thorn	S	Yes	Yes
<i>Acacia nilotica</i> (L.) Delile subsp. <i>indica</i> (Benth.) Brenan	Prickly Acacia	R	Yes	Yes
<i>Alhagi maurorum</i>	Camel Thorn	S	Yes	Yes
<i>Alternanthera philoxeroides</i>	Alligator Weed	WoNS, S	Yes	Yes
<i>Alternanthera pungens</i> Kunth.	Khaki Weed	P	Yes	Yes
<i>Ambrosia psilostachya</i> DC.	Perennial Ragweed	S	Yes	Yes
<i>Amsinckia</i> spp.	Amsinckia	C	Yes	Yes
<i>Annona glabra</i> L.	Pond Apple	R	Yes	Yes
<i>Asphodelus fistulosus</i> L.	Onion Weed	R	Yes	Yes
<i>Cabomba caroliniana</i>	Cabomba	WoNS, R	Yes	Yes
<i>Calicotome spinosa</i>	Spiny Broom	P	Yes	Yes
<i>Carduus nutans</i> L.	Nodding Thistle	S	Yes	Yes
<i>Carthamus lanatus</i> L.	Saffron Thistle	C	Yes	Yes
<i>Cenchrus longispinus</i>	Spiny Burr Grass	P	Yes	Yes
<i>Centaurea calcitrapa</i> L.	Star Thistle	P	Yes	Yes
<i>Centaurea nigra</i> L.	Black Knapweed	S	Yes	Yes
<i>Centaurea solstitialis</i> L.	St Barnaby's Thistle	P	Yes	Yes
<i>Cestrum parqui</i> L'Her.	Chilean Cestrum	P	Yes	Yes
<i>Chondrilla juncea</i> L.	Skeleton Weed	P	Yes	Yes
<i>Cryptostegia grandiflora</i> R. Br.	Rubber Vine	R	Yes	Yes
<i>Cuscuta</i> spp.	Dodder	R	Yes	Yes
<i>Diploaxis tenuifolia</i>	Sand Rocket	R	Yes	Yes
<i>Dittrichia graveolens</i> (L.) Greuter	Stinkwort	R	Yes	Yes
<i>Echium vulgare</i> L.	Viper's Bugloss	R	Yes	Yes
<i>Emex australis</i>	Spiny Emex	P	Yes	Yes
<i>Equisetum</i> spp.	Horsetail	S	Yes	Yes
<i>Eragrostis curvula</i>	African Love-Grass	R	Yes	Yes
<i>Fallopia japonica</i>	Japanese Knotweed	S	Yes	Yes
<i>Fallopia sachalinensis</i>	Giant Knotweed	S	Yes	Yes
<i>Fallopia x bohemica</i>	Japanese Knotweed Hybrid	S	Yes	Yes
<i>Festuca gautieri</i>	Bear-Skin Fescue	S	Yes	Yes
<i>Hieracium aurantiacum</i>	Orange Hawkweed	S	Yes	Yes
<i>Hieracium</i> spp.	Hawkweed	S	Yes	Yes
<i>Iva axillaris</i>	Poverty Weed	S	Yes	Yes
<i>Lagarosiphon major</i>	Lagarosiphon	S	Yes	Yes

Scientific names	Common name	Status CaLP Act Category and/or WoNS	Status Prevent if affecting Bushland	Status Prevent if affecting Agriculture
Flora				
<i>Lavandula stoechas</i>	Topped Lavender	R	Yes	Yes
<i>Lepidium draba</i> L.	Hoary Cress	C	Yes	Yes
<i>Leucanthemum vulgare</i> Lam.	Ox-Eye Daisy	C	Yes	Yes
<i>Malvella leprosa</i>	Ivy-Leaf Sida	S	Yes	Yes
<i>Melianthus comosus</i>	Tufted Honeyflower	C	Yes	Yes
<i>Mimosa pigra</i> L.	Mimosa	R	Yes	Yes
<i>Orobanche ramosa</i>	Branched Broomrape	S	Yes	Yes
<i>Parkinsonia aculeata</i> L.	Parkinsonia	R	Yes	Yes
<i>Parthenium hysterophorus</i>	Parthenium Weed	WoNS, S	Yes	Yes
<i>Pennisetum macrourum</i>	African Feather-Grass	P	Yes	Yes
<i>Physalis hederifolia</i> A. Gray	Prairie Ground Cherry	C	Yes	Yes
<i>Picnomon acarna</i> (L.) Cass.	Soldier Thistle	P	Yes	Yes
<i>Proboscidea louisianica</i> (Mill.) Thell.	Devil's Claw (Purple Flower)	P	Yes	Yes
<i>Proboscidea lutea</i> (Lindl.) Stapf	Devil's Claw (Yellow Flower)	P	Yes	Yes
<i>Prosopis</i> spp.	Mesquite	WoNS, S	Yes	Yes
<i>Prunus laurocerasus</i>	Cherry Laurel		Yes	Yes
<i>Prunus spinosa</i>	Blackthorn	EW	Yes	Yes
<i>Reseda luteola</i> L.	Wild Mignonette	R	Yes	Yes
<i>Rhaponticum repens</i> (L.) Hildalgo	Hardheads	P	Yes	Yes
<i>Salpichroa organifolia</i>	Pampas Lily-Of-The-Valley	C	Yes	Yes
<i>Salvinia molesta</i>	Salvinia, Water Fern, Giant Salvinia	WoNS, S, EW	Yes	Yes
<i>Senecio pterophorus</i> DC.	African Daisy	C	Yes	Yes
<i>Solanum elaeagnifolium</i>	Silverleaf Nightshade	P	Yes	Yes
<i>Solanum linnaeanum</i> Hepper and P.-M.L. Jaeger	Apple Of Sodom	C	Yes	Yes
<i>Solanum rostratum</i> Dunal	Buffalo Burr	P	Yes	Yes
<i>Tamarix aphylla</i> (L.) H. Karst.	Athel Pine	R	Yes	Yes
<i>Tribulus terrestris</i> L.	Caltrop	P	Yes	Yes
<i>Vachellia erioloba</i>	Giraffe Thorn	S	Yes	Yes
<i>Vachellia karroo</i>	Karoo Thorn	S	Yes	Yes
<i>Verbascum thapsus</i> L.	Great Mullein	R	Yes	Yes
<i>Xanthium strumarium</i> L.	Noogoora Burr	C	Yes	Yes

Common name	Status CaLP Act Category and/ or WoNS	Status Prevent if affecting Bushland	Status Prevent if affecting Agriculture
Terrestrial fauna			
Cane Toad		Yes	Yes
Red-eared Slider Turtle		Yes	Yes
Asian Black-spined Toad		Yes	Yes
Smooth Newt		Yes	Yes
Fire Ant		Yes	Yes
European Bumble bee		Yes	Yes
Northern Palm Squirrel		Yes	Yes



Eradication

Species in this category are not yet well established across the Shire, but have the potential to cause severe damage. It is still cost effective and feasible to eradicate any infestations. They are the highest priority for action within Nillumbik. Actions for this category are as follows:

- Report any infestation of State Prohibited species to DEDJTR.
- Immediately remove, if an infestation is detected
- Undertake regular ongoing surveillance and monitoring.

Scientific names	Common name	Status CaLP Act Category and/ or WoNS	Status Eradicate if affecting Bushland	Status Eradicate if affecting Agriculture
Flora				
<i>Acacia baileyana x decurrens</i>	Cootamundra Wattle x Early Black Wattle hybrid		Yes	Yes
<i>Acacia podalyriifolia</i>	Queensland Silver Wattle		Yes	Yes
<i>Acacia prominens</i>	Gosford Wattle		Yes	Yes
<i>Acanthus mollis</i>	Bear's Breach		Yes	Yes
<i>Ailanthus altissima</i>	Tree of Heaven	C	Yes	Yes
<i>Anredera cordifolia</i>	Madeira vine		Yes	Yes
<i>Arundo donax</i>	Giant Reed		Yes	Yes
<i>Asparagus officinalis</i>	Asparagus		Yes	No
<i>Asparagus scandens</i>	Asparagus Fern		Yes	Yes
<i>Carpobrotus aequilaterus</i>	Angled Pigface		Yes	Yes
<i>Coleonema pulchellum</i>	Pink Diosma		Yes	Yes
<i>Datura ferox L.</i>	Thorn Apple (long-spine)	C	Yes	Yes
<i>Datura innoxiosa</i>	Thorn Apple (recurved)	P	Yes	Yes
<i>Datura stramonium L.</i>	Thorn Apple (common)	C	Yes	Yes
<i>Disa bracteata</i>	South African Orchid		Yes	Yes
<i>Eichhornia crassipes</i>	Water Hyacinth	S, EW	Yes	Yes
<i>Equisetum spp.</i>	Horsetail	S	Yes	Yes
<i>Eragrostis mexicana subsp. virescens</i>	Mexican Love-grass		Yes	Yes
<i>Eriobotrya japonica</i>	Loquat		Yes	No
<i>Ficus carica</i>	Fig		Yes	No
<i>Gazania linearis</i>	Gazania		Yes	Yes
<i>Gazania spp.</i>	Gazania		Yes	Yes
<i>Grevillea juniperina x victoriae</i>	Grevillea 'Poorinda Constance' hybrid		Yes	Yes
<i>Hakea laurina</i>	Pincushion Hakea		Yes	Yes
<i>Hypericum tetrapterum var. tetrapterum</i>	St Peter's Wort	C	Yes	Yes
<i>Hypericum triquetrifolium</i>	Tangled Hypericum	S	Yes	Yes
<i>Jacobaea vulgaris</i>	Ragwort		Yes	Yes
<i>Kniphofia uvaria</i>	Red-hot Poker		Yes	Yes
<i>Lantana camara</i>	Lantana	R, EW	Yes	Yes
<i>Melaleuca styphelioides</i>	Prickly Paperbark		Yes	Yes

Scientific names	Common name	Status CaLP Act Category and/ or WoNS	Status Eradicate if affecting Bushland	Status Eradicate if affecting Agriculture
Flora				
<i>Mesembryanthemum spp.</i>	Ice Plant		Yes	Yes
<i>Nassella charruana</i>	Lobed Needle-grass	P	Yes	Yes
<i>Nassella hyalina</i>	Cane Needle-grass		Yes	Yes
<i>Nassella tenuissima</i>	Mexican Feather-grass		Yes	Yes
<i>Olea europaea subsp. europaea</i>	Common Olive		Yes	No
<i>Paraserianthes lophantha subsp. lophantha</i>	Cape Wattle		Yes	Yes
<i>Phoenix canariensis</i>	Canary Island Date-palm		Yes	No
<i>Robinia pseudoacacia</i>	Locust Tree		Yes	Yes
<i>Ulex europaeus</i>	Gorse	WONS, C	Yes	Yes
<i>Xanthium spinosum</i>	Bathurst Burr	C	Yes	Yes
Pathogens				
<i>Uredo rangelii</i>	Myrtle Rust		Yes	Yes



Containment

Species in this category are well established across most of their predicted range and eradication is not a viable option, however the impacts of the species are severe enough to warrant setting a medium priority for action. Action will utilise the biosecurity approach and will often involve:

- Removing the invasive individuals that have the greatest capacity to spread (e.g. seed-bearing plants).
- Removing any satellite infestations while small.
- Working from the outside of an infestation inwards.

Scientific names	Common name	Status CaLP Act Category and/ or WoNS	Status Eradicate if affecting Bushland	Status Eradicate if affecting Agriculture
Flora				
<i>Agave americana</i>	Agave, Century plant		Yes	Yes
<i>Allium vineale</i>	Wild Garlic	R	Yes	Yes
<i>Amaryllis belladonna</i>	Belladonna Lily		Yes	Yes
<i>Arbutus unedo</i>	Irish Strawberry Tree		Yes	Yes
<i>Bambusa spp.</i>	Bamboo		Yes	Yes
<i>Billardiera heterophylla</i>	Bluebell Creeper		Yes	Yes
<i>Cardamine aff. flexuosa</i>	Flick Weed		Yes	Yes
<i>Chamaecytisus palmensis</i>	Tree Lucerne		Yes	Yes
<i>Chasmanthe floribunda</i>	African Cornflag		Yes	Yes
<i>Chrysanthemoides monilifera subsp. monilifera</i>	African Boneseed	WONS, C	Yes	Yes
<i>Cirsium arvense</i>	Perennial Thistle	C	Yes	Yes
<i>Convolvulus arvensis</i>	Common Bindweed	C	Yes	Yes
<i>Cordyline australis</i>	New Zealand Cabbage-tree		Yes	Yes
<i>Cortaderia selloana</i>	Pampas Grass		Yes	Yes
<i>Crocsmia X crocosmiiflora</i>	Montbretia		Yes	Yes
<i>Cynara cardunculus subsp. flavescens</i>	Artichoke Thistle	C	Yes	Yes
<i>Cytisus scoparius</i>	English Broom	C	Yes	Yes
<i>Daktulosphaira vitifoliae</i>	Grape Phylloxera		No	Yes
<i>Delairea odorata</i>	Cape Ivy		Yes	Yes
<i>Dimorphotheca fruticosa</i>	Trailing African Daisy		Yes	Yes
<i>Echium plantagineum</i>	Paterson's Curse	C	Yes	Yes
<i>Erica arborea</i>	Tree Heath		Yes	Yes
<i>Erodium botrys</i>	Big Heron's-bill		Yes	Yes
<i>Fraxinus angustifolia subsp. angustifolia</i>	Desert Ash		Yes	Yes
<i>Fraxinus sp.</i>	Ash		Yes	Yes
<i>Galenia pubescens var. pubescens</i>	Galenia		Yes	Yes
<i>Genista linifolia</i>	Flax-leaf Broom	C	Yes	Yes
<i>Genista monspessulana</i>	Montpellier or Cape Broom	C	Yes	Yes
<i>Grevillea robusta</i>	Silky Oak		Yes	Yes
<i>Hymenachne amplexicaulis</i>	Hymenachne	WoNS R	Yes	Yes

Scientific names	Common name	Status CaLP Act Category and/ or WoNS	Status Eradicate if affecting Bushland	Status Eradicate if affecting Agriculture
Flora				
<i>Hypericum androsaemum</i>	Tutsan	C	Yes	Yes
<i>Hypericum perforatum subsp. veronense</i>	St John's Wort	C	Yes	Yes
<i>Ixia maculata</i>	Yellow Ixia		Yes	Yes
<i>Juncus acutus subsp. acutus</i>	Spiny Rush		Yes	Yes
<i>Ligustrum lucidum</i>	Large-leaf Privet		Yes	Yes
<i>Ligustrum sp.</i>	Privets		Yes	Yes
<i>Ligustrum vulgare</i>	European Privet		Yes	Yes
<i>Lycium ferocissimum</i>	African Box-thorn	WONS, C	Yes	Yes
<i>Malus spp.</i>	Apple		Yes	No
<i>Melaleuca armillaris</i>	Honey myrtle		Yes	Yes
<i>Moraea flaccida (Sweet)</i>	Cape Tulip (one-leaf)	C	Yes	Yes
<i>Moraea miniata</i>	Cape Tulip (two-leaf)	C	Yes	Yes
<i>Nassella neesiana</i>	Chilean Needle-grass	R	Yes	Yes
<i>Nassella trichotoma</i>	Serrated Tussock	C	Yes	Yes
<i>Opuntia robusta</i>	Wheel Cactus	P	Yes	Yes
<i>Phytolacca octandra</i>	Red-ink Weed		Yes	Yes
<i>Pinus pinaster</i>	Cluster Pine		Yes	Yes
<i>Pinus radiata</i>	Radiata Pine		Yes	No
<i>Pittosporum undulatum</i>	Sweet Pittosporum		Yes	Yes
<i>Populus alba</i>	White Poplar		Yes	No
<i>Populus nigra 'Italica'</i>	Lombardy Poplar		Yes	No
<i>Prunus spp.</i>	Cherry-plum		Yes	Yes
<i>Quercus spp.</i>	Oak		Yes	No
<i>Rosa rubiginosa</i>	Sweet Briar		Yes	Yes
<i>Rubus anglocandicans</i>	Common Blackberry		Yes	Yes
<i>Rubus fruticosus spp. agg.</i>	Blackberry	WoNS, C	Yes	Yes
<i>Rubus polyanthemus</i>	Forest Blackberry		Yes	Yes
<i>Rubus spp.</i>	Rubus sp.		Yes	Yes
<i>Rubus ulmifolius var. ulmifolius</i>	Elm-leaf Blackberry		Yes	Yes
<i>Rubus vestitus</i>	Blackberry		Yes	Yes
<i>Salix cinerea</i>	Grey Sallow		Yes	Yes
<i>Salix spp. (except Salix alba var. caerulea (Sm.) Sm., Salix alba x matsudana, Salix babylonica L., Salix X calodendron Wimm., Salix caprea L. 'Pendula', Salix matsudana Koidz 'Aurea', Salix matsudana Koidz 'Tortuosa', Salix myrsinifolia Salisb., and Salix X reichardtii A. Kern.)</i>	Willows	R	Yes	Yes

Scientific names	Common name	Status CaLP Act Category and/ or WoNS	Status Contain if affecting Bushland	Status Contain if affecting Agriculture
Flora				
<i>Schinus molle</i>	Pepper Tree		Yes	Yes
<i>Senecio angulatus</i>	Climbing Groundsel		Yes	Yes
<i>Senecio jacobaea</i>	Ragwort	C	Yes	Yes
<i>Solanum mauritianum</i>	Wild Tobacco Tree		Yes	Yes
<i>Solanum pseudocapsicum</i>	Madeira Winter-cherry		Yes	Yes
<i>Tradescantia fluminensis</i>	Wandering Trad		Yes	Yes
<i>Tritonia crocata</i>	Orange Tritonia		Yes	Yes
<i>Vinca major</i>	Blue Periwinkle		Yes	Yes
<i>Watsonia meriana var. bulbillifera</i>	Wild Watsonia, Bulbil Watsonia	C	Yes	Yes
Terrestrial Fauna				
<i>Canis lupus familiaris</i>	Wild Dog		Yes	Yes
<i>Oryctolagus cuniculus</i>	European Rabbit	EP	Yes	Yes
<i>Sus scrofa</i>	Feral pig	EP	Yes	Yes
<i>Capra hircus</i>	Feral goat	EP	Yes	Yes
Pathogens				
<i>Daktulosphaera vitifoliae</i>	Grape Phylloxera		No	Yes
<i>Phytophthora cinnamomi</i>	Cinnamon Fungus		Yes	Yes



Asset-based management

Species in this category are well established across Nillumbik, with eradication or containment being unrealistic. Species that are listed under asset-based management are a low priority for action, except in the protection of high value biodiversity or agricultural assets. Actions for this category are as follows:

- Incorporate control of the species into work plans for the protection of high value assets.

• Otherwise remove in the course of routine maintenance, depending on the resources available.

New and emerging high threat invasive species are targeted for prevention and eradication. Established high threat invasive species are either contained to prevent further spread or managed to protect high value assets.

Scientific names	Common name	Status CaLP Act Category and/ or WoNS	Status Take action if affecting Bushland Assets	Status Take action if affecting Agricultural Assets
Flora				
<i>Acacia baileyana</i>	Cootamundra Wattle		Yes	Yes
<i>Acacia decurrens</i>	Early Black Wattle		Yes	Yes
<i>Acacia elata</i>	Cedar Wattle		Yes	Yes
<i>Acacia floribunda</i>	White Sallow Wattle		Yes	Yes
<i>Acacia howitti</i>	Sticky Wattle		Yes	Yes
<i>Acacia iteaphylla</i>	Flinders Ranges Wattle		Yes	Yes
<i>Acacia longifolia var. longifolia</i>	Sallow Wattle		Yes	Yes
<i>Acacia pravissima</i>	Ovens Wattle		Yes	Yes
<i>Acacia retinodes var. retinodes</i>	Wirilda		Yes	Yes
<i>Acacia saligna</i>	Golden Wreath Wattle		Yes	Yes
<i>Acer negundo</i>	Box-elder Maple		Yes	Yes
<i>Acer pseudoplatanus</i>	Sycamore Maple		Yes	Yes
<i>Acetosa sagittata</i>	Rambling Dock		Yes	Yes
<i>Acetosella vulgaris</i>	Sheep Sorrel		Yes	Yes
<i>Agapanthus praecox subsp. orientalis</i>	Agapanthus		Yes	Yes
<i>Agrostis capillaris var. capillaris</i>	Brown-top Bent		Yes	Yes
<i>Agrostis spp.</i>	Bent Grasses		Yes	Yes
<i>Alisma lanceolata</i>	Water plantain		Yes	Yes
<i>Allium triquetrum</i>	Angled Onion	S	Yes	Yes
<i>Alternanthera sp.</i>	Amaranth		Yes	Yes
<i>Anagallis arvensis</i>	Scarlet Pimpernel		Yes	Yes
<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass		Yes	Yes
<i>Araujia sericifera</i>	Cruel Plant		Yes	Yes
<i>Arctotheca calendula</i>	Cape Weed		Yes	Yes
<i>Asparagus asparagoides</i>	Smilax/Bridal Creeper	WONS, R	Yes	Yes
<i>Aster subulatus</i>	Aster-weed		Yes	Yes
<i>Atriplex prostrata</i>	Hastate Orache		Yes	Yes

Scientific names	Common name	Status CaLP Act Category and/ or WoNS	Status Take action if affecting Bushland Assets	Status Take action if affecting Agricultural Assets
Flora				
<i>Avena barbata</i>	Bearded Oat		Yes	Yes
<i>Avena fatua</i>	Wild Oat		Yes	No
<i>Avena sativa</i>	Oat		Yes	No
<i>Briza maxima</i>	Large Quaking-grass		Yes	Yes
<i>Briza minor</i>	Lesser Quaking Grass		Yes	Yes
<i>Bromus catharticus</i>	Prairie Grass		Yes	No
<i>Bromus diandrus</i>	Great Brome		Yes	No
<i>Bromus hordeaceus subsp. hordeaceus</i>	Soft Brome		Yes	No
<i>Capsella bursa-pastoris</i>	Shepherd's Purse		Yes	Yes
<i>Carduus pycnocephalus</i>	Slender Thistle		Yes	Yes
<i>Carduus tenuiflorus</i>	Winged Slender-thistle	C	Yes	Yes
<i>Centaureum spp</i>	Centaury		Yes	Yes
<i>Chamaecytisus proliferus</i>	Tree Lucerne		Yes	Yes
<i>Chenopodium album</i>	Fat Hen		Yes	Yes
<i>Cirsium vulgare</i>	Spear Thistle	C	Yes	Yes
<i>Conium maculatum</i>	Hemlock	C	Yes	Yes
<i>Conyza sp</i>	Fleabanes		Yes	Yes
<i>Coprosma repens</i>	Mirror-bush		Yes	Yes
<i>Cotoneaster sp</i>	Cotoneasters		Yes	Yes
<i>Crataegus monogyna</i>	Hawthorn	C	Yes	Yes
<i>Cupressus macrocarpa</i>	Monterey Cypress		Yes	Yes
<i>Cynodon dactylon var. dactylon</i>	Couch		Yes	Yes
<i>Cynosurus cristatus</i>	Crested Dog's-tail		Yes	Yes
<i>Cynosurus echinatus</i>	Rough Dog's-tail		Yes	Yes
<i>Cyperus eragrostis</i>	Drain Flat-sedge		Yes	Yes
<i>Dactylis glomerata</i>	Cocksfoot		Yes	No
<i>Daucus carota</i>	Carrot		Yes	Yes
<i>Digitalis purpurea</i>	Foxglove		Yes	Yes
<i>Digitaria sanguinalis</i>	Summer Grass		Yes	Yes
<i>Dipogon lignosus</i>	Common Dipogon		Yes	Yes
<i>Dipsacus fullonum spp. Fullonum</i>	Wild Teasel	C	Yes	Yes
<i>Dodonaea viscosa 'Purpurea'</i>	Purple Hop-bush		Yes	Yes
<i>Egeria densa</i>	Dense Waterweed		Yes	Yes
<i>Ehrharta calycina</i>	Perennial Veldt-grass		Yes	Yes

Scientific names	Common name	Status CaLP Act Category and/ or WoNS	Status Take action if affecting Bushland Assets	Status Take action if affecting Agricultural Assets
Flora				
<i>Ehrharta erecta var. erecta</i>	Panic Veldt-grass		Yes	Yes
<i>Ehrharta longiflora</i>	Annual Veldt-grass		Yes	Yes
<i>Elytrigia repens</i>	English Couch		Yes	Yes
<i>Erica lusitanica</i>	Spanish Heath		Yes	Yes
<i>Eucalyptus cladocalyx</i>	Sugar Gum		Yes	Yes
<i>Euphorbia lathyris</i>	Caper Spurge		Yes	Yes
<i>Euphorbia sp.</i>	Spurges		Yes	Yes
<i>Festuca arundinacea</i>	Tall Fescue		Yes	Yes
<i>Foeniculum vulgare</i>	Fennel	R	Yes	Yes
<i>Freesia alba x Freesia leich</i>	Freesia hybrid		Yes	Yes
<i>Freesia sp.</i>	Freesias		Yes	Yes
<i>Fumaria sp.</i>	Fumitory		Yes	Yes
<i>Galium aparine</i>	Cleavers		Yes	Yes
<i>Geranium dissectum</i>	Cut-leaf Cranes Bill		Yes	Yes
<i>Geranium molle</i>	Dove's Foot		Yes	Yes
<i>Gladiolus spp.</i>	Gladiolus		Yes	Yes
<i>Gladiolus tristis</i>	Evening-flower Gladiolus		Yes	Yes
<i>Grevillea rosmarinifolia hybrids</i>	Rosemary Grevillea hybrids		Yes	Yes
<i>Hainardia cylindrica</i>	Common Barb-grass		Yes	Yes
<i>Hakea salicifolia</i>	Willow hakea		Yes	Yes
<i>Hedera helix</i>	Ivy		Yes	Yes
<i>Helminthotheca echioides</i>	Ox-tongue		Yes	Yes
<i>Hemerocallis fulva</i>	Day Lily		Yes	Yes
<i>Holcus lanatus</i>	Yorkshire Fog		Yes	No
<i>Homeria sp.</i>	Cape Tulip	C	Yes	Yes
<i>Hordeum leporinum</i>	Barley-grass		Yes	No
<i>Ilex aquifolium</i>	English Holly		Yes	Yes
<i>Ipomoea indica</i>	Morning Glory		Yes	Yes
<i>Iris germanica</i>	German Iris		Yes	Yes
<i>Iris sp.</i>	Iris		Yes	Yes
<i>Ixia polystachya</i>	Variable Ixia		Yes	Yes
<i>Juncus bulbosus</i>	Bulbous Rush		Yes	Yes
<i>Lactuca serriola</i>	Prickly Lettuce		Yes	Yes
<i>Lonicera fragrantissima</i>	Winter Honeysuckle		Yes	Yes

Scientific names	Common name	Status CaLP Act Category and/ or WoNS	Status Take action if affecting Bushland Assets	Status Take action if affecting Agricultural Assets
Flora				
<i>Lonicera japonica</i>	Japanese Honeysuckle		Yes	Yes
<i>Malva neglecta</i>	Dwarf Mallow		Yes	Yes
<i>Marrubium vulgare</i>	Horehound	C	Yes	Yes
<i>Medicago lupulina</i>	Black Medic		Yes	Yes
<i>Melaleuca hypericifolia</i>	Hillock Bush		Yes	Yes
<i>Mentha pulegium</i>	Pennyroyal		Yes	Yes
<i>Mentha spicata</i>	Spearmint		Yes	Yes
<i>Misgurnus anguillicaudatus</i>	Oriental Weatherloach		Yes	Yes
<i>Myosotis discolor</i>	Yellow-and-blue Forget-me-not		Yes	Yes
<i>Myriophyllum aquaticum</i>	Parrot's Feather		Yes	Yes
<i>Narcissus tazetta</i>	Tazetta		Yes	Yes
<i>Nasturtium officinale</i>	Watercress		Yes	Yes
<i>Onopordum acanthium</i>	Scotch Thistle, Heraldic Thistle	P	Yes	Yes
<i>Onopordum acaulon L.</i>	Stemless Thistle	P	Yes	Yes
<i>Onopordum illyricum L.</i>	Illyrian Thistle	P	Yes	Yes
<i>Opuntia stricta</i>	Common Prickly-pear	C	Yes	Yes
<i>Opuntia vulgaris</i>	Drooping Prickly-pear	C	Yes	Yes
<i>Oxalis pes-caprae</i>	Soursob	R	Yes	Yes
<i>Oxalis spp.</i>	Oxalis sp.		Yes	Yes
<i>Papaver somniferum</i>	Opium Poppy		Yes	Yes
<i>Parentucellia viscosa</i>	Yellow Bartsia		Yes	Yes
<i>Paspalum dilatatum</i>	Paspalum		Yes	Yes
<i>Paspalum distichum</i>	Water Couch		Yes	Yes
<i>Passiflora caerulea</i>	Blue Passion-fruit		Yes	Yes
<i>Passiflora mollissima</i>	Banana Passion-fruit		Yes	Yes
<i>Pennisetum clandestinum</i>	Kikuyu		Yes	Yes
<i>Pennisetum villosum</i>	Long-style Feather Grass		Yes	Yes
<i>Phalaris aquatica</i>	Toowoomba Canary-grass		Yes	Yes
<i>Phalaris coerulescens</i>	Blue Canary-grass		Yes	Yes
<i>Phalaris minor</i>	Lesser Canary-grass		Yes	Yes
<i>Phalaris spp.</i>	Canary Grass		Yes	Yes
<i>Phleum pratense</i>	Timothy Grass		Yes	Yes
<i>Poa pratensis</i>	Kentucky Blue-grass		Yes	Yes
<i>Polygala myrtifolia</i>	Myrtle-leaf Milkwort		Yes	Yes

Scientific names	Common name	Status CaLP Act Category and/ or WoNS	Status Take action if affecting Bushland Assets	Status Take action if affecting Agricultural Assets
Flora				
<i>Polygonum arenastrum</i>	Wireweed		Yes	Yes
<i>Ranunculus repens</i>	Creeping Buttercup		Yes	Yes
<i>Ranunculus spp.</i>	Buttercup sp.		Yes	Yes
<i>Rhamnus alaternus</i>	Italian Blackthorn		Yes	Yes
<i>Scolymus hispanicus</i>	Golden Thistle	C	Yes	Yes
<i>Senecio vulgaris</i>	Common Groundsel		Yes	Yes
<i>Setaria spp.</i>	Fox-tail Grasses		Yes	Yes
<i>Silybum marianum</i>	Variiegated Thistle	C	Yes	Yes
<i>Sisymbrium orientale</i>	Indian Hedge-mustard		Yes	Yes
<i>Solanum nigrum s.s.</i>	Black Nightshade		Yes	Yes
<i>Sonchus asper s.l.</i>	Rough Sow-thistle		Yes	Yes
<i>Sonchus oleraceus</i>	Common Sow-thistle		Yes	Yes
<i>Sporobolus africanus</i>	Rat-tail Grass		Yes	Yes
<i>Stenotaphrum secundatum</i>	Buffalo Grass		Yes	Yes
<i>Taraxacum Sect. Ruderalia</i>	Garden Dandelion		Yes	Yes
<i>Tradescantia fluminensis</i>	Wandering Creeper		Yes	Yes
<i>Trifolium spp.</i>	Trifolium sp.		Yes	Yes
<i>Typha latifolia</i>	Lesser Reedmace		Yes	Yes
<i>Ulmus procera</i>	Common Elm		Yes	Yes
<i>Urtica dioica</i>	Giant Nettle		Yes	Yes
<i>Verbascum blattaria</i>	Moth Mullein		Yes	Yes
<i>Verbascum virgatum</i>	Twiggy Mullein		Yes	Yes
<i>Verbena bonariensis s.l.</i>	Purple-top Verbena		Yes	Yes
<i>Verbena incompta</i>	Purple-top		Yes	Yes
<i>Vicia sativa subsp. cordata</i>	Common Vetch		Yes	Yes
<i>Vulpia bromoides</i>	Squirrel-tail Fescue		Yes	Yes
<i>Vulpia muralis</i>	Wall Fescue		Yes	Yes
<i>Vulpia myuros f. megalura</i>	Fox-tail Fescue		Yes	Yes
<i>Vulpia myuros f. myuros</i>	Rat's-tail Fescue		Yes	Yes
<i>Vulpia spp.</i>	Fescues		Yes	Yes
<i>Zantedeschia aethiopica</i>	White Arum Lily		Yes	Yes
<i>Phleum pratense</i>	Timothy Grass		Yes	Yes

Scientific names	Common name	Status CaLP Act Category and/ or WoNS	Status Take action if affecting Bushland Assets	Status Take action if affecting Agricultural Assets
Terrestrial Fauna				
<i>Acridotheres tristis</i>	Common Myna		Yes	Yes
<i>Alauda arvensis</i>	European Skylark		Yes	Yes
<i>Anas platyrhynchos</i>	Northern Mallard		Yes	Yes
<i>Cervus elaphus</i>	Red Deer		Yes	Yes
<i>Persicaria maculosa</i>	Redshank		Yes	Yes
<i>Rattus norvegicus</i>	Brown Rat		Yes	Yes
<i>Rattus rattus</i>	Black Rat		Yes	Yes
<i>Streptopelia chinensis</i>	Spotted Turtle-Dove		Yes	Yes
<i>Sturnus vulgaris</i>	Common Starling		Yes	Yes
<i>Turdus merula</i>	Common Blackbird		Yes	Yes
<i>Vulpes vulpes</i>	Red Fox		Yes	Yes
<i>Oryctolagus cuniculus</i>	European Rabbit	EP	Yes	Yes
<i>Lepus europeus</i>	European Hare		Yes	Yes
	Feral cats	EP	Yes	Yes
	European wasps		Yes	Yes
	Tramp ants		Yes	Yes
Aquatic Fauna				
<i>Carassius auratus</i>	Goldfish		Yes	Yes
<i>Cyprinus carpio</i>	Carp		Yes	Yes
<i>Gambusia holbrooki</i>	Eastern Gambusia		Yes	Yes
<i>Misgurnus anguillicaudatus</i>	Oriental Weatherloach		Yes	Yes
<i>Oncorhynchus mykiss</i>	Rainbow Trout		Yes	Yes
<i>Perca fluviatilis</i>	Redfin		Yes	Yes
<i>Rutilus rutilus</i>	Roach		Yes	Yes
<i>Salmo trutta</i>	Brown Trout		Yes	Yes

Appendix 3

CaLP Listed: Regionally Prohibited

Common names	Scientific name
African Feather Grass	<i>Pennisetum macrourum</i> Trin.
Buffalo burr	<i>Solanum rostratum</i> Dunal
Caltrop	<i>Tribulus terrestris</i> L.
Chilean Cestrum	<i>Cestrum parqui</i> L'Her.
Devil's Claw (purple flower)	<i>Proboscidea louisianica</i> (Mill.) Thell.
Devil's Claw (yellow flower)	<i>Proboscidea lutea</i> (Lindl.) Stapf
Hardheads	<i>Rhaponticum repens</i> (L.) Hildalgo
Illyrian Thistle	<i>Onopordum illyricum</i> L.
Khaki Weed	<i>Alternanthera pungens</i> Kunth.
Scotch Thistle	<i>Onopordum acanthium</i> L.
Silverleaf Nightshade	<i>Solanum elaeagnifolium</i> Cav.
Skeleton Weed	<i>Chondrilla juncea</i> L.
Soldier Thistle	<i>Picnomon acarna</i> (L.) Cass.
Spiny Broom	<i>Calicotome spinosa</i> (L.) Link
Spiny Burr Grass	<i>Cenchrus longispinus</i> (Hack.) Fernald
Spiny Emex	<i>Emex australis</i> Steinh.
St Barnaby's Thistle	<i>Centaurea solstitialis</i> L.
Star Thistle	<i>Centaurea calcitrapa</i> L.
Stemless Thistle	<i>Onopordum acaulon</i> L.
Thorn Apple (recurved)	<i>Datura innoxiosa</i> Mill.
Wheel Cactus	<i>Opuntia robusta</i> H.L. Wendl. ex. Pfeiff.



Appendix 3

CaLP Listed: Regionally Controlled

Common names	Scientific name
African boxthorn	<i>Lycium ferocissimum</i> Miers
African daisy	<i>Senecio pterophorus</i> DC.
African love-grass	<i>Eragrostis curvula</i> (Schrad.) Nees
Amsinckia	<i>Amsinckia</i> spp.
Apple of Sodom	<i>Solanum linnaeanum</i> Hepper and P.-M.L. Jaeger
Artichoke Thistle	<i>Cynara cardunculus</i> L.
Bathurst Burr	<i>Xanthium spinosum</i>
Bindweed	<i>Convolvulus arvensis</i> L.
Blackberry	<i>Rubus fruticosus</i> L. agg.
Boneseed	<i>Chrysanthemoides monilifera</i> (L.) Norl.
Cape Broom	<i>Genista monspessulana</i> (L.) L.A.S. Johnson
Cape Tulip (one-leaf)	<i>Moraea flaccida</i> (Sweet) Steud.
Cape Tulip (two-leaf)	<i>Moraea miniata</i> Andrews
Dodder	<i>Cuscuta</i> spp.
English Broom	<i>Cytisus scoparius</i> (L.) Link
Flax-leaved Broom	<i>Genista linifolia</i> L.
Golden Thistle	<i>Scolymus hispanicus</i> L.
Gorse	<i>Ulex europaeus</i> L.
Hawthorn	<i>Crataegus monogyna</i> Jacq.
Hemlock	<i>Conium maculatum</i> L.
Hoary Cress	<i>Lepidium draba</i> L.
Horehound	<i>Marrubium vulgare</i> L.
Noogoora Burr	<i>Xanthium strumarium</i> L.
Ox-eye Daisy	<i>Leucanthemum vulgare</i> Lam.
Pampas Lily-of-the-valley	<i>Salpichroa origanifolia</i> (Lam.) Thell.
Paterson's Curse	<i>Echium plantagineum</i> L.
Perennial Thistle	<i>Cirsium arvense</i> (L.) Scop.
Prairie Ground Cherry	<i>Physalis hederifolia</i> A. Gray
Prickly Pear (drooping)	<i>Opuntia monacantha</i> Haw.
Prickly Pear (erect)	<i>Opuntia stricta</i> (Haw.) Haw.
Ragwort	<i>Senecio jacobaea</i> L.
Saffron Thistle	<i>Carthamus lanatus</i> L.
Sand Rocket	<i>Diplotaxis tenuifolia</i> (L.) DC.
Serrated Tussock	<i>Nassella trichotoma</i> (Nees.) Hack. ex Arechav.
Slender Thistle	<i>Carduus tenuiflorus</i> Curtis/ C. <i>pycnocephalus</i> L.
Spear Thistle	<i>Cirsium vulgare</i> (Savi) Ten.
Spiny Rush	<i>Juncus acutus</i> L.
St. John's Wort	<i>Hypericum perforatum</i> L.
St. Peter's Wort	<i>Hypericum tetrapterum</i> Fr.
Stinkwort	<i>Dittrichia graveolens</i> (L.) Greuter
Sweet Briar	<i>Rosa rubiginosa</i> L.
Thorn Apple (common)	<i>Datura stramonium</i> L.
Thorn Apple (long-spine)	<i>Datura ferox</i> L.
Tree of Heaven	<i>Ailanthus altissima</i> (Mill.) Swingle
Tufted Honeyflower	<i>Melianthus comosus</i> Vahl
Tutsan	<i>Hypericum androsaemum</i> L.
Variiegated Thistle	<i>Sylibum marianum</i> (L.) J. Gaertn.
Viper's Bugloss	<i>Echium vulgare</i> L.
Wild Teasel	<i>Dipsacus fullonum</i> L. subsp. <i>fullonum</i>
Wild Watsonia	<i>Watsonia meriana</i> (L.) Mill. var <i>bulbillifera</i> (J.W. Mathews & L. Bolus) D.A. Cooke

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