

Riverina Regional Strategic Pest Animal Management Plan **2018 - 2023**





**Local Land
Services**

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Riverina Regional Strategic Pest Animal Plan 2018-2023

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Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing on May 2018. However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of Local Land Services or the user's independent adviser.

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Ministers Foreword

I am pleased to announce the Riverina Regional Strategic Pest Animal Management Plan. This plan is a vital community tool, as it provides a strategic regional approach to improving the coordination and delivery of on ground, nil tenure pest animal management activities for terrestrial vertebrate and freshwater aquatic pest species in NSW.

The Riverina Regional Strategic Pest Animal Management Plan is an excellent example how local communities can work together to protect the environment, community and economy from the negative impacts of pest animals and to support positive outcomes for our landscapes and ensuring we maintain a bio-secure environment.

The Riverina Regional Pest Animal Committee represents major land uses and relevant economic, environment and community representatives for each region. The committee delivers a collaborative approach to setting regional priorities and is integral to the ongoing effective delivery of pest animal management outcomes in the region.

This plan is a product of extensive collaboration and engagement across numerous stakeholders involved in pest animal management. It will continue to grow and evolve with the changing environment and is an excellent framework to contribute to the delivery of improved coordinated pest animal management in NSW.



The Hon. Niall Blair MLC

Minister for Primary Industries, Minister for Regional Water, and Minister for Trade and Industry



Executive Summary

The Riverina region is impacted by a number of pest animal species that require coordinated and targeted control. Many of these are endemic and widespread and require management to protect our agricultural assets whilst others are relatively new and emerging species.

The economic impact of pest animals including wild rabbits, carp, pigs, foxes, dogs, goats and introduced birds has been estimated at \$170 million in NSW (NSW Invasive Species Plan, 2018).

Sharing the responsibility of effective biosecurity across the landscape increases the outcomes of effective control (increased effectiveness to reduce costs). Without coordinated and combined efforts, the level of effort to achieve the same outcome will significantly increase.

This plan has been prepared by the Riverina Regional Pest Animal Committee; a Community Advisory Group of the Riverina Local Land Services Board with membership representing farmers, the community, landcare and Government land managers.

The overall goal of the plan is to:

- Reduce the impacts of pest animals within the Riverina region on production, the environment and the community;
- Improve community engagement and expertise in pest animal management; and
- Improve monitoring and reporting of pest animal management activities.

A prioritisation process from South Australia was utilised to assess the management category of each pest species within local regions (refer Appendix 1).

The priority pest species for action within the Riverina region are:

- | | | |
|--------------------|--------------|---------------|
| • Common Carp | • Feral Goat | • Wild Dog |
| • European Red Fox | • Feral Pig | • Wild Horse |
| • Feral Cat | • Wild Deer | • Wild Rabbit |

Species that do not occur in the region which may be likely to establish in the region have been identified as 'Alert Species' requiring immediate reporting and eradication.

Alert species in the Riverina region are:

- | | | | |
|-----------------------|---------------|------------|-------------|
| • American Corn Snake | • Chital Deer | • Hog Deer | • Rusa Deer |
|-----------------------|---------------|------------|-------------|

There are many more species many of which are listed as Prohibited matter in Schedule 2 of the NSW *Biosecurity Act 2015*.

Local management plans will be a major tool used to improve coordination of pest animal management activities within the region. Plans will be implemented where individual species are presenting a high risk to agricultural, social or environmental assets and will be created in conjunction with affected stakeholders. They will contain specific, achievable, measurable and timely outcomes. Plans may target one or more species within defined sub-regional areas and will outline best practice control activities that will allow local land managers to meet their General Biosecurity Duty whilst reducing the overall impact of the pest across the local plan area.

1. Introduction

1.1 Overview

The Riverina Regional Strategic Pest Animal Management Plan (RSPAMP) outlines how Government, industry and the community can work together and share the responsibility to eradicate, contain or manage pest animals in terrestrial and freshwater aquatic environments across the region.

Pest animals have a significant impact on agricultural production, industry, the environment and communities in the Riverina. Sharing the responsibility of good biosecurity across the landscape increases the outcomes of effective control (increased effectiveness to reduce costs). Without coordinated and combined efforts, the level of effort to achieve the same outcome will significantly increase.

Riverina works closely with neighbouring LLS regions to strategically manage a range of pest species on a large scale co-ordinated effort across all land tenures to provide effective and efficient pest animal management. This requires co-operation of all land managers to achieve positive outcomes.

Under the NSW *Biosecurity Act 2015*, all community members have a general biosecurity duty to prevent, minimise or eliminate any biosecurity risk. The general biosecurity duty is a principle that can be used by the community, landholders, Government and industry to implement best practice behaviours to achieve effective pest animal management.

1.2 Impacts of pest animals

Pest animals have a significant impact on agricultural production, industry, the environment and communities in the Riverina.

Pest animals cause financial loss to agriculture and industries through loss and damage to stock. They can cause infrastructure damage and cause damage to cultural heritage sites.

They can have a significant negative impact on the environment and on threatened species and their habitat. In some situations pest species can outcompete native species.

1.3 Purpose of the plan

The overall purpose of the RSPAMP is to work together to protect the environment, community and economy from the negative impacts of pest animals to support positive outcomes for biosecurity and sustainable landscapes.

The plan supports regional implementation of the NSW *Biosecurity Act 2015*. It presents a clear vision by identifying regional priorities for pest animal management and outlines how Government agencies, community groups and individual landholders will share responsibility and work together across land tenures to prevent, eradicate, contain and manage the impacts of pest animals.

The plan will ensure that pest animal management is implemented using triple bottom line principles balancing the financial aspects with social and environmental impacts ensuring longterm outcomes for the Riverina region.

1.4 What is considered a pest animal?

Under the NSW *Biosecurity Act 2015*, pest animals are not defined by species. Pest species can be considered as any species (other than native species) that present a biosecurity threat.

Whilst the Act does not define pest animals, there are specific activities that are permitted under the Biosecurity Order (Permitted Activities), 2017 that would otherwise be prohibited (such as keeping exotic animals in captivity).

It is the responsibility of individuals to ensure they discharge their general biosecurity duty to manage the biosecurity risks posed by pest animals. The Biosecurity Regulation 2017 will outline mandatory measures for pest animal management in NSW. General control and management of pest animals outlined in this plan can be considered mechanisms for individuals to discharge their general biosecurity duty and land managers and community members should work with stakeholders identified for ongoing implementation of pest animal management practices.

The plan covers introduced terrestrial vertebrate species and freshwater aquatic species that require a co-ordinated cross tenure approach to pest management. Species such as mice are generally property specific species that can be managed by individual land managers. LLS and DPI can provide general advice on mouse management and approaches to help reduce the frequency and severity of mouse plagues.

1.5 Managing native animals

Native species are protected by law in NSW and are not covered in this RSPAMP. Issues associated with managing the impacts of native species (such as kangaroos, emus, wombats and possums) should be addressed separately in consultation with National Parks and Wildlife Service and having regard to the regulatory requirements of the *Biodiversity Conservation Act 2016*. Non-lethal methods may include exclusion netting, fencing, gating, and olfactory devices. Where it is necessary to use lethal methods such as shooting to destroy native animals because they are a threat to human safety, damaging property and/or causing economic hardship, the National Parks and Wildlife Service can issue a biodiversity conservation licence to harm protected native animals under the *Biodiversity Conservation Act 2016*.

For further information visit <http://www.environment.nsw.gov.au/wildlifelicences/OccupierLicences.htm>



1.6 Framework for pest animals

The Riverina Regional Strategic Pest Animal Management Plan is consistent with state plans and priorities as shown in Figure 1. The NSW Invasive Species Plan 2018–2021 supports the NSW Biosecurity Strategy 2013–2021 to help prevent new incursions, eliminate or contain existing populations and effectively manage already widespread invasive species.

The goals of the RSPAMP are consistent with the goals of the Invasive Species (IS) Plan. The IS Plan adopts four goals (consistent with the broad objectives of the NSW Biosecurity Strategy):

Goal 1: Exclude – prevent the establishment of new invasive species

Goal 2: Eradicate or contain – eliminate, or prevent the spread of new invasive species

Goal 3: Effectively manage – reduce the impacts of widespread invasive species

Goal 4: Capacity building – ensure NSW has the ability and commitment to manage invasive species

By identifying strategies and key deliverables under these goals, the Plan will help guide investment and resource allocation for invasive species prevention and management activities in New South Wales. All stakeholders – Government agencies, industry, landholders and members of the community – play a valuable role in confronting the challenges and achieving the goals and actions outlined in this plan.

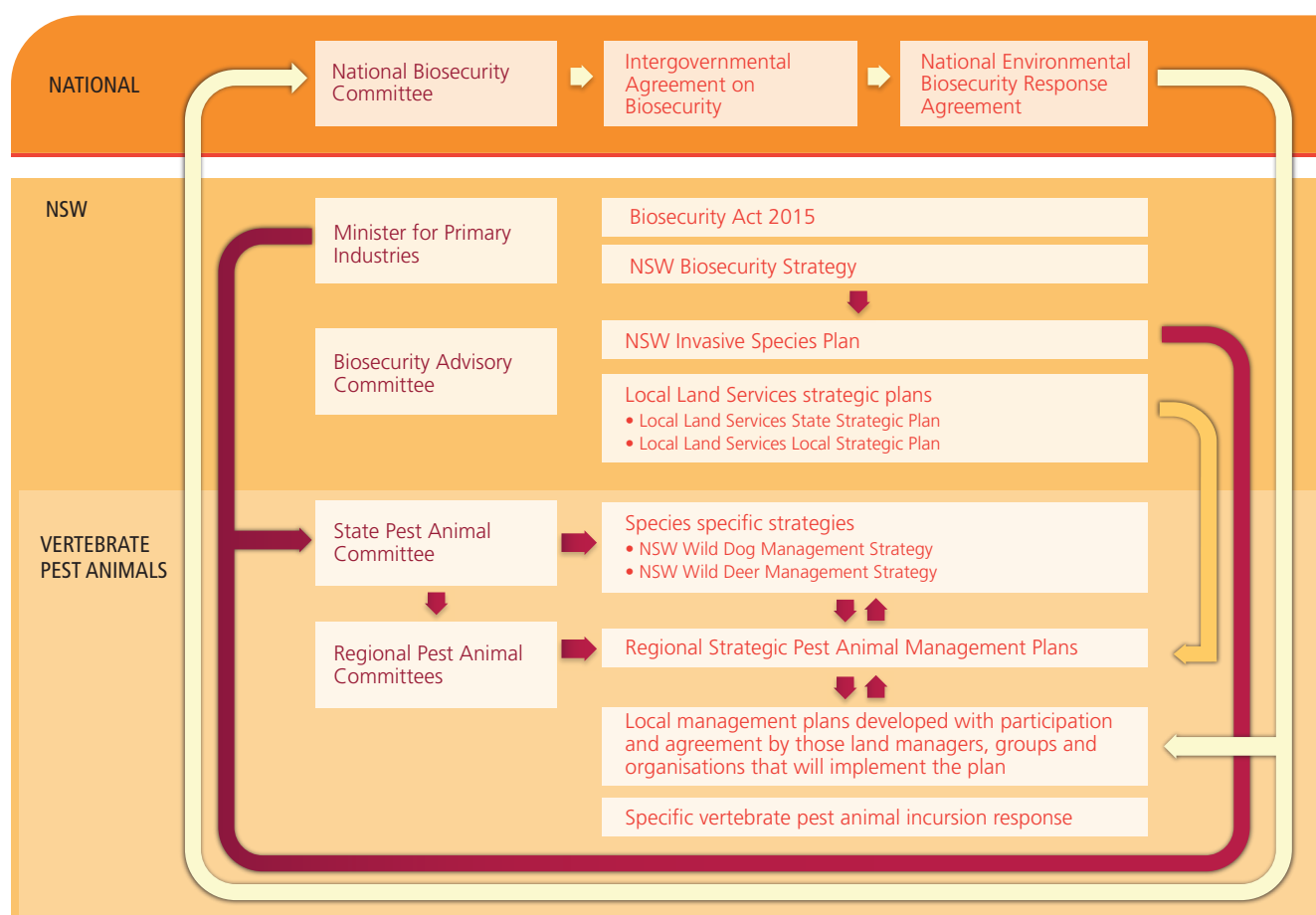


Figure 1. The NSW Biosecurity framework for pest animals in NSW.

1.7 Roles and responsibilities

Under the new *Biosecurity Act 2015* framework, biosecurity is a shared responsibility where Government, industry and the people of NSW work together to protect the economy, environment and community from the impacts of pest animals. **This shared responsibility means:**

- Public, private and Aboriginal land managers all have a shared and equal responsibility to eliminate and minimise biosecurity risks across land in NSW.
- A key focus of the RSPAMP is to encourage engagement and participation across all land tenures to enhance the participation and delivery of coordinated pest animal management activities for improved outcomes.
- Government plays a key role in coordination and regulation for pest animal management under the legislative framework. NSW DPI have a lead role in managing terrestrial and freshwater aquatic pest incursions. Local Land Services supports the delivery of pest animal management activities and also have a regulatory role under the *NSW Biosecurity Act 2015*.

The role of the Regional Pest Animal Committee and State Pest Animal Committee in the delivery of the RSPAMP is outlined below.

For more information on key roles and responsibilities in pest animal management, please refer to the Invasive Species Plan 2018-2021.

State Pest Animal Committee

The State Pest Animal Committee (SPAC) is responsible for overseeing a consistent approach to the ongoing operation of RPACs and development of tenure neutral RSPAMPs across the state. SPAC oversee key policy and strategy documents to guide pest animal management outcomes across the state.

Regional Pest Animal Committees

Regional Pest Animal Committees (RPACs) facilitate tenure neutral strategic planning and coordination for priority pest animal management programs in each Local Land Services (LLS) region. RPACs have an important role to play in the delivery of the RSPAMP through promoting land manager and general community involvement in detecting and reporting sightings of new or 'unusual' animals in the local area as well as managing established pest animals.



1.8 Incursion management and alert species

Everyone needs to work together to ensure early detection and awareness of incursions and alert species are able to be managed swiftly and effectively. It is important the community remain vigilant and report any unusual sightings to ensure a rapid management response. The NSW *Biosecurity Act 2015* outlines species that are prohibited from being kept in NSW. Land managers and community members play a major role in reporting any unusual sightings of pest animals in the region.

Alert species for the Riverina region are:

American corn snake
(*Pantherophis guttatus*)



Chital deer
(*Axis axis*)



Hog deer
(*Axis porcinus*)



Image: Gaming Management Authority, Victoria

Rusa deer
(*Cervus timorensis*)

Image: Gaming Management Authority, Victoria



Image: Gaming Management Authority, Victoria

To report an unusual sighting or alert species, use the following methods:

- Complete the 'Report an unusual animal sighting form' through the following website
<https://www.dpi.nsw.gov.au/biosecurity/forms/report-an-unusual-animal-sighting>
- Phone the Invasive Plants and Animals Enquiry Line: **1800 680 244**, or
- Email: invasive.species@dpi.nsw.gov.au

For species that are yet to become widely established in NSW, the initial response to incursion reports is managed through consultation between Department of Primary Industries, Local Land Services and Office of Environment and Heritage. Where species are widely established in NSW but have spread into a new region, Local Land Services and the RPAC will consider whether local eradication or containment should be attempted.

2. How can you be involved?

Community participation is essential to reduce the impacts of pest animals in your area:

Be alert and report

Monitor and report sightings of any species you have not seen before in your area. Prevention and early intervention to avoid the establishment of new pest animal species is an important part of this pest animal plan and relies on good information from the community.

Participate and work together

Pest animal management is a shared responsibility between landholders, community, industry and Government and requires a coordinated approach across all scales and all land tenures including public and private lands.

Be committed

Effective pest animal management requires ongoing commitment by land managers, community, Government and industry. Those that create the risks associated with pest species and those that benefit from the pest animal management outcomes should help to minimise impacts and contribute to the costs associated with management.

Stay up-to-date

Community, industry, Government and landholders should stay up-to-date with new information to ensure that contemporary best practice pest animal management activities are employed to reduce pest animal impacts in a way that is as safe, effective, target-specific and humane as possible.



3. The Riverina region

The Riverina Local Land Services (LLS) region is bounded by Young, Harden and Gundagai in the east, Hay in the west, Hillston in the north and Lockhart in the south (Figure 2). The area covers around 67,000 square kilometres of land and is serviced by 15 Local Government areas with more than 166,000 people living in the region. Wagga Wagga is the largest urban centre in the Riverina Local Land Services region, with a population of more than 64,000 people. The Riverina region has a diverse agricultural sector, dominated by wheat, livestock and horticulture, with the gross value of agricultural production at \$1.7 billion.

Riverina has a wide range of pest species due to the range of landscapes and habitats from east in the Riverina highlands to the western plains and grasslands. These pest species have adapted to diverse topography and climatic conditions. For example, feral pigs habitat ranges from 300 mm average rainfall to 1300 mm average rainfall. Wild dogs, feral deer and wild horses generally occur in the eastern section of Riverina in the highlands however a number of isolated populations and western populations have established for deer in recent times. European carp, feral cats, rabbits, foxes and feral pigs are widespread across the entire Riverina region. Feral goats have a patchy distribution right across the Riverina region.

The wide-ranging environments provide different challenges when employing control techniques to suit the conditions. Control programs need to be tailored to suit the landscape. For example best practice pig control in the west would include aerial shooting followed up with ground baiting and trapping, whereas in the east ground baiting and trapping would be the primary form of control.

Riverina currently runs the successful Feral Fighters campaign each year to encourage participation in wild dog and fox baiting groups. Annual aerial baiting occurs in the highlands in co-operation with land management agencies, National Parks and Wildlife Service and Crown Lands, NSW Forestry Corporation as an integrated approach to assist land managers with wild dog control across our four wild dog management groups and aerial surveys have been undertaken on a large scale in the west to gain background data and modelling on wild rabbit densities and habitat distribution.

The Riverina region borders Murray, Western, Central West, Central Tablelands and South Eastern Local Land Services regions. Inter-regional co-operative programs are already in place for wild dogs (annual aerial baiting program with Murray) and feral pigs (Western Riverina Feral Pig Program) with both the Murray and Western regions.

Riverina LLS encourages the use of best practice management techniques and measures outlined in the DPI Vertebrate Pesticide Manual, the Ecology and Management of Vertebrate Pests in NSW, 2018 and any industry guidelines (eg AWI). These are under pinned by state and national strategies where available, such as the NSW Wild Dog Management Strategy and the National Carp Control Plan.



Image: National Parks and Wildlife Services, NSW

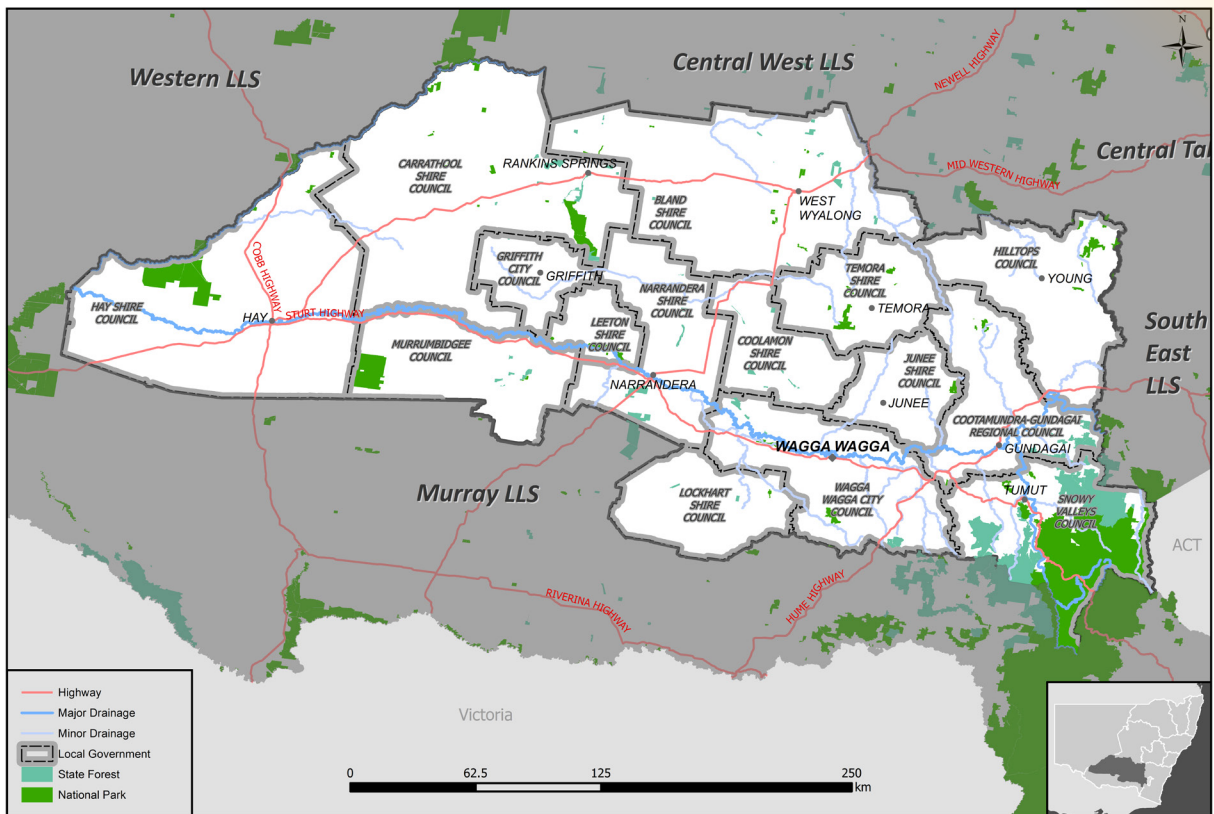


Figure 2. Riverina Local Land Services region.

Factors that currently influence pest animal management within the Riverina region include the wide range of landuses (Figure 3) that provide wide ranging habitats and a range of challenges such as changes in farming practices (grazing to cropping), absentee land managers and large areas of irrigated agriculture and intensive industries. Further, peri-urban areas with small-scale farms in close proximity to urban areas and public places limits control options due to risk and legislative controls. Management of wild deer and feral cats is limited by a lack of control methods currently available for these species.

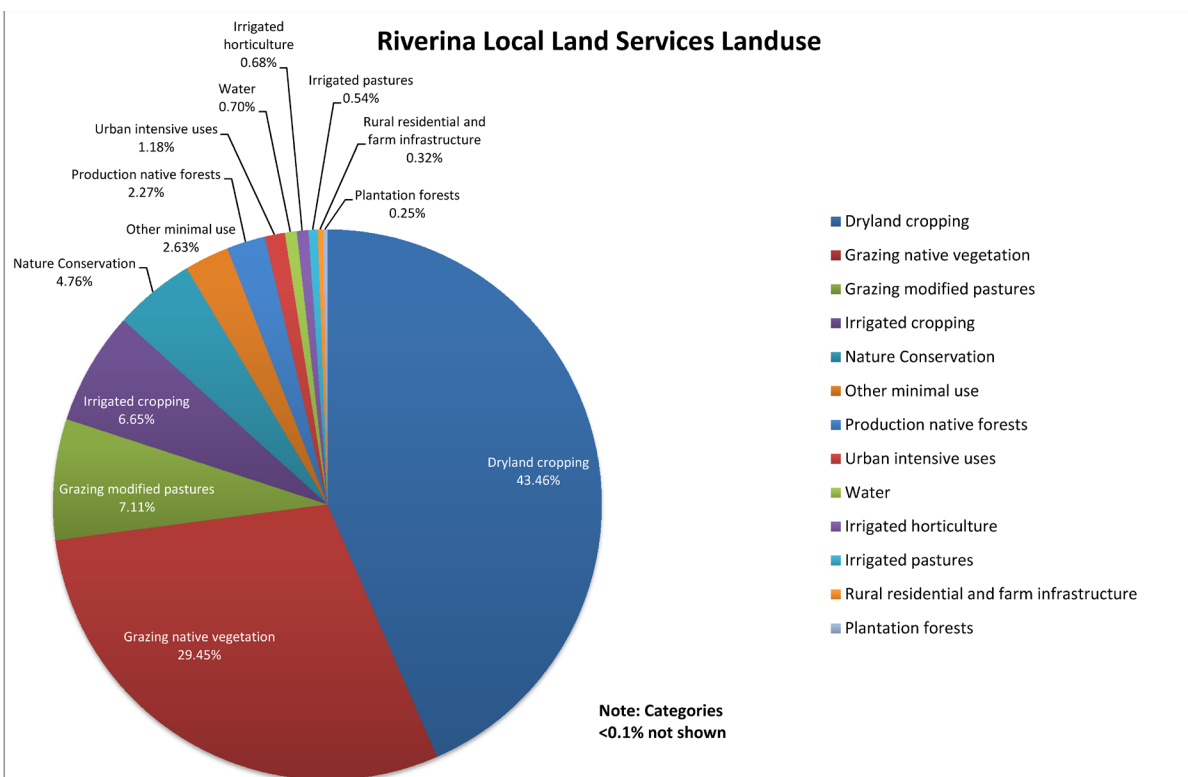


Figure 3. Riverina Local Land Services landuse.

4. Managing our pest animals

The following section details the management categories that should be used to minimise and mitigate the impact pest animals have on the community, environment and primary industries.

Pest animals in Riverina region have been prioritised based on the framework below.

Table 1. Framework for managing pest animals.

Management Category	Overview
Prevention/Alert	<ul style="list-style-type: none">GOAL: To prevent the pest animal species arriving and establishing in the Region causing adverse impacts on the environment, society and the economy.RESPONSIBILITY: To understand and report any sightings of alert species.
Eradication	<ul style="list-style-type: none">GOAL: To permanently remove the species from the State or Region and to develop actions to prevent its re-establishment.RESPONSIBILITY: To participate in coordinated programs and stay up-to-date with current information on pest animals in the region.
Containment	<ul style="list-style-type: none">GOAL: To prevent the spread of the pest animal species onto other parts of the State or Region.RESPONSIBILITY: To participate in coordinated programs, stay up-to-date and apply best practice pest animal management practices.
Asset Based Protection	<ul style="list-style-type: none">GOAL: To reduce the impact of widespread pest animals on key assets with high economic, environmental and social value.RESPONSIBILITY: To participate in coordinated programs, stay up-to-date and apply best practice pest animal management practices. Ensure practices are coordinated with the wider community.
Limited Action	<ul style="list-style-type: none">GOAL: Applies only to species that have a low to negligible risk in the region or for which further investigation is required on effective control techniques and strategies for management.RESPONSIBILITY: Stay up-to-date with current information.

Asset based protection is generally used for widespread endemic pest animal species such as the European Red Fox where it is not possible to eradicate the species. Asset based protection is different for each situation and may include protection of lambing ewes from fox predation for a grazier where the priority is to bait for fox control around production assets (lambs) or ecological assets (threatened species such as the Plains-wanderer at Hay, NSW).

Eradication may only be possible if the species is detected soon after its introduction and steps are taken immediately to remove it. Eradication is generally not possible for widespread endemic species however significant control effort can still be applied to manage the population, contain the population and limit the damage caused by the pest species.

Containment is for populations that have already become established. Intense efforts are necessary to contain the core population of a species and eradicate it from new areas.

5. Priority pest species

Pest animals for the Riverina region have been prioritised based on level of risk and feasibility of control assessed through prioritisation guidelines using the South Australian Pest Animal Risk Management Guide and prioritisation tool.

Priority species listed below have been categorised into management categories and further strategies and actions are detailed.

Both **Primary** and **Supplementary** control tools are provided for each species in this plan. It is recommended that for effective control at least one primary control method and one supplementary control method be utilised to satisfy the general biosecurity duty requirements.

Table 2. Priority Species listed in this plan in alphabetical order.

Common Name	Management Category	Section in Plan	Objective
Common Carp	Asset Based Protection (Protecting assets and manage pest animal populations)	5.1	Support coordinated biological control programs
European Red Fox	Asset Based Protection (Protecting assets and manage pest animal populations)	5.2	Reduce the impacts of foxes on agricultural production. Reduce the impact of foxes on threatened species and ecological communities. Reduce the spread of disease
Feral Cat	Asset Based Protection (Protecting assets and manage pest animal populations)	5.3	Reduce the impacts of cats on agricultural production through predation and disease transmission Reduce the impact of cats on threatened species Increase the awareness of the negative impacts of feral cats
Feral Goat	Asset Based Protection (Protecting assets and manage pest animal populations)	5.4	Reduce the impacts of feral goats on agricultural production. Reduce the impact of goats on threatened species and ecological communities. Ensure management strategies account for the existence of the commercial goat industry
Feral Pig	Asset Based Protection (Protecting assets and manage pest animal populations)	5.5	Reduce the impacts of feral pigs on agricultural production Reduce the impacts of feral pigs on threatened species and ecological communities. Prevent the spread of disease Reduce weed dispersal Regulation of Pig Movement

Common Name	Management Category	Section in Plan	Objective
Wild Deer (East of Hume Highway)	Asset Based Protection (Protecting assets and manage pest animal populations)	5.6a	Contain spread of populations east of the Hume Highway Reduce the impacts of deer on agricultural production. Reduce the impacts on threatened species and ecological communities
Wild Deer (West of Hume Highway)	Containment (Contain spread)	5.6b	Contain isolated populations west of the Hume Highway
Wild Dog (East of Hume Highway)	Asset Based Protection (Protecting assets and manage pest animal populations)	5.7a	Minimise stock losses Implement co-ordinated cross tenure control programs
Wild Dog (West of Hume Highway)	Eradicate	5.7b	Eradicate new incursions west of the Hume Highway
Wild Horse	Asset Based Protection (Protecting assets and manage pest animal populations)	5.8a	Land managers to manage wild horses in-line with their current pest management policies and/or plans Manage public safety issues
Wild Horse	Containment (Contain spread)	5.8b	Contain current populations to minimise further spread of populations into new areas
Wild Rabbit	Asset Based Protection (Protecting assets and manage pest animal populations)	5.9	Reduce the impacts of rabbits on agricultural production. Reduce the impact of rabbits on threatened species and ecological communities Reduce the impact of rabbits on Cultural heritage sites

5.1 Species - Common Carp

Common Carp is widespread in waterways within the Riverina region and has been prioritised as part of the Riverina Regional Strategic Pest Animal Management Plan. As an established aquatic species across all waterways, carp impact on native species and water quality.

A National Carp Control Plan is under development and is expected to be introduced during the life of this Plan. Riverina Local Land Services will facilitate the implementation of this plan in the Riverina.

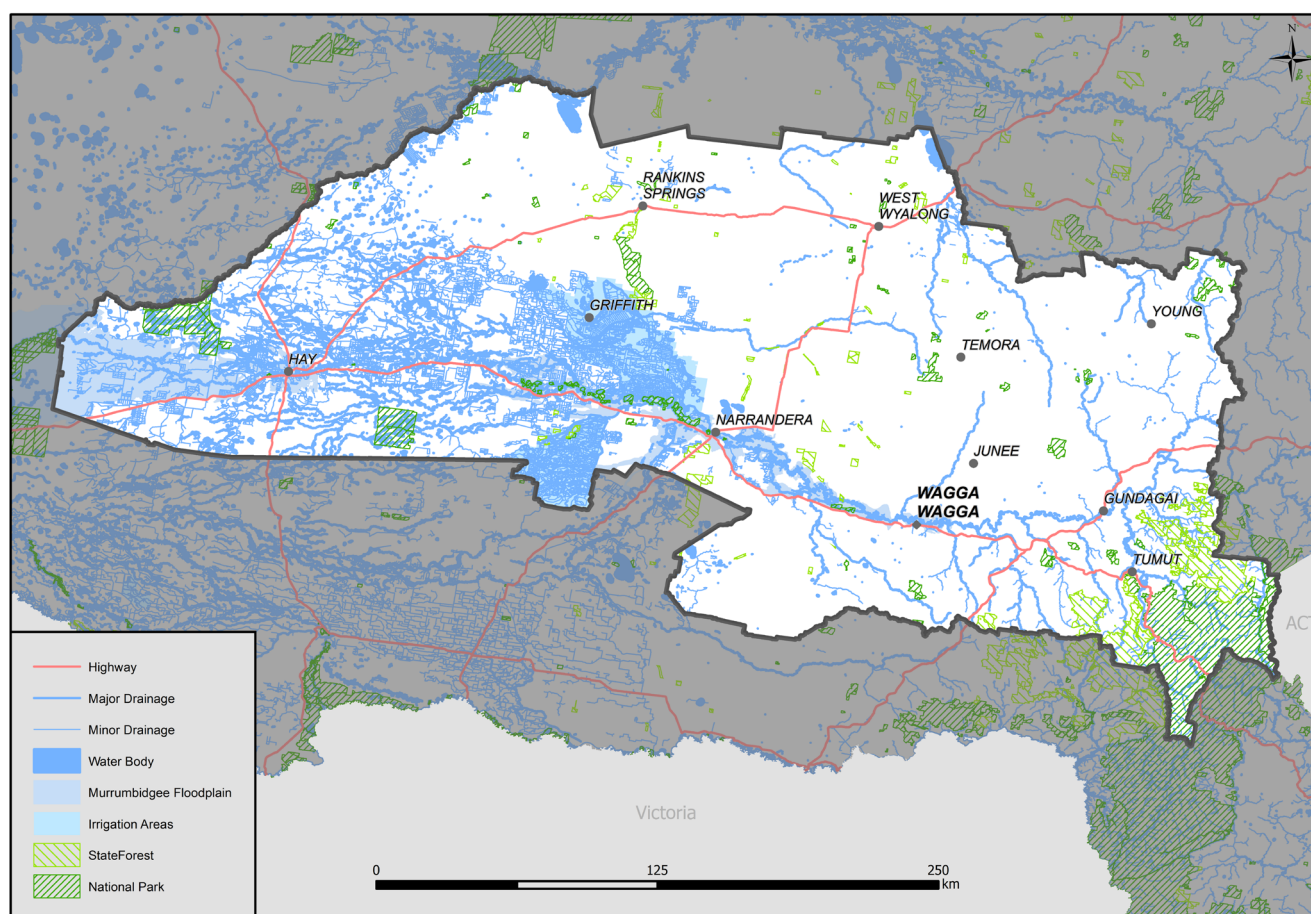


Figure 4. Distribution of Common carp within the Riverina region.

Disclaimer: The pest animal distribution maps in this plan are based on statewide data compiled in 2016 from reports submitted and gathered. The maps are at a coarse scale and provide general guidance only about pest animal distribution. A key priority for future implementation of this plan will be to improve reporting of pest animals to refine regional information collected on pest animal distribution and relative abundance. Improved information on distribution and abundance will better guide management and investment and assess effectiveness.

Common Carp

Objective	Program name/area	Management category	Assets (where relevant)	Activities	Participants
Support coordinated biological control programs	Riverina region	Asset Based Protection	Inland waterways Native fish Native amphibians Riparian health	Support the National Carp Control Plan Support state wide biological control programs	Land managers (All Tenures) Community based groups LLS DPI Fisheries
Increase the number of land managers participating in control	Riverina region	Asset Based Protection	Improve community participation in key areas	Targeted communications E-newsletters Media coverage Social media Community meetings Email and text reminders	Land managers LLS Community based groups DPI Fisheries

Factors influencing management:

Pest fish species difficult to control once established. Cost and scale of biomass clean up after control.



5.2 Species - European Red Fox

The European Red Fox is widespread in the Riverina region and has been prioritised as part of the Riverina Regional Strategic Pest Animal Management Plan. As an established species across all land tenures, foxes impact on agricultural production and native fauna. Fox predation is a key threatening process for a number of threatened species across the Riverina region.

There are a wide range of control techniques available including readily available cost effective toxin. In Riverina LLS many cropping and cattle enterprises do not undertake fox control as they do not consider it essential for their farming enterprise however there is a requirement for them to do this under the biosecurity legislation. This impacts Riverina LLS's ability to undertake large scale co-ordinated control difficult in these areas.

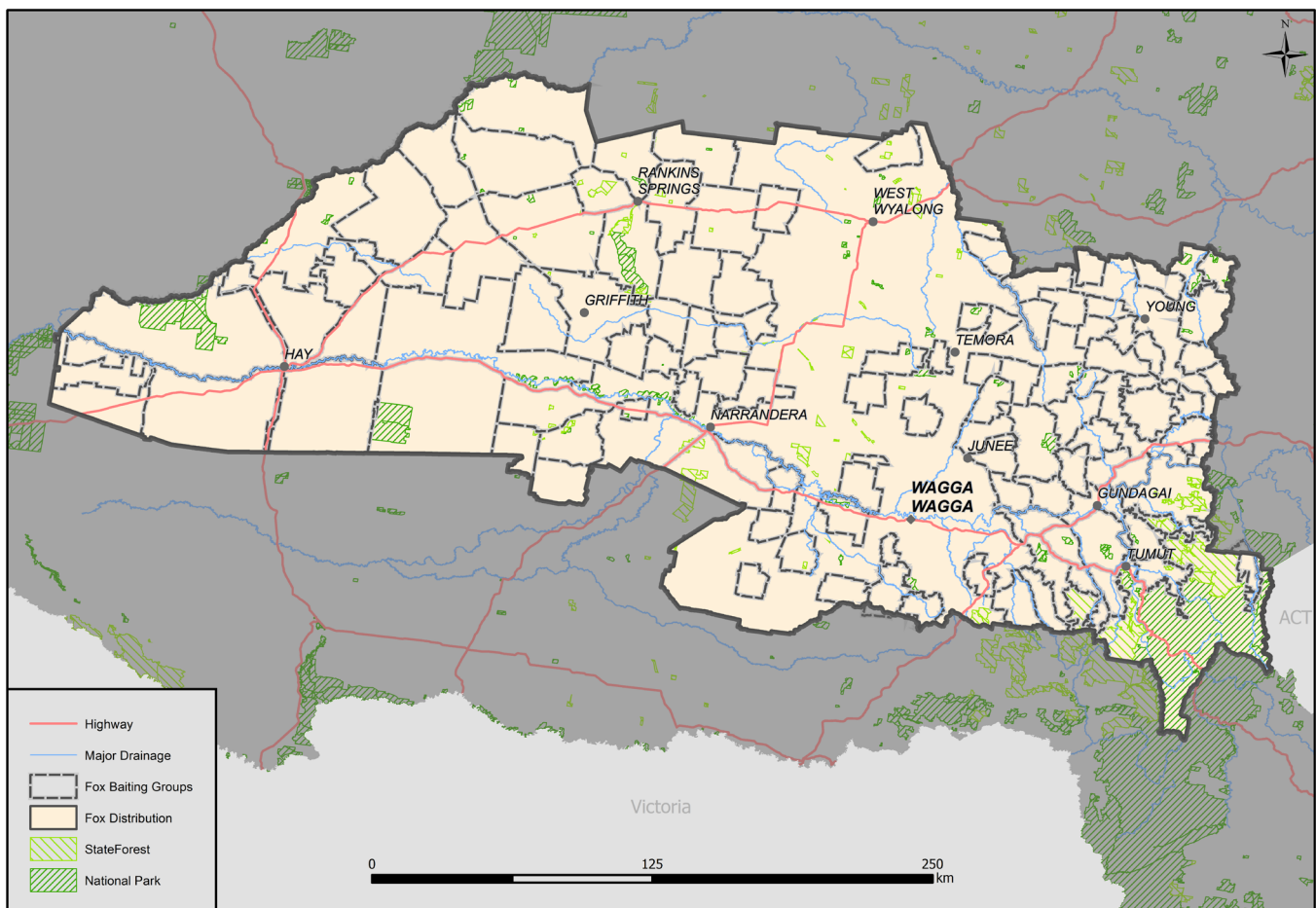


Figure 5. Distribution of the European Red Fox and fox baiting groups within the Riverina region.

Disclaimer: The pest animal distribution maps in this plan are based on statewide data compiled in 2016 from reports submitted and gathered. The maps are at a coarse scale and provide general guidance only about pest animal distribution. A key priority for future implementation of this plan will be to improve reporting of pest animals to refine regional information collected on pest animal distribution and relative abundance. Improved information on distribution and abundance will better guide management and investment and assess effectiveness.



European Red Fox

European Red Fox					
Objective	Program name/area	Management category	Assets (where relevant)	Activities	Participants
Reduce the impacts of foxes on agricultural production Reduce the impact of foxes on threatened species and ecological communities Reduce the spread of disease	Riverina region	Asset Based Protection	Livestock – sheep, goats, farmed birds, piggeries, small domestic animals Threatened species including but not limited to: Malleefowl, Plains-wanderer, Bush Stone Curlew, Bitterns	Primary Ground baiting Fox exclusion fencing Prepare and implement local fox management plans Participate in co-ordinated group programs Supplementary Ground shooting Trapping Guard Animals Aerial baiting	Land managers Fox control groups Community based groups LLS
Increase the number of land managers conducting control	Riverina region	Asset Based Protection	Improve community participation in key areas	Targeted communications E-newsletters Media coverage Social media Community meetings Email and text reminders Feral Fighters Fox/Dog Lotto	Land managers LLS Community based groups
Increase participation in group control programs	Riverina region	Asset Based Protection	Improve reporting of pest management activities to LLS	LLS database Feral scan	LLS Land managers

Factors influencing management

Changes in farming practices (grazing to cropping, cattle to sheep), absentee land managers, landholding aggregation, urban areas (public places - limited control options). Pesticide regulation requirements.

5.3 Species - Feral Cat

Feral cats are a common and elusive predator that colonise a wide range of habitats, eat a wide range of prey, and can survive with limited access to water. Feral cats are free living, have limited or no reliance on humans for their ecological requirements, survive and reproduce in self-perpetuating populations, and occur in virtually all terrestrial habitats in Australia (NSW Scientific Committee 2000). They impact on threatened and other native fauna across a wide range of natural and modified environments including regional towns and built up areas. The lack of effective control methods severely limits the ability to manage this species impact.

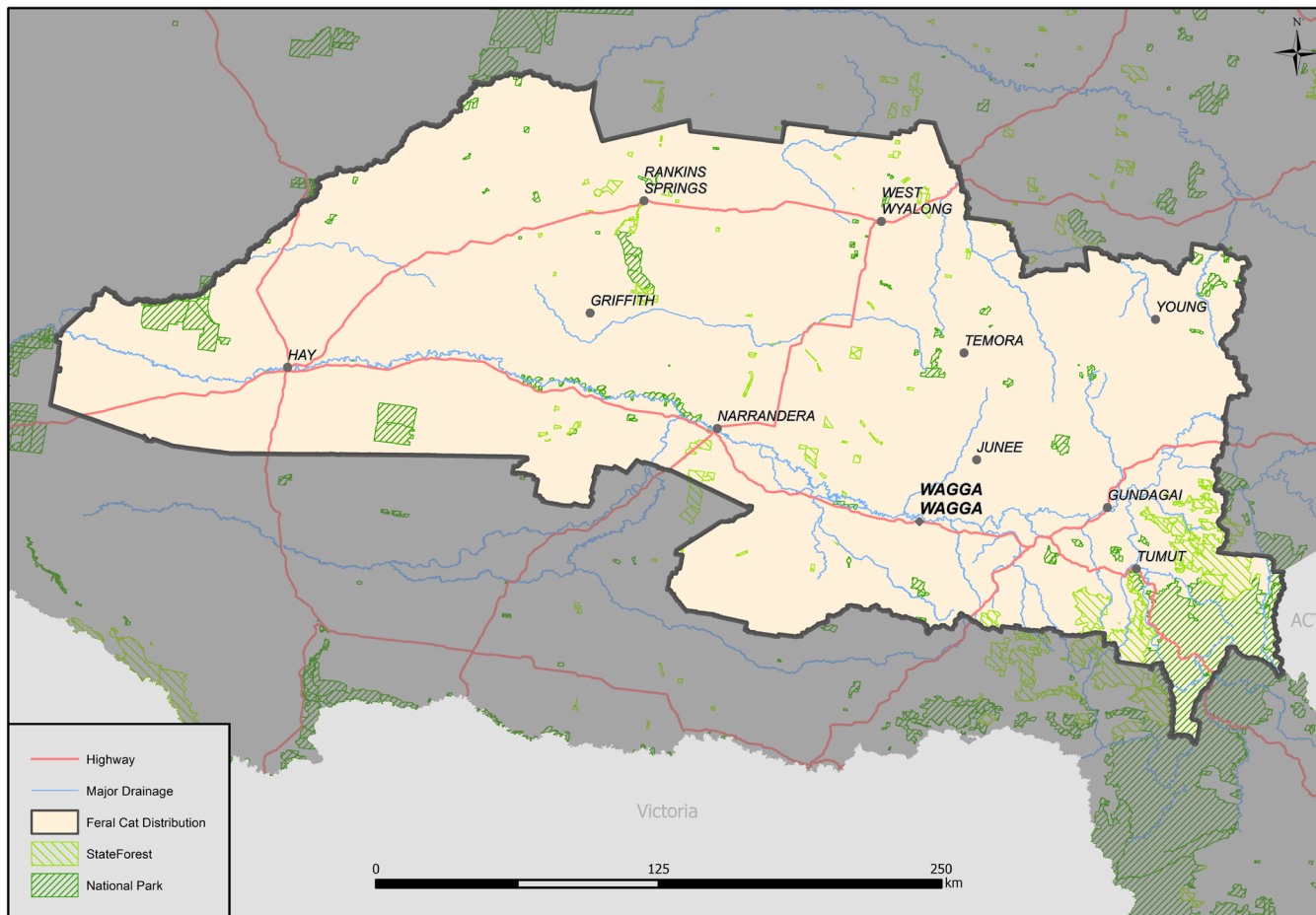
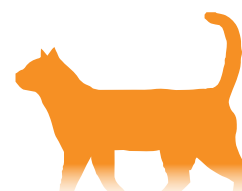


Figure 6. Distribution of feral cat within the Riverina region.

Disclaimer: The pest animal distribution maps in this plan are based on statewide data compiled in 2016 from reports submitted and gathered. The maps are at a coarse scale and provide general guidance only about pest animal distribution. A key priority for future implementation of this plan will be to improve reporting of pest animals to refine regional information collected on pest animal distribution and relative abundance. Improved information on distribution and abundance will better guide management and investment and assess effectiveness.

Feral Cat



Objective	Program name/area	Management category	Assets (where relevant)	Activities	Participants
<p>Reduce the impacts of cats on agricultural production through predation and disease transmission</p> <p>Reduce the impact of cats on threatened species</p> <p>Increase the awareness of the negative impacts of feral cats</p>	Riverina region	Asset Based Protection	<p>Livestock (farmed birds, small animals)</p> <p>Critical threatened species</p>	<p>Ground shooting</p> <p>Trapping</p> <p>Explore new management options</p> <p>Advocate for new targeted cat toxins</p> <p>Exclusion fencing</p> <p>Participate in cat control trials</p>	<p>Land managers</p> <p>Local Government</p> <p>Community based groups</p> <p>LLS</p>
Promote responsible cat ownership	Riverina region	Asset Based Protection	<p>Improve community participation in key areas</p> <p>Improve reporting of pest management activities to LLS</p>	<p>E-newsletters</p> <p>New innovations / control options</p> <p>Social media</p> <p>Media coverage</p>	<p>Land managers</p> <p>Threatened species commissioner</p> <p>Community based groups</p> <p>Local Government</p>

Factors influencing management:

Limited control options, research and development into feral cat control, public apathy towards cat control.

5.4 Species - Feral Goat

Feral goat populations are generally confined to isolated areas in the Riverina LLS region. Feral goats compete with sheep and some native animals for pasture; contribute to land degradation through grazing and browsing and impact on biodiversity. Control options are limited to ground, aerial shooting, trapping and mustering. Feral goat management is complicated by land managers harvesting feral goats due to their high market value. This makes pest management control difficult in those areas. However, they are expected to comply with the requirements under the National Livestock Identification Scheme (NLIS) for identification and movement. Impacts managed through commercial use or harvesting of feral goats can be considered a primary control method in areas of high numbers. Limitations in other areas such as landscape and/or smaller scale of numbers limit opportunity to market access.

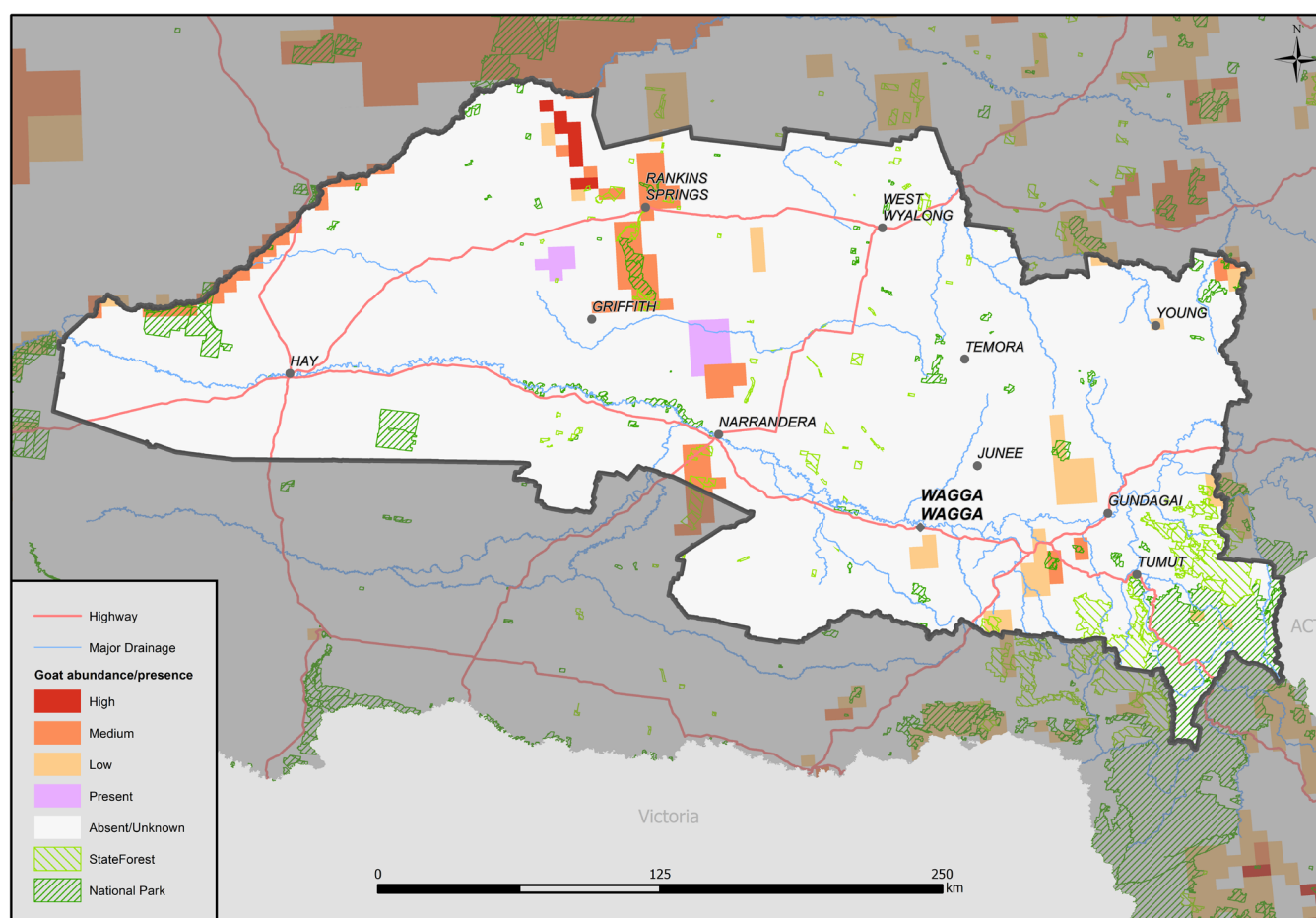
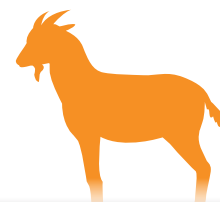


Figure 7. Distribution of feral goat within the Riverina region.

Disclaimer: The pest animal distribution maps in this plan are based on statewide data compiled in 2016 from reports submitted and gathered. The maps are at a coarse scale and provide general guidance only about pest animal distribution. A key priority for future implementation of this plan will be to improve reporting of pest animals to refine regional information collected on pest animal distribution and relative abundance. Improved information on distribution and abundance will better guide management and investment and assess effectiveness.



Feral Goat

Objective	Program name/area	Management category	Assets (where relevant)	Activities	Participants
<p>Reduce the impacts of feral goats on agricultural production</p> <p>Reduce the impact of feral goats on threatened species and ecological communities</p>	Riverina region	Asset Based Protection	<p>Agriculture</p> <p>Environment</p> <p>Cultural Sites</p>	<p>Primary</p> <p>Trapping</p> <p>Mustering</p> <p>Aerial shooting</p> <p>Prepare and implement local goat management plans</p> <p>Supplementary</p> <p>Ground shooting</p>	<p>Land managers</p> <p>LLS</p> <p>Coordinated groups</p> <p>Community based groups</p> <p>Aboriginal Land Managers</p>
<p>Increase the number of land managers conducting control</p>	Riverina region	Asset Based Protection	<p>Improve community participation in key areas</p> <p>Improve reporting of pest management activities to LLS</p>	<p>Targeted communications</p> <p>E-newsletters</p> <p>Media coverage</p> <p>Social media</p> <p>Community meetings</p>	<p>Land managers</p> <p>LLS</p> <p>Community based groups</p>

Factors influencing management:

Market demand (meat prices), seasonal conditions.

5.5 Species - Feral Pig

Feral pigs have been prioritised as a key pest species and are widespread across the Riverina region and have been assessed as having negative economic, environmental and social impacts. The plan aims to encourage land managers to become more active in their control utilising integrated control techniques. The control options vary from ground baiting and trapping in the east to large scale aerial shooting program followed up by ground baiting and trapping in the west of the Riverina. Landscape scale co-ordinated programs are the key to effective feral pig control.

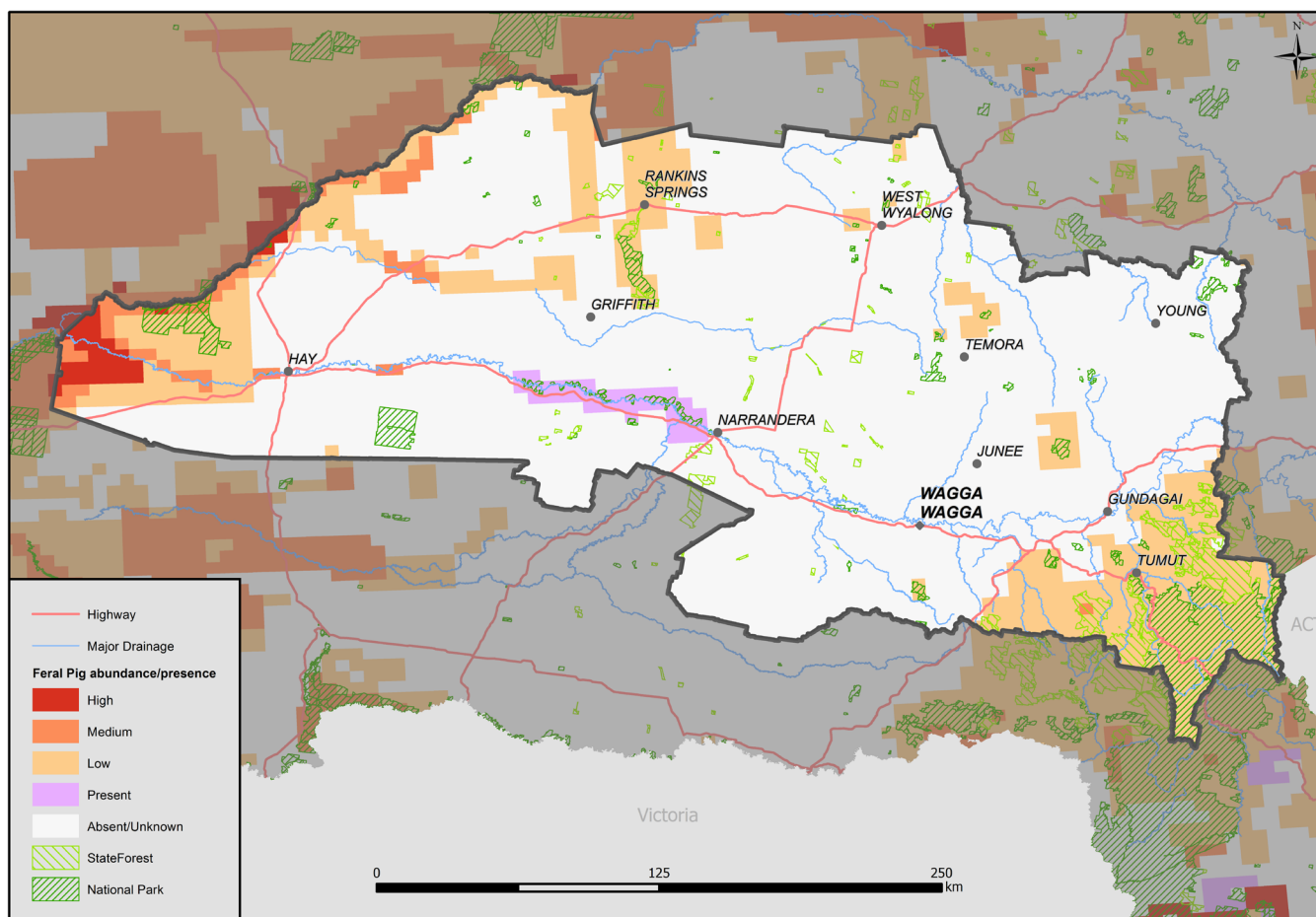
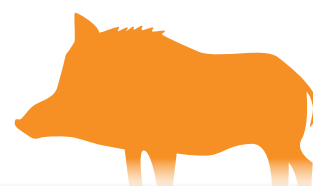


Figure 8. Distribution of feral pig within the Riverina region.

Disclaimer: The pest animal distribution maps in this plan are based on statewide data compiled in 2016 from reports submitted and gathered. The maps are at a coarse scale and provide general guidance only about pest animal distribution. A key priority for future implementation of this plan will be to improve reporting of pest animals to refine regional information collected on pest animal distribution and relative abundance. Improved information on distribution and abundance will better guide management and investment and assess effectiveness.



Feral Pig

Objective	Program name/area	Management category	Assets (where relevant)	Activities	Participants
<p>Reduce the impacts of feral pigs on agricultural production</p> <p>Reduce the impacts of feral pigs on threatened species and ecological communities</p> <p>Reduce the spread of disease</p> <p>Reduce weed dispersal</p> <p>Regulation of Pig Movement</p>	Riverina region	Asset Based Protection	<p>Agriculture – Livestock</p> <p>Pastures</p> <p>Crops</p> <p>Water quality</p> <p>Infrastructure</p> <p>Critical threatened species</p> <p>Cultural heritage sites</p> <p>Human health</p> <p>Emergency animal disease</p>	<p>Primary</p> <p>Participate in coordinated group programs</p> <p>Ground baiting</p> <p>Aerial shooting</p> <p>Prepare and implement local pig management plans</p> <p>Ground trapping</p> <p>Supplementary</p> <p>Ground shooting</p> <p>Recreational hunting</p>	<p>Land managers</p> <p>LLS</p> <p>Community based groups</p> <p>Aboriginal Land Managers</p> <p>NSW health</p> <p>Emergency management unit DPI NSW</p> <p>MLA</p> <p>NSW Police</p>
<p>Increase the awareness of the negative impacts of feral pigs</p> <p>Increase the number of land managers conducting control</p>	Riverina region	Asset Based Protection	<p>Improve community participation in key areas</p> <p>Improve reporting of pest management activities to LLS</p>	<p>Targeted communications</p> <p>E-newsletters</p> <p>Media coverage</p> <p>Social media</p> <p>Community meetings</p>	<p>Land managers</p> <p>LLS</p> <p>Community based groups</p>

Factors influencing management:

Recreation hunting, illegal movement of feral pigs into new areas, illegal hunting and rural crime.

5.6 Species - Wild Deer

Wild deer have been prioritised as a key pest species and their presence is increasing in key areas in the Riverina region. They have been assessed as having negative economic, environmental and social impacts. Wild deer are established in the highlands of the Riverina, east of the Hume Highway. Isolated populations exist west of the Hume highway. All populations will be targeted for control programs. The regional plan aims to encourage land managers to become more active in their control utilising available control techniques.

Deer are declared as a game animal in NSW under Schedule 3, Part 1 of the *Game and Feral Animal Control Act 2002*. Hunters need to acquire a licence to hunt deer on public or private land. NSW Police and NSW DPI retain regulatory oversight of hunting activities. Currently parts of the *Game and Feral Animal Control Act 2002* are suspended for Snowy Valleys Local Government Area (LGA) however this plan aims to have this suspension extended to cover all the Riverina LGA's to allow for greater control efforts by land managers and assist with small scale eradication in areas where deer has expanded their distribution or previously did not exist.

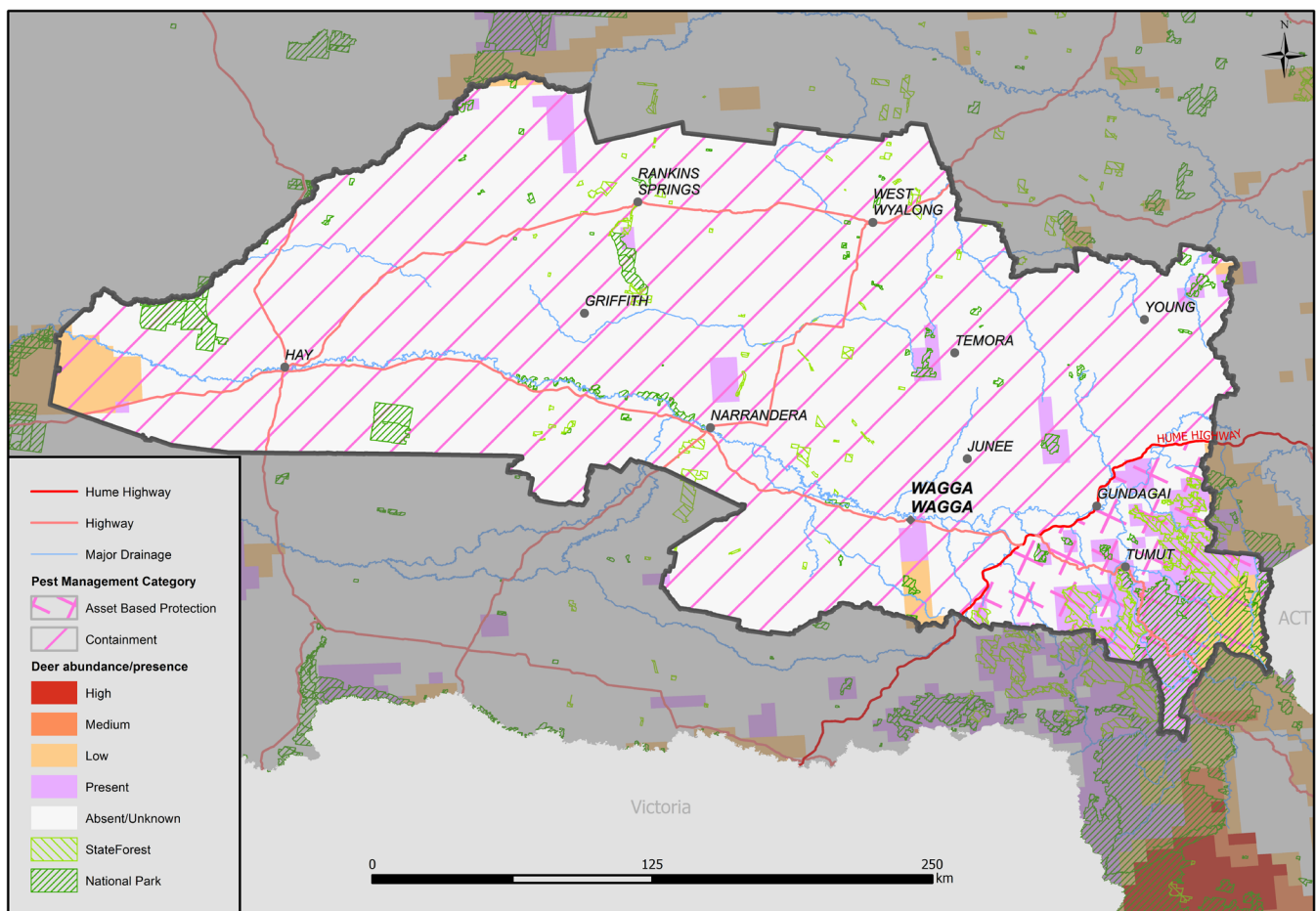
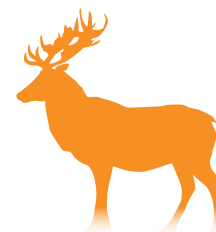


Figure 9. Distribution of wild deer within the Riverina region.

Disclaimer: The pest animal distribution maps in this plan are based on statewide data compiled in 2016 from reports submitted and gathered. The maps are at a coarse scale and provide general guidance only about pest animal distribution. A key priority for future implementation of this plan will be to improve reporting of pest animals to refine regional information collected on pest animal distribution and relative abundance. Improved information on distribution and abundance will better guide management and investment and assess effectiveness.



Wild Deer

Objective	Program name/area	Management category	Assets (where relevant)	Activities	Participants
Prevent further spread of all deer species Reduce the impacts of deer on agricultural production Reduce the impacts on native fauna and flora Reduce disease transmission	Riverina region (East of Hume Highway)	Asset Based Protection	Agriculture- Pastures Crops Livestock Forestry Horticulture Threatened species and ecological communities Riparian areas	Primary (with consideration to LGAs where hunting regulations have been suspended) Regional deer plan Aerial shooting Spotlighting – ground shooting Prepare and implement local management plans Explore new management options Support the development of new and improved control techniques Participate in deer control trials Advocate for all the Riverina region Local Government areas to have the restriction in the Game Act for control removed Supplementary Ground shooting	Government agencies Land managers LLS Community based groups
Contain/eradicate where possible isolated populations	Riverina Region (West of Hume Highway)	Containment	Agriculture- Pastures Crops Livestock Forestry	All methods available	Government agencies Land managers LLS Community based groups
Increase the awareness of the negative impacts of wild deer Increase the number of land managers conducting control	Riverina region	Asset Based Protection	Improve community participation in key areas Improve reporting of pest management activities to LLS	Targeted communications E-newsletters Media coverage Social media Community meetings	Land managers Community based groups

Factors influencing management:

Public perception of species, limited control options, strong representation from hunting organisations, deer farming, difficulty in detection

The NSW Game Hunting Guide sets out the rules and regulations that apply to game hunting in NSW, where that hunting is managed by DPI, under the Game and Feral Animal Control Act 2002 and its Regulation 2012. The Regulations can be suspended within any LGA to allow greater opportunity for control by land managers such as shooting at night time.

5.7 Species - Wild Dog

Wild dogs are established in the parts of the Riverina LLS region east of the Hume Highway and have been prioritised as a key pest species. They have been assessed as having negative economic, environmental and social impacts. The Regional Plan aims to encourage land managers to become more active in control utilising integrated control techniques. This control should be conducted in accordance with a coordinated landscape scale program under the guidance of a wild dog management plan.

The NSW Wild Dog Management Strategy 2017-2021 promotes a balance between managing wild dogs in areas where they have negative impacts and preserving the ecological role of dingoes. The conservation of dingoes is listed under the goals of the strategy and is to be achieved by having RPAMPs and local Wild Dog Management Plans (WDMPs) focus control on areas where the risk of negative impacts are greatest and limiting control in other parts of the landscape with a low risk of negative impacts from wild dogs.

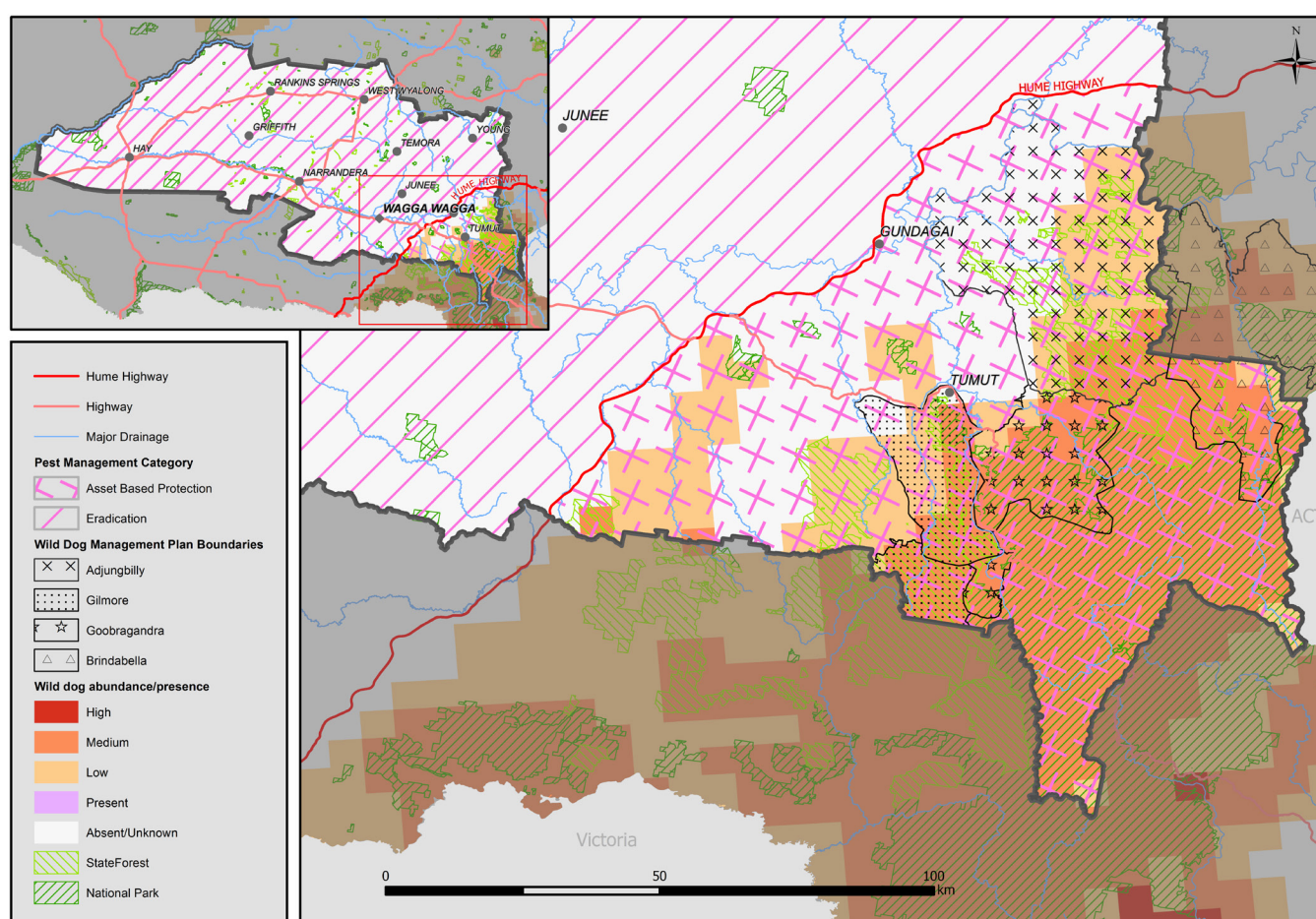


Figure 10. Distribution of wild dog within the Riverina region and wild dog management plan areas.

Disclaimer: The pest animal distribution maps in this plan are based on statewide data compiled in 2016 from reports submitted and gathered. The maps are at a coarse scale and provide general guidance only about pest animal distribution. A key priority for future implementation of this plan will be to improve reporting of pest animals to refine regional information collected on pest animal distribution and relative abundance. Improved information on distribution and abundance will better guide management and investment and assess effectiveness.

Wild Dog



Objective	Program name/area	Management category	Assets (where relevant)	Activities	Participants
<p>Minimise stock losses</p> <p>Implement co-ordinated cross tenure control programs</p>	All land within Riverina LLS region, east of the Hume Highway with wild dog populations	Asset Based Protection	Agriculture – livestock (eg. sheep and calves)	<p>Primary</p> <p>Facilitate local wild dog management plans</p> <p>Participate in Coordinated group programs</p> <p>Ground baiting</p> <p>Proactive Trapping</p> <p>Exclusion fencing</p> <p>Aerial baiting</p> <p>Monitoring</p> <p>Supplementary</p> <p>Reactive Trapping</p> <p>Shooting</p> <p>Guard Animals</p>	<p>Land managers</p> <p>LLS</p> <p>Community based groups</p>
Eradicate new incursions west of the Hume Highway	All land within Riverina LLS region, west of the Hume Highway	Eradicate	Agriculture – livestock (eg. sheep and calves)	<p>All methods available</p> <p>Prepare and implement a wild dog eradication plan</p>	<p>Land managers</p> <p>LLS</p> <p>Community based groups</p>
<p>Wild dog management groups are facilitated</p> <p>Engage the community in wild dog management</p> <p>Increase the number of land managers conducting control</p>	All land within Riverina LLS region, under wild dog management plans	Asset Based Protection	Improve reporting of pest management activities to LLS	<p>Targeted communications</p> <p>E-newsletters</p> <p>Media coverage</p> <p>Social media</p> <p>Community meetings</p> <p>Email and text reminders</p> <p>Feral Fighters</p> <p>Fox/Dog Lotto</p>	<p>Land managers</p> <p>LLS</p> <p>Community based groups</p>

Factors influencing management:

National, State and local wild dog management plans.

Changes in farming practices (grazing to cropping, cattle to sheep), absentee land managers, landholding aggregation, urban areas (public places - limited control options). Pesticide regulation requirements.

5.8 Species - Wild Horse

Wild Horses are established in the parts of the Riverina LLS region east of the Hume Highway and have been prioritised as a key pest species. They have been assessed as having negative economic, environmental and social impacts on sensitive environments and posing risks to road users. The regional plan aims to encourage land managers to manage wild horses to minimise impacts in the Riverina.

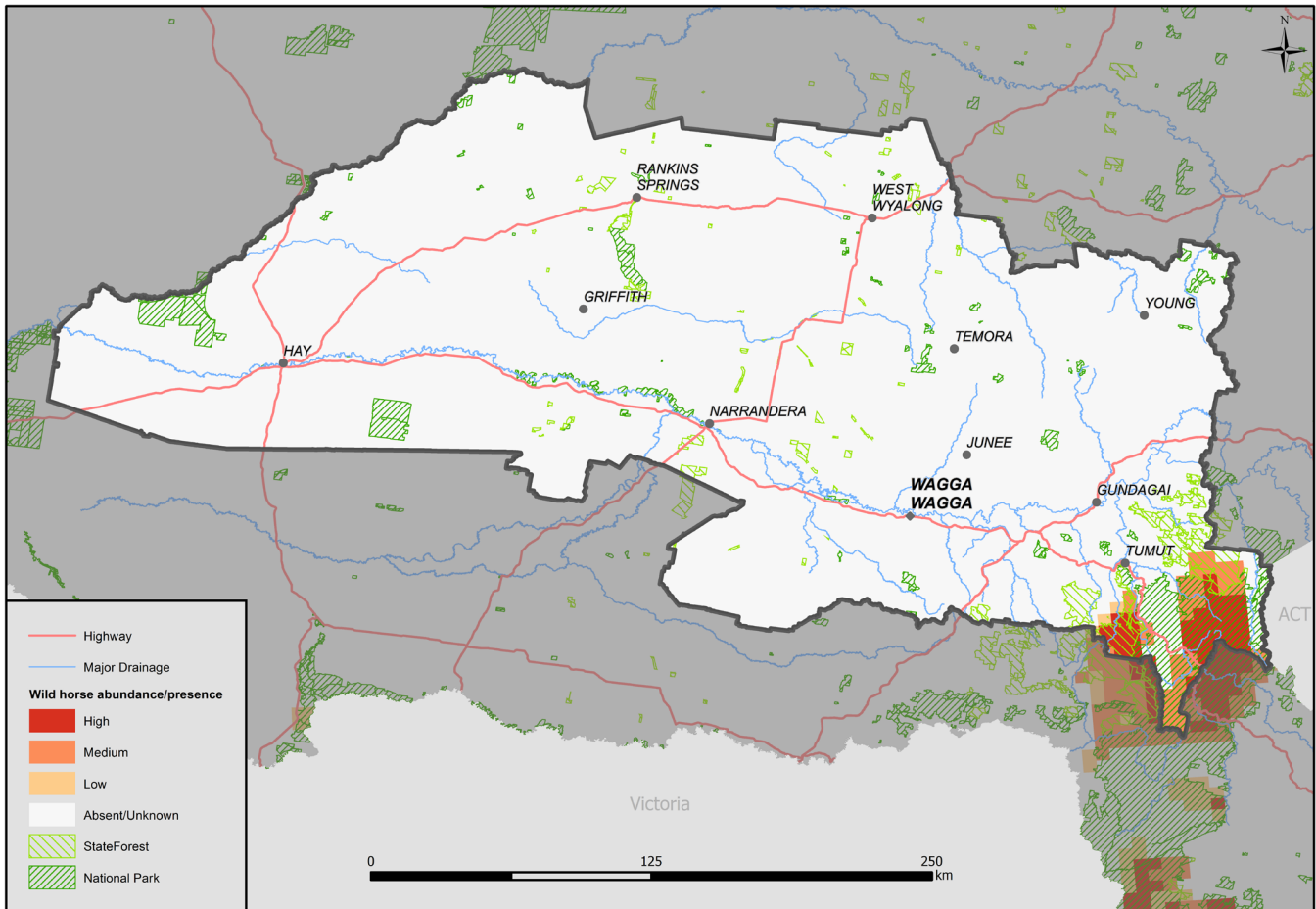


Figure 11. Distribution of wild horse within the Riverina region.

Disclaimer: The pest animal distribution maps in this plan are based on statewide data compiled in 2016 from reports submitted and gathered. The maps are at a coarse scale and provide general guidance only about pest animal distribution. A key priority for future implementation of this plan will be to improve reporting of pest animals to refine regional information collected on pest animal distribution and relative abundance. Improved information on distribution and abundance will better guide management and investment and assess effectiveness.



Wild Horse

Objective	Program name/area	Management category	Assets (where relevant)	Activities	Participants
Land managers to manage Wild horses in-line with their current pest management policies and/or plans	Riverina region	Asset Based Protection	Environment Pastures Forestry Threatened species and ecological communities Riparian areas	Relocation options explored Trapping and removal	Land managers LLS Community based groups
Number of people reporting Wild horse activity	Riverina region	Asset Based Protection	Improve community participation in key areas	Targeted communications E-newsletters Media coverage Social media Community meetings	Land managers LLS Community based groups
Manage new incursions through containment of current populations	Riverina region	Containment	Environment Pastures Forestry Threatened species and ecological communities Riparian areas	Relocation options explored Trapping and removal	Land managers

Factors influencing management:

Public perception to wild horse management; majority of horse populations occur on public managed land.

5.9 Species - Wild Rabbit

Wild rabbits have been prioritised as a key pest species and are widespread across many parts of the Riverina Region. The regional plan aims to encourage land managers to become more active in their control utilising integrated control techniques. This control is best undertaken in accordance with a coordinated, landscape scale program to provide the most effective long term reductions in rabbit impacts across the area.

Constraints on rabbit control vary across the region. In eastern areas access is limited by topography and so is restricted to ground baiting with limited harbour destruction methods. In the west, the limiting factor is the scale of the rabbit infestation being over thousands of hectares.

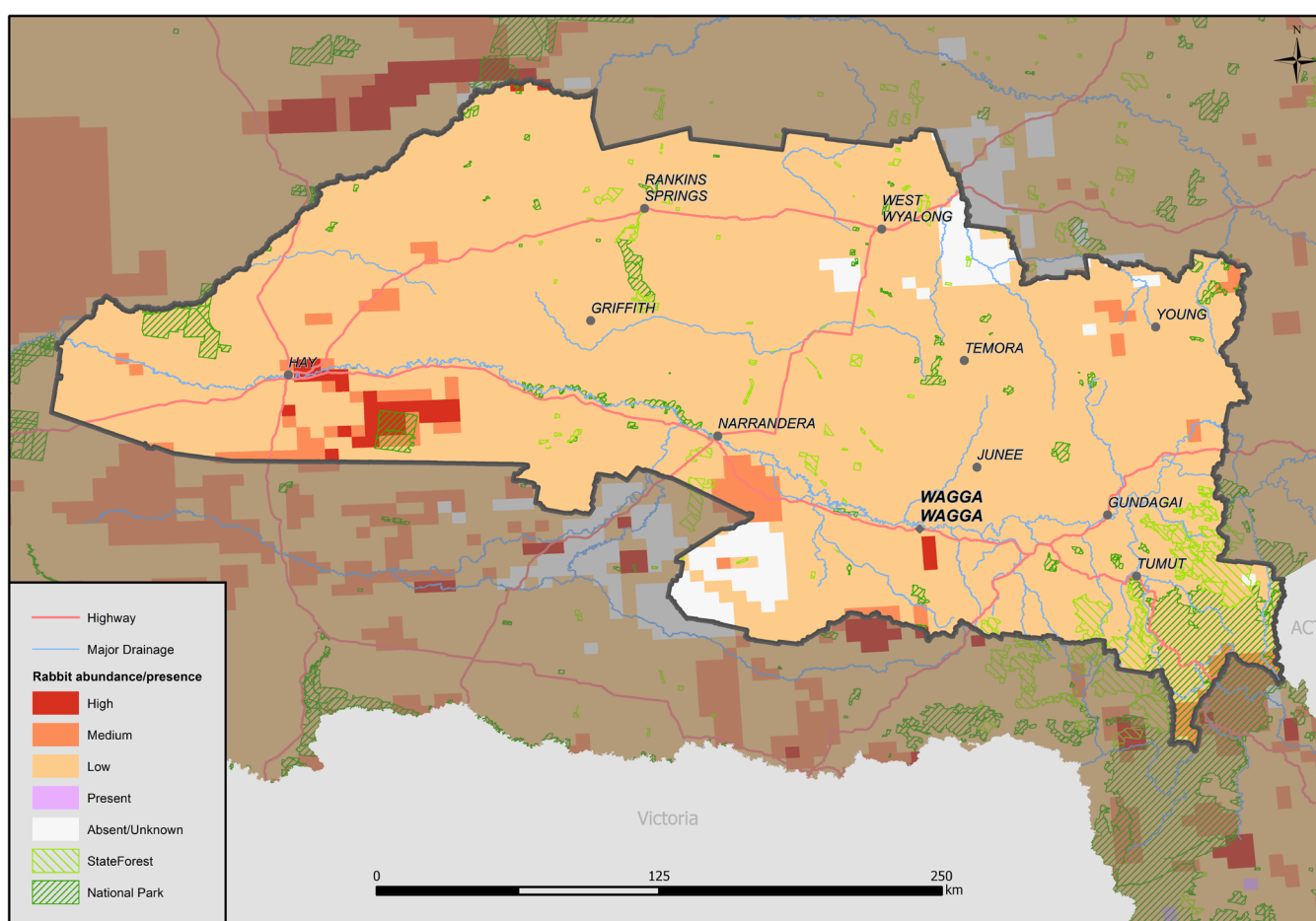


Figure 12. Distribution of wild rabbit within the Riverina region.

Disclaimer: The pest animal distribution maps in this plan are based on statewide data compiled in 2016 from reports submitted and gathered. The maps are at a coarse scale and provide general guidance only about pest animal distribution. A key priority for future implementation of this plan will be to improve reporting of pest animals to refine regional information collected on pest animal distribution and relative abundance. Improved information on distribution and abundance will better guide management and investment and assess effectiveness.



Wild Rabbit

Objective	Program name/area	Management category	Assets (where relevant)	Activities	Participants
Reduce the impacts of rabbits on agricultural production Reduce the impact of rabbits on threatened species and endangered ecological communities Reduce the impact of rabbits on Cultural heritage sites	Riverina region	Asset Based Protection	Infrastructure Dams Crops Waterways Pasture Threatened species and endangered ecological communities Soil structure Cultural heritage	Primary Ground baiting Harbour destruction Biological control (RHDV programs) Exclusion fencing Prepare and implement local rabbit management plans Participate in Coordinated group programs Aerial baiting Supplementary Ground shooting Fumigation Trapping	Land managers LLS Coordinated control groups Community based groups Aboriginal Land Managers
Increase the number of land managers conducting control	Riverina region	Asset Based Protection	Improve community participation and awareness in rabbit control	Targeted communications E-newsletters Media coverage Social media Community meetings	Land managers LLS Community based groups
Coordinated rabbit control programs	Riverina region	Asset Based Protection	Improve reporting of pest management activities to LLS	LLS database Feral scan	LLS Land managers

Factors influencing management:

Changes in farming practices, absentee land managers, landholding aggregation, urban areas (public places - limited control options). Pesticide regulation requirements.

6. Measuring success and continuous improvement

Setting and monitoring key performance indicators (KPIs) is important. Monitoring indicators provides information needed to:

- identify priorities for immediate and future management planning
- evaluate previous management activities (e.g. the response of pests to control)
- improve understanding and knowledge about pest numbers and their impacts
- raise awareness of current and potential problems, and opportunities for prevention and control.

Objectives and performance indicators are set for each of the pest and programs are outlined in chapter 6.2 below.

6.1 Key performance indicators

Key performance indicators (KPIs) have been set to ensure practices are effective and achieving outcomes. These are focussed at a regional scale to ensure the implementation of programs deliver effective outcomes for the pest animals outlined in the plan.

State-wide objectives and metrics for key species and goals will be formulated over the next 12 months to ensure a collaboration of regional planning efforts. These state-wide objectives will align with overarching goals and objectives set across plans and will be informed by overarching plans such as the NSW Invasive Species Plan and NSW Biosecurity Strategy.

6.2.1 State-wide KPIs

Providing a coherent story about the impact of the RSPAMPs across the state will require a coordinated Monitoring, Evaluation, Reporting and Improvement (MERI) framework. This will focus regional MERI programs to targeted evaluations on important outcomes which will be able to be aggregated to a State level to provide information on progress on pest animal density and distribution and its impact on economic, social and environmental issues.

Objective	Indicator	Timeframe
Develop consistent state-wide pest animal data metrics	Metrics are developed and RPACs are reporting on the metrics in a consistent manner	Implemented by July 2019
Develop a consistent MERI process for RSPAMPs	MERI process established to guide monitoring and management of pest animals in NSW for oversight by SPAC	Implemented by July 2019

6.2.2 Species KPIs

Common Carp

Objective	Activities	Indicator	Timeframe
Support coordinated biological control programs	Participate in the implementation of the National Carp Control Plan within the Riverina region (if approved)	LLS and Riverina community involved in the Carp removal plan for Riverina	In line with National Plan

European Red Fox

Objective	Activities	Indicator	Timeframe
Reduce the impacts of foxes on agricultural production.	Integrate fox control into threatened species and biodiversity programs	Increase participation in fox baiting groups to 40% (by number of landholders) by 2023	June 2023
Reduce the impact of foxes on threatened species and ecological communities.	Promote the Feral Fighters Fox/Dog baiting program including the up to 30 free baits per landholder		June 2019
Reduce the spread of disease			

Feral Cat

Objective	Activities	Indicator	Timeframe
Reduce the impacts of cats on agricultural production through predation and disease transmission	Active participation in cat control trial projects and support the development of new and improved control techniques	Engage in one cat control trial project.	June 2020
Reduce the impact of cats on threatened species	Integrate feral cat control into threatened species and biodiversity programs and projects		
Increase the awareness of the negative impacts of feral cats	Liaison with Local Government on strategies to increase awareness of responsible pet ownership	Develop one factsheet on the impacts of feral cats and land manager responsibility for dissemination. The factsheet should include information on responsible pet ownership for local Government distribution.	June 2020

Feral Goat

Objective	Activities	Indicator	Timeframe
Reduce the impacts of feral goats on agricultural production.	Integrate Feral goat control into threatened species and biodiversity programs	Local Feral goat control plans developed for three (3) high priority areas with containment, asset based protection targets. Eradication to be considered where viable	June 2023
Reduce the impact of goats on threatened species and ecological communities.		Local Containment plans for isolated populations developed and implemented for 3 isolated populations.	June 2020
Ensure management strategies account for the existence of the commercial goat industry.			

Feral Pig

Objective	Activities	Indicator	Timeframe
Reduce the impacts of feral pigs on agricultural production	Integrate Feral pig control into threatened species and biodiversity programs	Develop one regional feral pig management plan	December 2019
Reduce the impacts of feral pigs on threatened species and ecological communities.	Increase awareness of pig movement responsibility (NLIS)	One Media release issue explaining pig movement responsibility	December 2018
Reduce the spread of disease		One factsheet developed on pig movement responsibility	December 2018
Reduce weed dispersal			
Regulation of Pig Movement			



Wild Deer

Objective	Activities	Indicator	Timeframe
Contain spread of populations east of the Hume Highway Contain/eradicate where possible isolated populations west of the Hume Highway	Establish baseline data through aerial survey and/or monitoring programs – Ascertain number of hectares impacted. Link into camera monitoring research program for abundance of deer (DPI Research)	Develop and implement targeted control programs for isolated populations for containment and eradication where possible.	June 2020
Reduce the impacts of deer on agricultural production.	Develop and implement a Riverina Regional Wild deer plan	Riverina Regional Wild deer plan completed	Dec 2019
Reduce the impacts on threatened species and ecological communities	Apply for suspension of the Game and Pest Animal Regulations (Game Licensing Unit of DPI) for all LGA's within the Riverina LLS region to assist with containment of the population by limiting the spread and eradication where possible	Game and Pest Animal Regulations suspended for all LGA's in the Riverina region	June 2019

Wild Dog

Objective	Activities	Indicator	Timeframe
Implement co-ordinated cross tenure control programs	Increase awareness and participation in wild dog management plans where Wild dog baits are supplied free of charge in wild dog plan areas (east of the Hume Highway)	4 Wild dog management plans updated	Dec 2018
Minimise stock losses	Activate incursion response to confirmed presence of Wild dogs and/or stock loss west of the Hume highway	100% participation of land managers within Wild dog plans	June 2020
Eradicate new incursions west of the Hume Highway			

Wild Horse

Objective	Activities	Indicator	Timeframe
Land managers to manage Wild horses in line with their current pest management policies and/or plans	Liaison with land managers regarding Wild horse management issues	Management priorities including control areas for asset based protection (including public safety issues), containment identified in land managers Wild horse management plans and/or policies	June 2019
Containment of isolated populations and new incursions	All relevant land managers contributing to ongoing monitoring and research to determine abundance, distribution and impacts of Wild horses and the efficacy of management techniques	Control implemented in accordance with land managers Wild horse management plans and/or policies	June 2019
Manage public safety issues	Community and stakeholder engagement, communication and education around Wild horse management issues and challenges	All relevant land managers are engaged in cross tenure management for identified priority areas	June 2020
		Establishment of a community and stakeholder communication and education framework and network for Wild horse management issues	By the mid term review

Wild Rabbit

Objective	Activities	Indicator	Timeframe
Reduce the impacts of rabbits on agricultural production.	Integrate rabbit control into threatened species and biodiversity programs	50,000 hectares of co-ordinated integrated rabbit control	June 2020
Reduce the impact of rabbits on threatened species and endangered ecological communities.	Develop best practice guidelines for rabbit control on Cultural heritage sites	Aerial survey to ascertain baseline data over 80,000 hectares	Dec 2018
	Increase the 1080 training days for landholders	One annual rabbit survey completed to measuring RHDV effectiveness	Dec 2018
Reduce the impact of rabbits on Cultural heritage sites	Continue to use aerial survey activities to provide useful management data for landholders	Develop a best practice guideline for pest management of cultural heritage sites 10% increase in the number of land managers trained in use of 1080	Annual

6.2 Measuring performance

Reporting will occur on an annual basis based on the KPIs identified in this plan. A formal monitoring, evaluation, reporting and improvement process will be implemented by July 2019 to improve regional and state-wide collaboration and reporting on pest animal indicators across NSW. Improved intelligence on key pest animals will lead to more efficient management tools and outcomes.

6.3 Plan review

A formal mid-term review of this plan will be undertaken at year three (2021) and a full review will be undertaken nearing the end of the five-year term for this plan (2023).

Developing of the local plans for individual species will assist the committee to informally review the plan as an ongoing continuous improvement process.

The Riverina Regional Pest Animal Committee will have an ongoing role to oversight the implementation of the RPAMP and make recommendations to the Riverina LLS Board on its effectiveness and any reviews.



7. The Biosecurity Act

The NSW *Biosecurity Act 2015* is a new piece of legislation that allows improved management of biosecurity risks in NSW to enable landholders, community, industry and Government effectively manage and respond to biosecurity incursions and risks.

A fundamental principle of the NSW *Biosecurity Act 2015* is that biosecurity is everyone's responsibility. All land managers, regardless of whether on private or public land, have the same responsibilities. Likewise, the general community have a role to play in reducing risks through their activities and as 'eyes and ears' on the lookout for any potential new risks. A general biosecurity duty under the Act requires that anyone who knows or ought to reasonably know about a biosecurity risk has a duty to prevent, eliminate or minimise that risk as far as reasonably practicable.

The NSW *Biosecurity Act 2015* includes a number of advisory and regulatory tools that can be used to manage biosecurity risks such as pest animals in NSW. Landholders, industry and community should be familiar with these tools and what they require of them in their daily practices.

Further information in the NSW Biosecurity legislation can be found at the NSW DPI website - <http://www.dpi.nsw.gov.au/biosecurity/biosecurity-legislation>

Regulatory tools: NSW Biosecurity Act 2015

Biosecurity Regulation 2017 - Biosecurity Regulation (NLIS) 2017 - Biosecurity Order (Permitted Activities) 2017



General Biosecurity Duty: Managing the impact and spread of pest animals.
E.g. You are discharging your GBD if you are implementing an on-farm biosecurity plan

Biosecurity Management Tools

PROHIBITED MATTER	Listed in Schedule 2 of the Act. It is an offence to deal with prohibited matter. If a person becomes aware of, or suspects the presence of prohibited matter they have a duty to prevent, eliminate or minimise the risk or potential risk it may cause E.g. Hendra Virus, Foot and mouth Disease, Avian Influenza
CONTROL ORDER	Can be made by the Minister or delegate to establish a control zone, establish measures in connection with a control zone to prevent, eliminate minimise and manage a biosecurity impact. e.g. Disposal of contaminated stock to prevent entering the food chain
PROHIBITED DEALING	A dealing with biosecurity matter described in Schedule 3 of the Act. e.g. Non indigenous animals such as African Pygmy Hedgehog
BIOSECURITY ZONES	A zone established to a premises, specified area or part of the state to prevent, eliminate, minimise or manage a biosecurity risk or impact. Generally used where longer term management is required. e.g. Phylloxera Exclusion Zone in Riverina
BIOSECURITY DIRECTIONS: GENERAL	Issued by an authorised officer to the general public or class of persons e.g. at a sale yard
BIOSECURITY DIRECTIONS: INDIVIDUAL	Issued to a single person by an authorised officer, either orally (followed up in writing within 7 days) or by notice in writing. e.g. A direction to a landholder to implement Foot rot program
BIOSECURITY UNDERTAKINGS	A negotiated set of actions agreed to by an individual and accepted by an authorised officer. Both parties are signatories

Figure 13: Regulatory tools of the *Biosecurity Act 2015*.

8. Further information

For further information go to www.lls.nsw.gov.au/riverina or contact your nearest Local Land Services office by telephoning 1300 795 299.

Visit your nearest full service office in the Riverina region

Griffith

200 Murray Rd
Hanwood NSW 2680
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Hay

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Hay NSW 2711
Ph: (02) 6990 1300 Fax: (02) 6993 3497

Tumut

64 Fitzroy St
Tumut NSW 2720
Ph: (02) 6941 1400 Fax: (02) 6947 4149

Wagga Wagga

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Charles Sturt University
Wagga Wagga NSW 2650
Ph: (02) 6923 6300

Gundagai

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Gundagai NSW 2722
Ph: (02) 6940 6900 Fax: (02) 6944 1867

Narrandera

8 Bolton St
Narrandera NSW 2711
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Young

93-93a Main St
Young NSW 2594
Ph: (02) 6381 4700 Fax: (02) 6382 3454

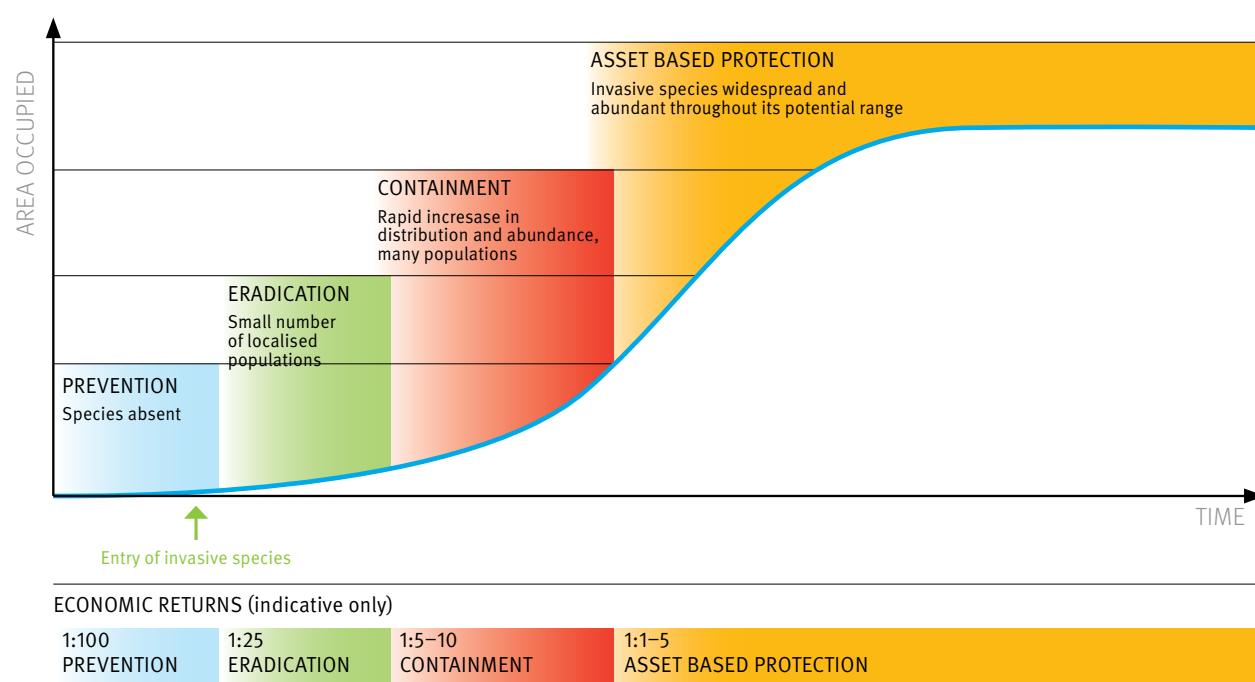


Appendix 1: Prioritisation Process

Public and private land managers have limited resources to manage pest animals and it is therefore important to prioritise activities. Important considerations for prioritisation are:

- It is generally more cost-effective to prevent the establishment of pest animals into new areas through prevention and early intervention (eradication or containment of small isolated populations) than to have to fund ongoing management of established species (see Figure 1).
- For established species, resources should focus on managing the pest animals and areas where there is the greatest impact on a valued 'asset' (e.g. protecting an endangered native animal from fox predation or a sheep production area from wild dogs) – this is known as 'Asset-based Protection'.
- The feasibility of management needs to be considered and this will depend on the availability of approved cost-effective control techniques and any biogeographic limitations (e.g. difficult terrain or potential impact of control techniques on non-target species).

Generalised invasion curve showing actions appropriate to each stage



*Invasion Curve sourced from Biosecurity Victoria, Department of Primary Industries, Victoria

Figure 14: The 'Invasion Curve', showing the importance of allocating resources to prevent the establishment of new pests. (Agriculture Victoria)

In developing lists of priority pest animals and management areas, RPAMPs have considered the South Australian Pest Animal Risk Management Guide and prioritisation tool:

http://pir.sa.gov.au/__data/assets/pdf_file/0017/254222/SA_pest_animal_risk_assessment_guide_Sept2010.pdf

The South Australian prioritisation tool accounts for pest animal impacts and the feasibility of effectively reducing those impacts and allocates management of particular pest animals in particular areas into one of four categories: Limited Action, Asset-based Protection, Containment or Eradication.

'Limited Action' will be the likely management approach for introduced species that aren't considered to have a significant impact in a particular area and/or for which there is currently a lack of effective management options. There are 64 terrestrial and freshwater aquatic exotic vertebrates that have established wild populations in NSW however, many of these will fall into the 'Limited Action' category and the focus of RPAMPs will be on a much smaller list of high priority pest impacts.

'Eradication' or 'Containment' are generally only realistic management options for new incursions and small isolated populations of species where this is a good selection of control techniques available.

