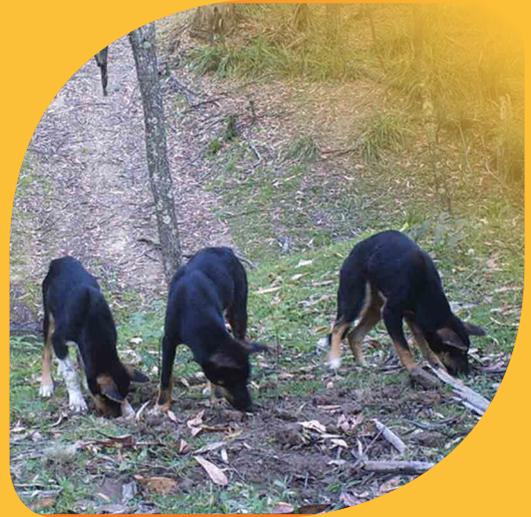


Central West Regional Strategic Pest Animal Management Plan **2018 - 2023**





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Central West Regional Strategic Pest Animal Management 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 June 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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Minister's foreword

I am pleased to announce the Central West 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 Central West 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 ensure we maintain a bio-secure environment.

The Central West Regional Strategic Pest Animal Management 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 Central West Regional Strategic Pest Animal Management Plan (RSPAMP) has been developed in consultation with private and public Landholders, National Parks and Wildlife, NSW Department of Primary Industries (NSW DPI) and University researchers.

The plan aligns with the Australian Pest Animal Strategy 2017-2027 and the NSW Biosecurity Strategy 2013-2021. Together, these strategies and the Central West RSPAMP aim for the following overall goals for pest animal management:

- increase community awareness of pest animals and their impact
- promote best practice management for the control of pest animals
- reduce the impacts of pest animals across the landscape
- improve reporting of pest animals to gather more accurate distributions and impact trends
- identify alert species that could become established in our region.

The plan allows to take advantage of unseasonal conditions for more effective control of pest animals. For example, drought conditions with restricted water access will alter the movement patterns of feral pigs as they stay closer to the water source, making them easier to target with control methods.

Activities outlined within the plan are a guide for all land managers to control pest animal species on their land. Best management practice for pest control promotes a coordinated approach, on a landscape scale rather than property scale, which utilises integration of many control methods.

Section 5 of the plan provides information for all landholders on priority pest species, what is expected of all landholders in managing these pest species and the strategic actions to manage them. It's important landholders participate in coordinated programs, stay informed and undertake activities that reduce risks from pest animals, on land under their care and control.

Species that present a threat to the region but aren't known to be present, are listed in section 1.7. Land managers and community members can stop these species from becoming established by reporting anything unusual or suspicious as soon as possible.

This plan has identified the following regionally significant priority species:

- wild dogs
- feral pigs
- wild deer
- European red fox
- wild rabbit
- wild horses
- feral cats
- feral goats.

The particular focus of the plan is wild dogs and wild deer species as they are currently an emerging issue and their potential rate of spread across the region.

Additionally, European red fox and feral pigs are a highly ranked priority due to the significant impact they have on both the environment and agriculture.

Where cross-boundary pest management issues arise, the Central West Local Land Services Board will liaise with neighbouring boards to resolve the matter.

1. Introduction

1.1 Overview

- The Central West 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 aquatic environments across the region.
- The economic impact of wild rabbits, carp, pigs, foxes, dogs, goats and introduced birds in NSW has been estimated at \$170 million. Of these, the Central West Local Land Services region predominately deals with feral pigs, foxes, rabbits, locusts and in recent times, wild dogs. The impact of pest species is not only evident in agricultural production, but also on environmental assets. Examples include feral pigs in the Ramsar listed Macquarie Marshes site and foxes on malleefowl in the Goonoo National Park Community Conservation Area.
- Effectively managing the impact of pest animals has positive outcomes for primary industries, the natural environment and local communities within the region.
- Pest animals pay little regard to property boundaries therefore effective control requires collaboration.
- 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.
- 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 encourage or in some cases enforce best practice behaviours to achieve effective pest animal management.

1.2 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* and NSW Biosecurity Strategy and is reflective of key aligning themes including:

- improved community engagement in biosecurity management
- improved identification, diagnostic, surveillance, reporting and tracing systems for pests, diseases and weeds
- increased numbers of well-trained and resourced people.

This plan is one of eleven RSPAMPs across NSW. 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.

RSPAMPs will provide guidance on how both public and private land managers can meet their general biosecurity duty and identify key commitments for pest animal management activities over the life of this plan.

1.3 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 landholders and community members should work with stakeholders identified for ongoing implementation of pest animal management practices.

1.4 Managing native animals

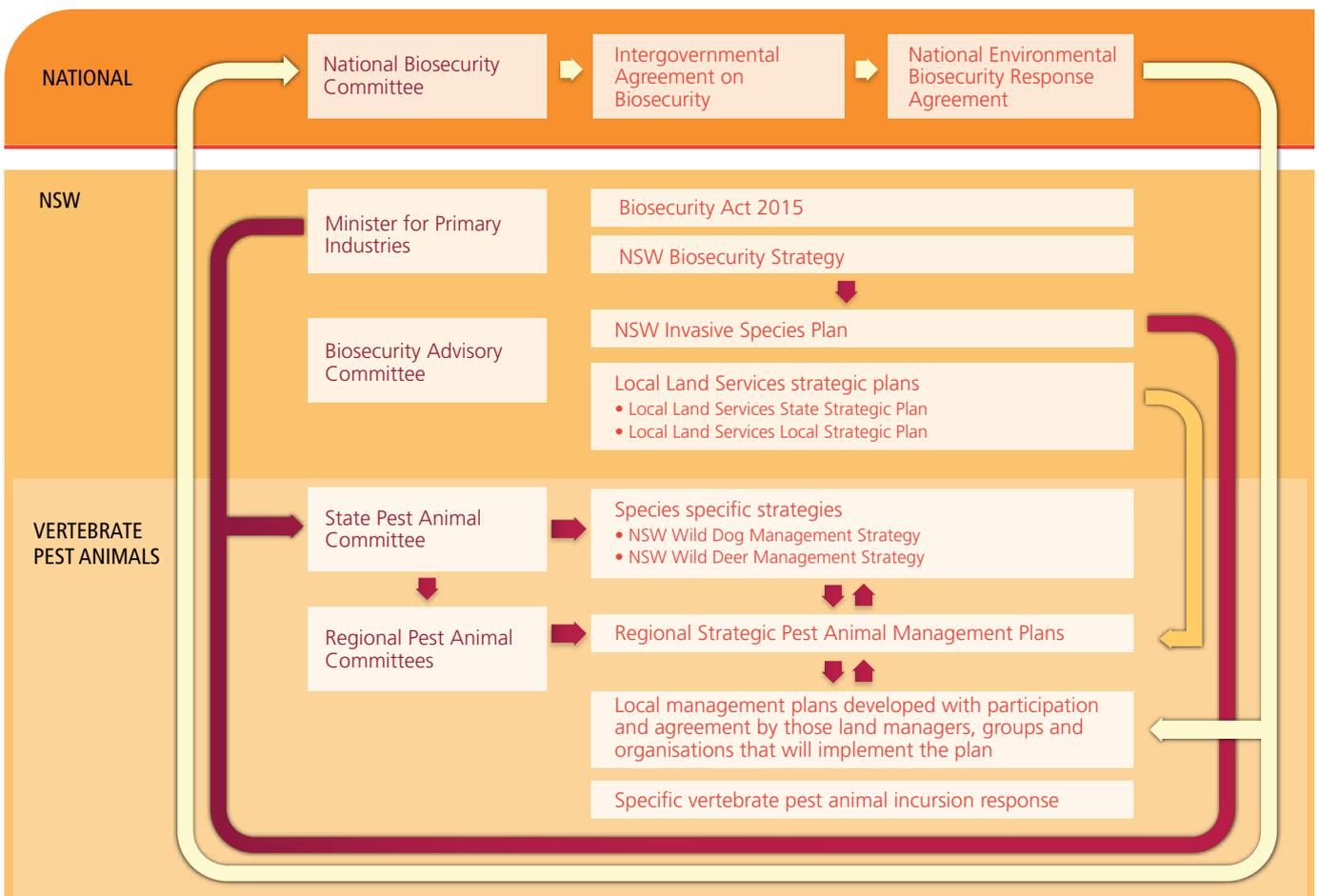
Native species are protected by law in NSW and are not covered in this RSPAMP. Issues associated with managing the impacts of native species (such as kangaroos, emus, wombats and possums) should be addressed separately in consultation with National Parks and Wildlife Service and having regard to the 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>

1.5 Framework for pest animals

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



1.6 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.
- 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 following outlines the role of the Regional and State Pest Animal Committee in the delivery of the RSPAMP. 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 objectives 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 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. RPACs play an important role in the ongoing periodic review and adaption of the plan as required.

1.7 Incursion management and alert species

We need to work together to ensure early detection and awareness of incursions and ensure 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 CENTRAL WEST REGION

- Pest fish - Mozambique tilapia, banded grunter, oriental weather loach, tench, yellowfin goby, white cloud mountain minnows, platy fish, green swordtail, pearl cichlids.
- Amphibian - cane toad, red eared slider turtle.
- Pest birds - ostrich, song thrush, common pheasant.

Phone the Invasive Plants and Animals Enquiry Line: 1800 680 244



The following mechanisms can be used to report unusual situations in the region:

- Complete the Report using an unusual animal sighting form at www.dpi.nsw.gov.au/biosecurity/forms/report-an-unusual-animal-sighting or email invasive.species@dpi.nsw.gov.au
- Invasive Plants and Animals Enquiry Line: **1800 680 244**
- Emergency Animal Disease Hotline: **1800 675 888**
- Plant Pest Hotline: **1800 084 881** (Option 1)
- Aquatic pests and Diseases Hotline: **(02) 4916 3866** or email aquatic.pests@dpi.nsw.gov.au
- Report pest animal species through feralscan: <https://www.feralscan.org.au>

For species that are yet to become widely established in NSW, the initial response to incursion reports is managed through consultation between NSW DPI, Local Land Services and OEH. 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. Guiding principles of pest animal management

The following principles should be considered and implemented by all community, industry, landholders and other stakeholders in pest animal management.

Be alert

Monitor and report sightings of any species you have not seen in your area before. Prevention and early intervention from the community is important to avoid the establishment of new pest animal species.

Work together and participate

Pest animal management is a shared responsibility between landholders, community, industry and government and requires a coordinated approach across a range of scales and land tenures.

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. Our region

The total area of Central West Local Land Services is 9,438,300 hectares with the most significant land use being grazing (66 per cent), followed by broad acre crops (32 per cent).

Our region has approximately six million sheep with lamb stock ranked second highest at 1.7 million (25 per cent of NSW flock), followed by 0.7 million cattle (11 per cent of NSW herd) and smaller numbers of chickens, goats, pigs and horses.

Evenly spread winter and summer rainfall supports productive cropping systems. A large proportion of the area is dedicated to cereal crop production, which accounts for 88 per cent of the area under crops. Wheat has traditionally generated the most agricultural income (72 per cent of total cereal production or 1.4 million tonnes). Canola is the most significant non cereal crop in the region, at 69 per cent of the total oilseed production of 21,305 tonnes.

Cotton is a major industry in the floodplain local landscape and supports the towns of Warren, Trangie and Narromine with approximately 20,000 hectares planted each year. Irrigation supports the production hay, food and fibre in the Macquarie Valley.

There are a number of citrus orchards around Narromine and stone fruit (nectarines and peaches) around Forbes. Of the horticultural crops in the region, nurseries, cut flowers and turf are the most significant with a gross value of \$9.6 million, followed by vegetables at \$9 million and fruit with a value of \$8.2 million which comprises stone fruit (39 per cent) and citrus (32 per cent). Thirty seven nurseries produced a gross value of \$14.9 million, while 58 vegetable producers generated \$10.9 million.

Pest animals impose a significant cost to agriculture and to the community in the Central West, in terms of loss of production, management and prevention of damage.

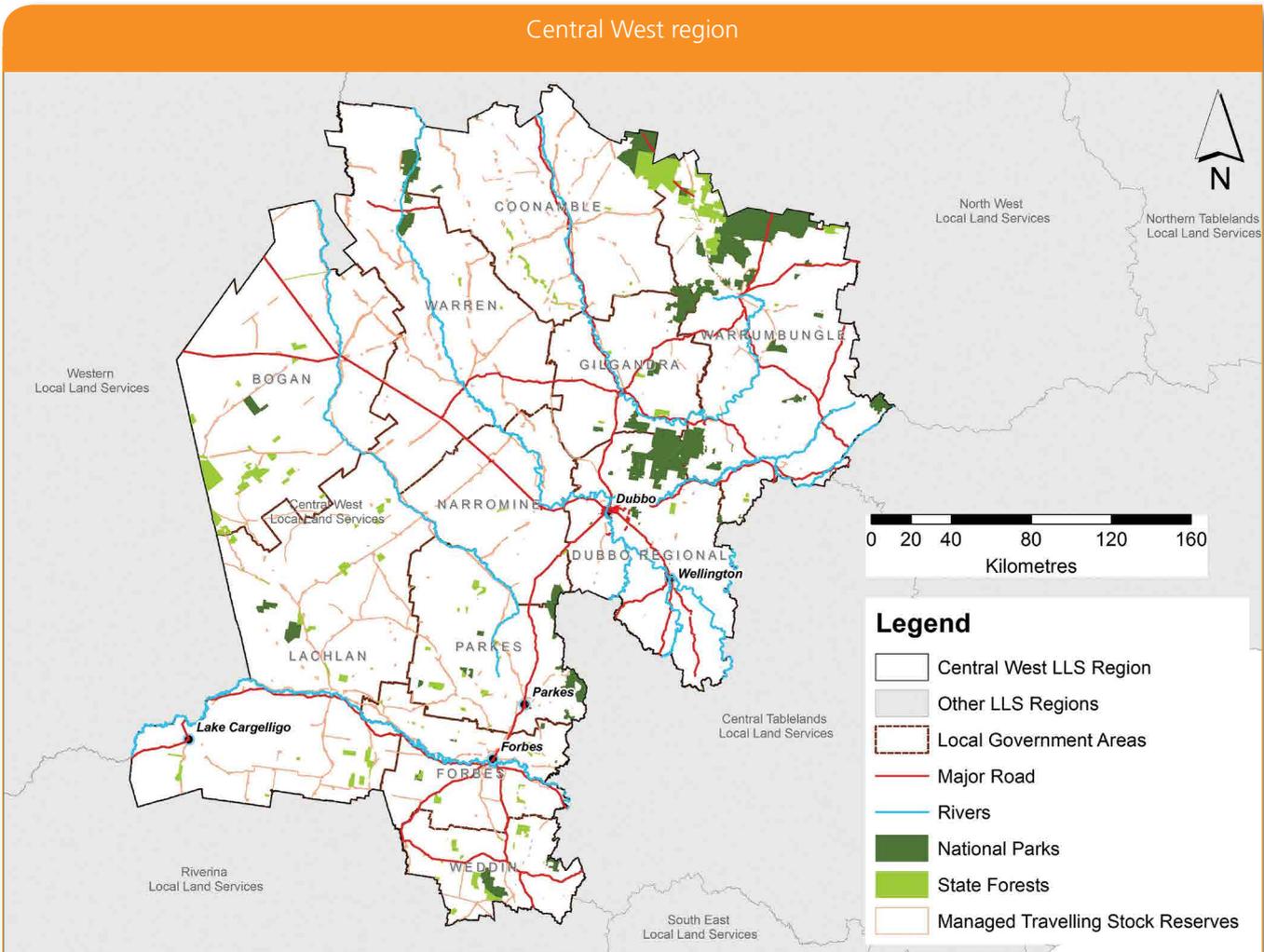
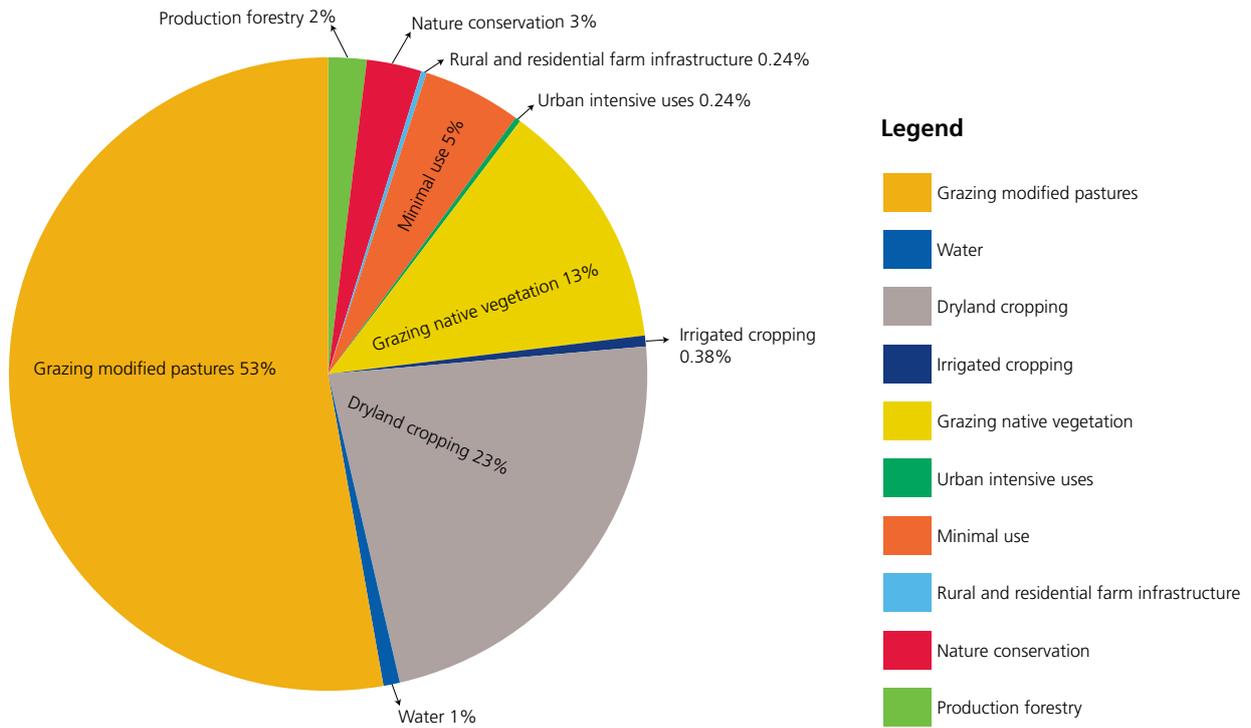


Figure 2. Central West Local Land Services land use.



Data source: OEH, 2013 land use dataset

Note: Categories <0.1% not shown

4. Managing our pest animals

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

Pest animals in the Central West region have been prioritised based on this framework.

Table 4.1 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.

5. Our priority pest species

Pest animals for the Central West region have been prioritised based on level of risk and feasibility of control using the NSW prioritisation method. See Appendix 1 for further description of the prioritisation process. Priority species listed below have been categorised into management categories and further strategies and actions are detailed on the following pages.

Below is a summary based on current priority pest species in the Central West region.

Common Name	Management Category	Section in Plan	Objective
Wild dog 	Containment/ contain spread	5.1	Through cooperative and strategic management, manage wild dog populations to minimise economic losses to livestock enterprises.
Feral pig 	Asset based protection	5.2	Enhance the ecological characteristics of environmentally sensitive areas by reducing the feral pig populations impacting those areas, reduce feral pig numbers impacting agricultural enterprises.
Wild deer 	Asset based protection	5.3	Reduce the impacts of wide spread wild deer populations to the environment and agriculture.
Foxes 	Asset based protection	5.4	Reduce the impact of foxes on key assets.
Rabbit 	Asset based protection (manage sites)	5.5	Control rabbit populations to minimise impacts on pasture/crops and at-risk native vegetation.
Wild horse 	Asset based protection	5.6	Prevent distribution.
Feral cat 	Asset based protection	5.7	Reduce the impact of feral cats on native animals.
Feral goats 	Asset based protection	5.8	Reduce feral goat impact on the environment.
Pest birds 	Asset based protection	5.9	Reduce negative impacts on high value agriculture and biodiversity.
Pest fish 	Asset based protection	5.10	Support any state-wide biological control program for common carp. Prevent further spread of existing pest fish.
Mice 	Limited Action	5.11	Promote monitoring and best practice control.

5.1 Species - wild dog

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.

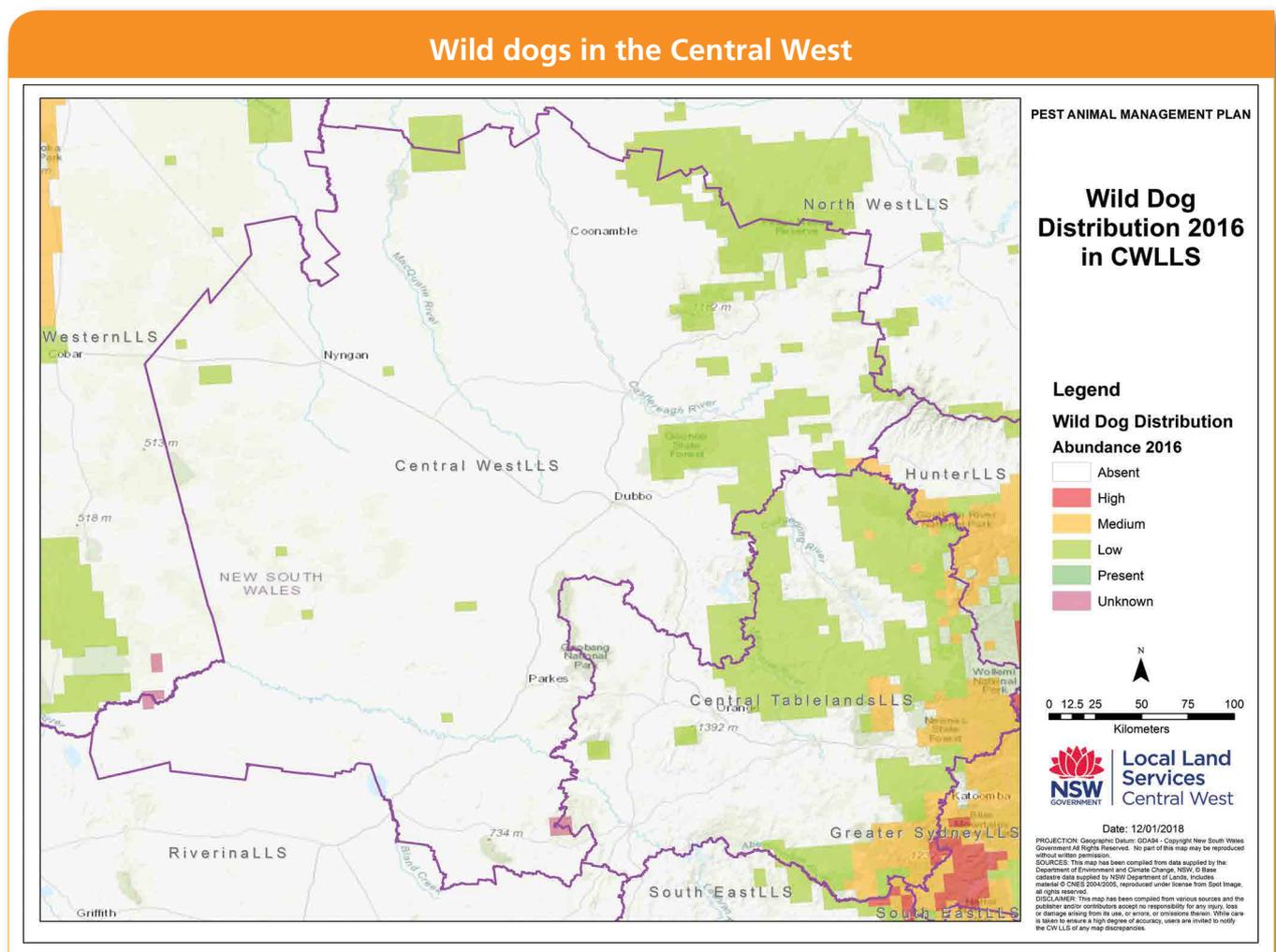
The conservation of dingoes is listed under the goals of the strategy and aims to allow dingoes to fulfill their natural ecological role. The objective of this plan is to manage wild dog populations to minimise economic losses to livestock enterprises.

Wild dogs did not have a major presence for many decades in the Central West region. Initial sighting reports were received in the 2010-12 period and have steadily increased since.

The majority of sightings have been along the eastern part of the region from Euchareena in the south to the Coonabarabran area in the north, with reported sightings occurring in the Nyngan, Bruie Plains and Tottenham areas over the last few years.

The general thought is that wild dogs are migrating in from the range country to our east where wild dogs are in far greater numbers. Reports of attacks on stock have increased over time as well with the worst case being losses of approx. 300 sheep over a one and a half year period across three properties.

In response to the developing wild dog situation, seven landholder invasive species biosecurity groups have been established who carry out coordinated wild dog control activities on a regular basis. Training and building the capacity of landholders to control wild dogs is a key role of Local Land Services along with supporting groups with their coordinated control activities.





Wild dog

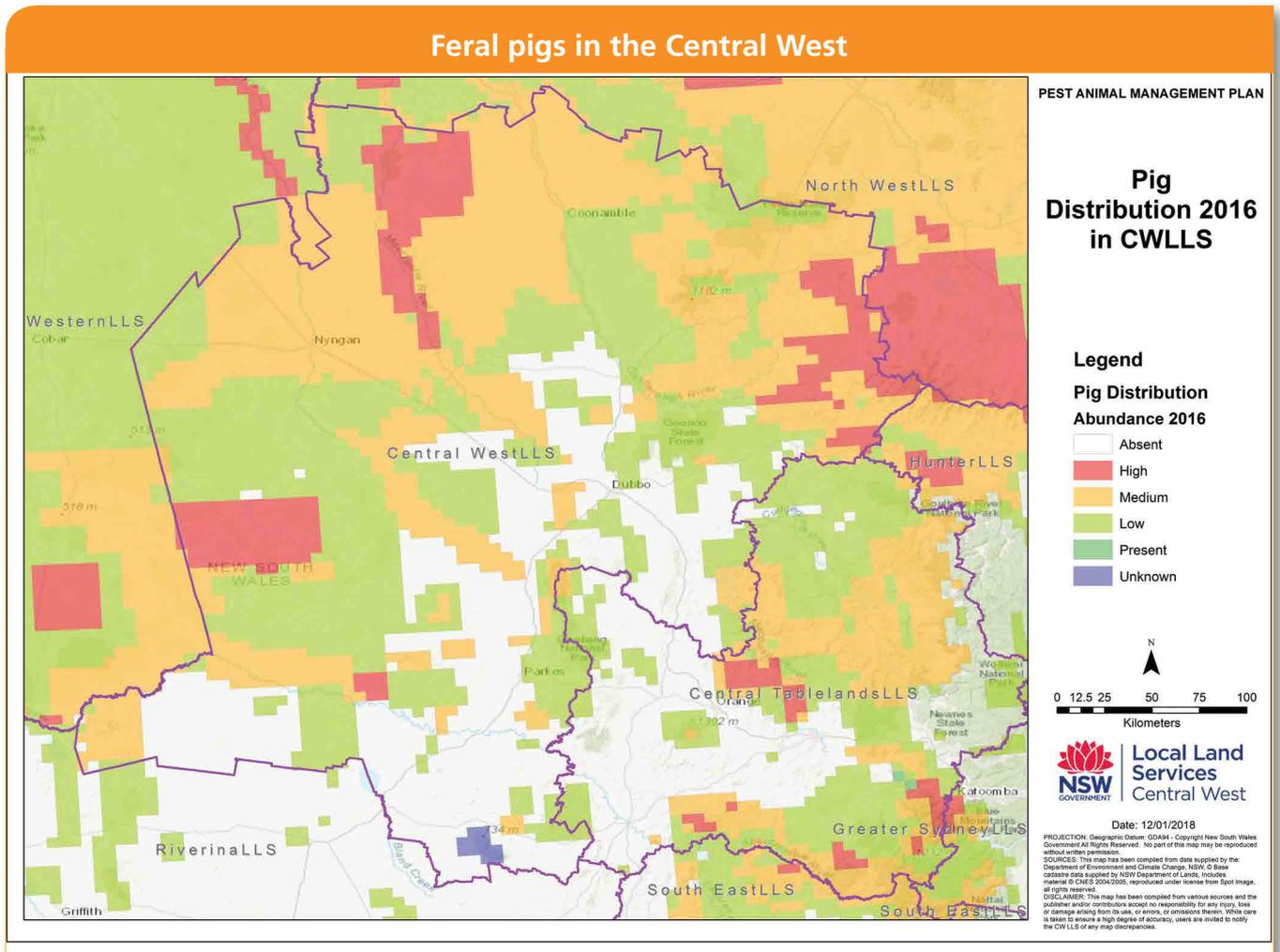
Objective	Program name/area	Management category	Assets (where relevant)	Participants	Activities
Manage wild dog populations to minimise economic losses to livestock enterprises	Central West region	Containment/ Contain Spread	Livestock	Local Land Services NPWS Landholders Forestry Corporation NSW Public land managers	Implement control programs with all stakeholders using approved control methods and activities Maintain open communication with all stakeholders
Continue or increase numbers of stakeholders participating in broad scale control programs to protect agricultural assets	Central West region, landholder pest animal groups	Containment/ Contain Spread	Livestock	Local Land Services NPWS Landholders Forestry Corporation NSW Dol - Lands and Water	Implement coordinated and integrated control programs with all stakeholders utilising approved control methods and activities
Increase awareness of wild dog impacts and management strategies	Central West region			Local Land Services NPWS Forestry Corporation NSW Dol - Lands and Water	Community extension through media releases, newsletter articles, community meetings
	Central West region			Local Land Services	Promote and maintain group control programs through community/ landholder meetings
	Central West region			Local Land Services Landholders	Promote the reporting of wild dog sightings and stock losses to Local Land Services and through Feralscan and community extension



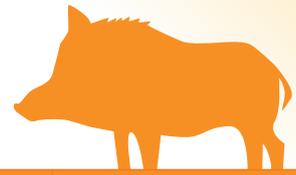
5.2 Species - feral pig

Feral pig distribution is considered widespread and prioritisation has categorised the feral pig as asset protection. Feral pig abundance fluctuates in line with seasonal conditions and control programs with both agriculture and the environment are heavily impacted at certain times of year.

All occupiers of land within the region are advised to undertake effective control programs to reduce the impacts from feral pigs to agriculture and the environment.



Feral pig



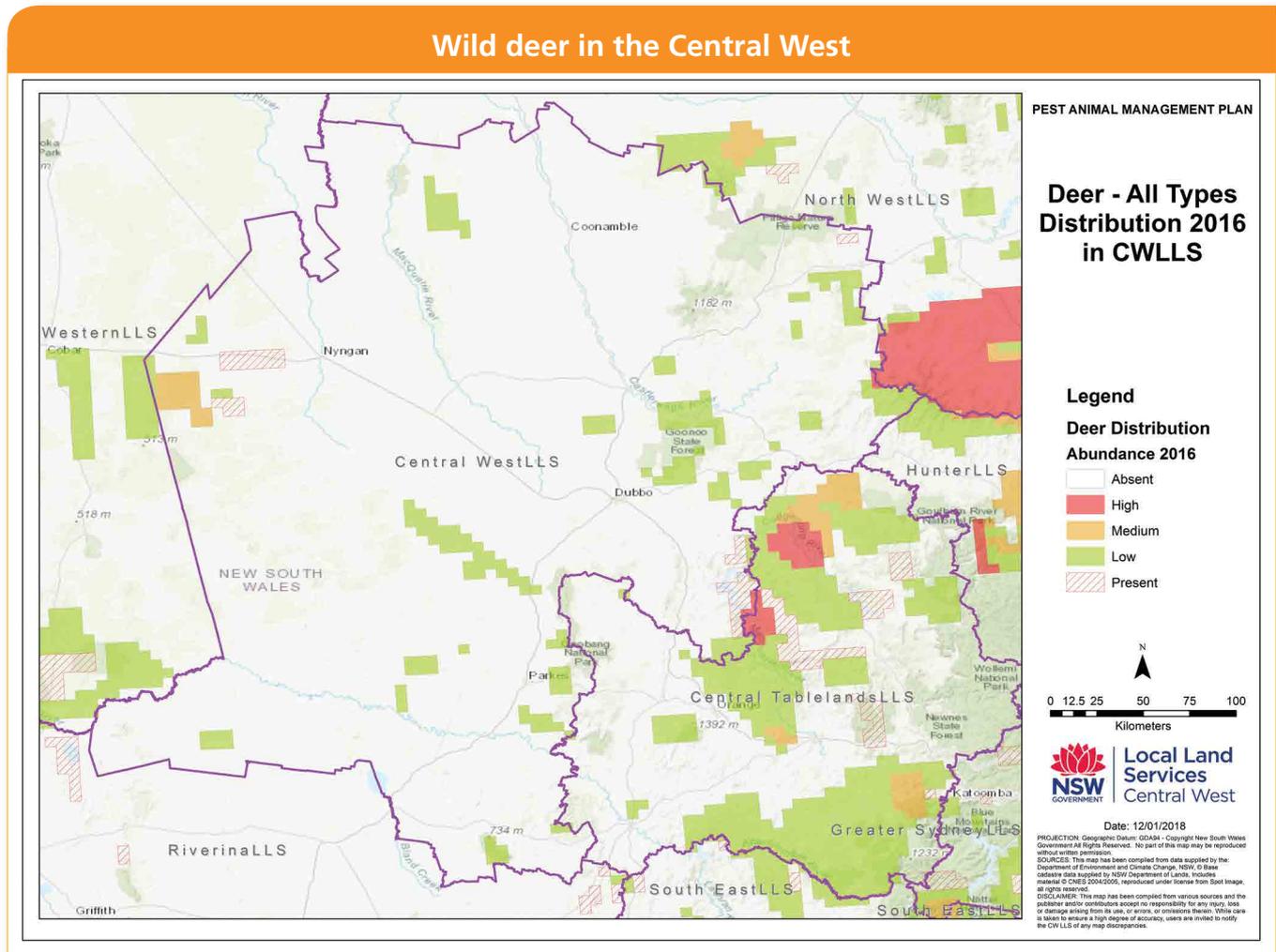
Objective	Program name/area	Management category	Assets (where relevant)	Participants	Activities
Enhance the ecological characteristics of environmentally sensitive areas by reducing the feral pig populations impacting those areas	Ground and aerial control – area specific	Asset based protection	Ramsar sites Threatened species Endangered ecological communities	Local Land Services Public land managers Private landholder groups	Coordinated control programs with all stakeholders using approved control methods and activities. e.g. Ground baiting, trapping, ground shooting and aerial shooting
Continue or increase numbers of stakeholders participating in broad scale control programs to protect agricultural assets	Group based control - region wide	Asset based protection	Agriculture - cropping Livestock	Local Land Services NPWS Forestry Corporation NSW Local pest animal groups	Ground baiting Trapping Ground shooting Aerial shooting
	Individual landholders	Asset based protection	Agriculture	Local Land Services Individual landholders	Strategic ground baiting Trapping Ground shooting
Increase awareness of feral pig impacts and management strategies.	Central west region	Asset based protection	Agriculture - cropping Livestock	Local Land Services NPWS Forestry Corporation NSW Local pest animal groups	Media releases, field day promotion, Local Land Services newsletters



5.3 Species - wild deer

Wild deer populations are currently low in the Central West region. Small pockets of deer may be managed for potential eradication through targeted controls across coordinated areas.

However, wild deer are a growing concern for the Central West and with more approved control methods into the future this pest can be better managed.

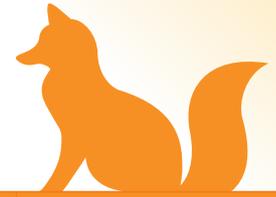




Wild deer

Objective	Program name/area	Management category	Assets (where relevant)	Participants	Activities
Eradicate wild deer in environmentally sensitive areas and adjoining lands	Macquarie Marshes - Quambone	Eradicate	Ramsar sites	Local Land Services NPWS Public land managers Private landholder groups	Ground and aerial shooting Contract deer specialist (ground control) area specific - summer and spring
Reduce the impacts of wild deer populations to the environment and agriculture	Group based control - region wide	Asset based protection	Croplands Pasture Horticulture Threatened species Endangered ecological communities	Local Land Services Public land managers Private landholder groups	Ground shooting Aerial shooting
	Group based control - region wide	Asset based protection	Conservation land All other land types	Central West Local Land Services NSW DPI	Apply to have G&FAC Act, Regulations 2012 suspended in identified LGA's within Central West Local Land Services by July 2019





European red fox

Objective	Program name/area	Management category	Assets (where relevant)	Participants	Activities
Reduce the impact of foxes on agriculture and the environment	Central West region	Asset based protection	Agriculture - livestock (e.g. sheep, goats) Threatened species	Local Land Services, Public land managers Private landholders Landholder groups	Coordinate and conduct group baiting programs and individual ground baiting programs, trapping, and shooting autumn/spring
Increase numbers of landholders participating in broad scale control programs	Central West region	Asset based protection	Agriculture - livestock (e.g. sheep, goats) Threatened species	Local Land Services Public land managers Private landholder groups Individual landholders	Manage established groups within the region Maintain and enhance existing groups Conduct vertebrate pest induction training to enable landholders access to canid pest ejector for pest control
Increase awareness of fox impacts and management strategies	Central West region	Asset based protection	Agriculture - livestock (e.g. sheep, goats) Threatened species	Local Land Services Public land managers Private landholder groups Individual landholders	Meetings Field day promotion Social media



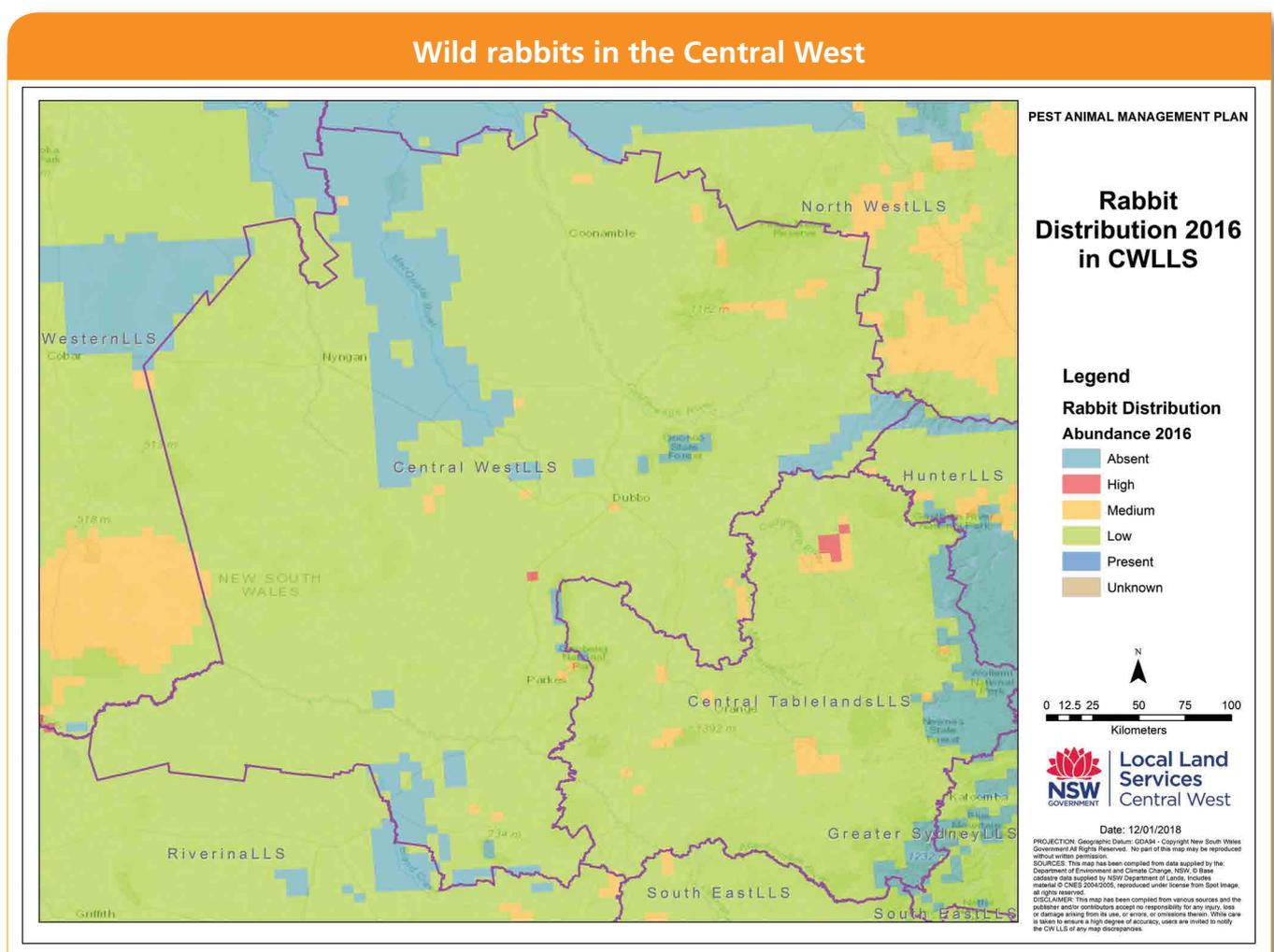
5.5 Species - wild rabbit

Rabbits are found across the Central West region with rabbit numbers being at higher densities in the eastern tablelands grazing district since the release of rabbit haemorrhagic disease virus 1.

In the last 15 years, rabbit numbers have declined across the Central West region as a result of the rabbit haemorrhagic disease virus 2. It is anticipated that this decline will continue with the release of rabbit haemorrhagic disease virus K5 strain in 2017 which is more suited to the tablelands conditions on the eastern side of the region.

This decline in recent years has resulted in a reduction in the number of rabbit control programs undertaken by landholders with most programs now occurring to control rabbits around sheds and houses where suitable harbor remains.

Even with low rabbit numbers, overall it is important to continue to encourage landholders to reduce harbour areas suitable for rabbits to keep a downward pressure on the rabbit population as resistance inevitably builds to rabbit haemorrhagic disease viruses over time.





Wild rabbit

Objective	Program name/area	Management category	Assets (where relevant)	Participants	Activities
Minimise impacts on pasture/crops and at risk native vegetation	Central West rabbit control program	Asset based protection (manage sites)	Infrastructure Waterways Pasture/crops Threatened species Endangered ecological communities Soils	Local Land Services NPWS Land managers Landcare groups	Provision of advisory service - ongoing as needed Provision of rabbit control products - ongoing Individual property inspections, rabbit control group support / facilitation - ongoing as needed Individual site control programs, identification of control sites where rabbits are impacting on endangered ecological communities and threatened native plants - ongoing as needed Monitoring of control programs effectiveness at high value/risk sites - ongoing

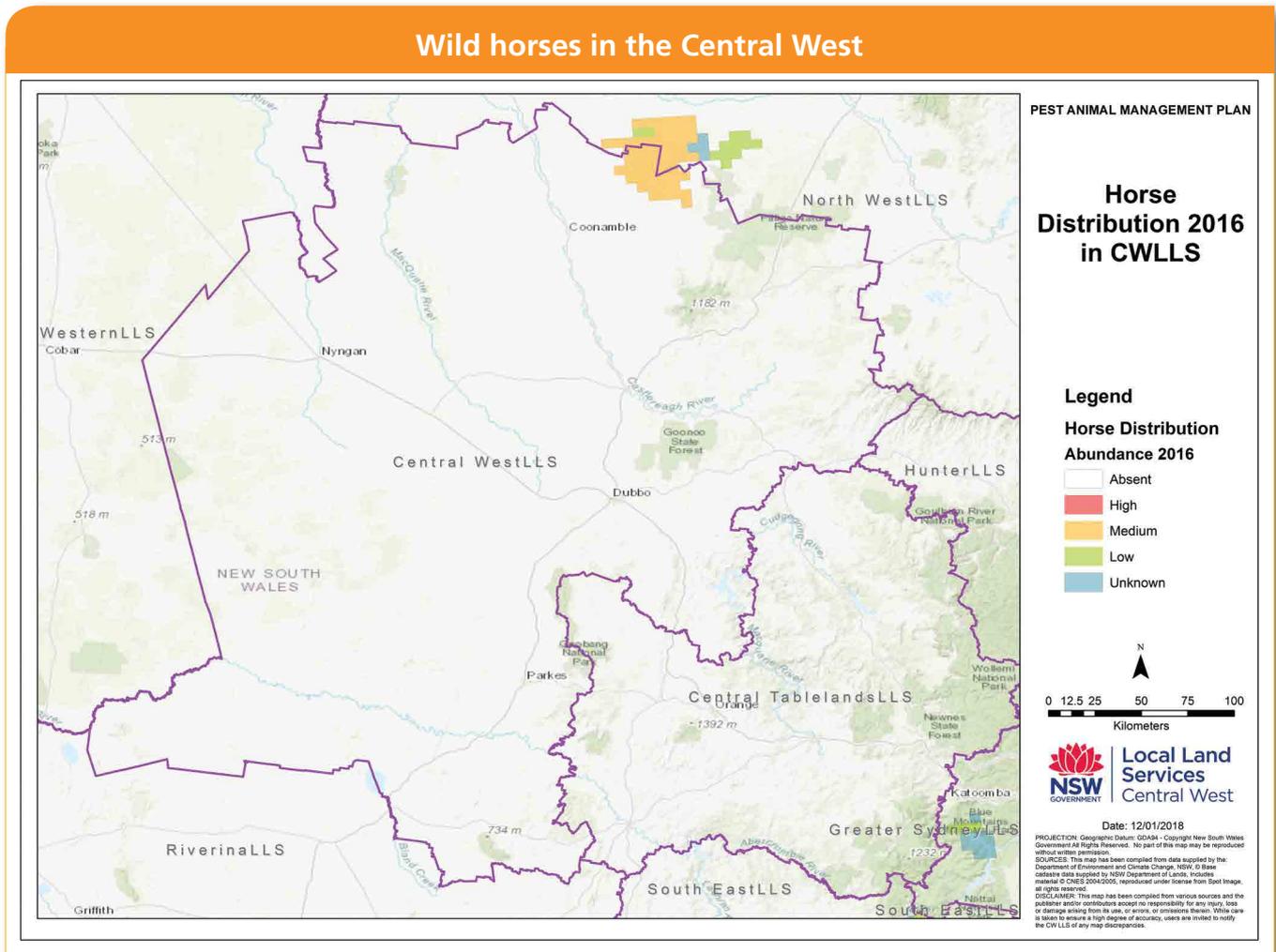


5.6 Species - wild horse

Wild horses are found in small isolated populations in the north east of the Central West region. Populations are not known to be prevalent in other areas.

Wild horses exist on both public and private lands. The prioritisation process determined that the species causes damage primarily to conservation areas. They also pose a collision risk where populations interact with roads. In general, populations are restricted by the limited availability of food and water. More site-specific research and information on distribution, density and impacts will support management decision-making and help to educate the broader public.

Wild horses will be controlled as required in accordance with approved horse management strategies.



Wild horse



Objective	Program name/area	Management category	Assets (where relevant)	Participants	Activities
Coordinated/ integrated control cross-tenure	Western Pilliga public and private lands	Asset based protection	Endangered ecological communities	Forestry Corporation NSW NSW DPI Local Land Services Landholders NPWS	Develop a horse management strategy for approval by the Minister – Department of Primary Industries
	Western Pilliga public and private lands	Asset based protection		Local Land Services NPWS	Implement approved control program / measures as required
Prevent distribution	Western Pilliga public and private lands	Asset based protection		Forestry Corporation NSW NSW DPI Local Land Services NPWS	Local monitoring and reporting
	Western Pilliga public and private lands	Asset based protection		Forestry Corporation NSW NSW DPI Local Land Services NPWS	Determine feral horse distribution and abundance and monitor for change
Information-sharing to support integrated wild horse control	Western Pilliga public and private lands	Asset based protection		Forestry NSW DPI Local Land Services NPWS	Extension and stakeholder communication

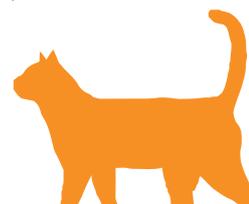


5.7 Species - feral cat

Feral cats are found right across the Central West region. Feral cats have a significant impact on native species in the environment and agricultural enterprises. They can spread toxoplasmosis to sheep, (and humans); however Central West Local Land Services district veterinarians have not diagnosed any cases locally.

Current feral cat control methods are limited to trapping and shooting programs which are costly. However, "Felixer" is currently being developed to deliver a toxin to feral cats, and "Curiosity" cat bait based on para-aminopropiophenone (PAPP) have the potential to make targeted feral cat control much more viable.

Any control programs should be targeted to high value environmental assets where multiple stakeholders can work together.



Feral cats

Objective	Program name/area	Management category	Assets (where relevant)	Participants	Activities
Reduce the impact of feral cats on native animals	Central West region	Asset based protection	Conservation lands Private holdings	Private landholders NPWS Forestry Corporation NSW Local government Local Land Services NSW DPI	Control of feral cat numbers as part of other pest control activities e.g. shooting programs - ongoing
Improve awareness of the impact of cats on native animals	Central West region	Asset based protection	Peri-urban areas Conservation lands	Local government Local Land Services	Media releases Newsletter articles - ongoing

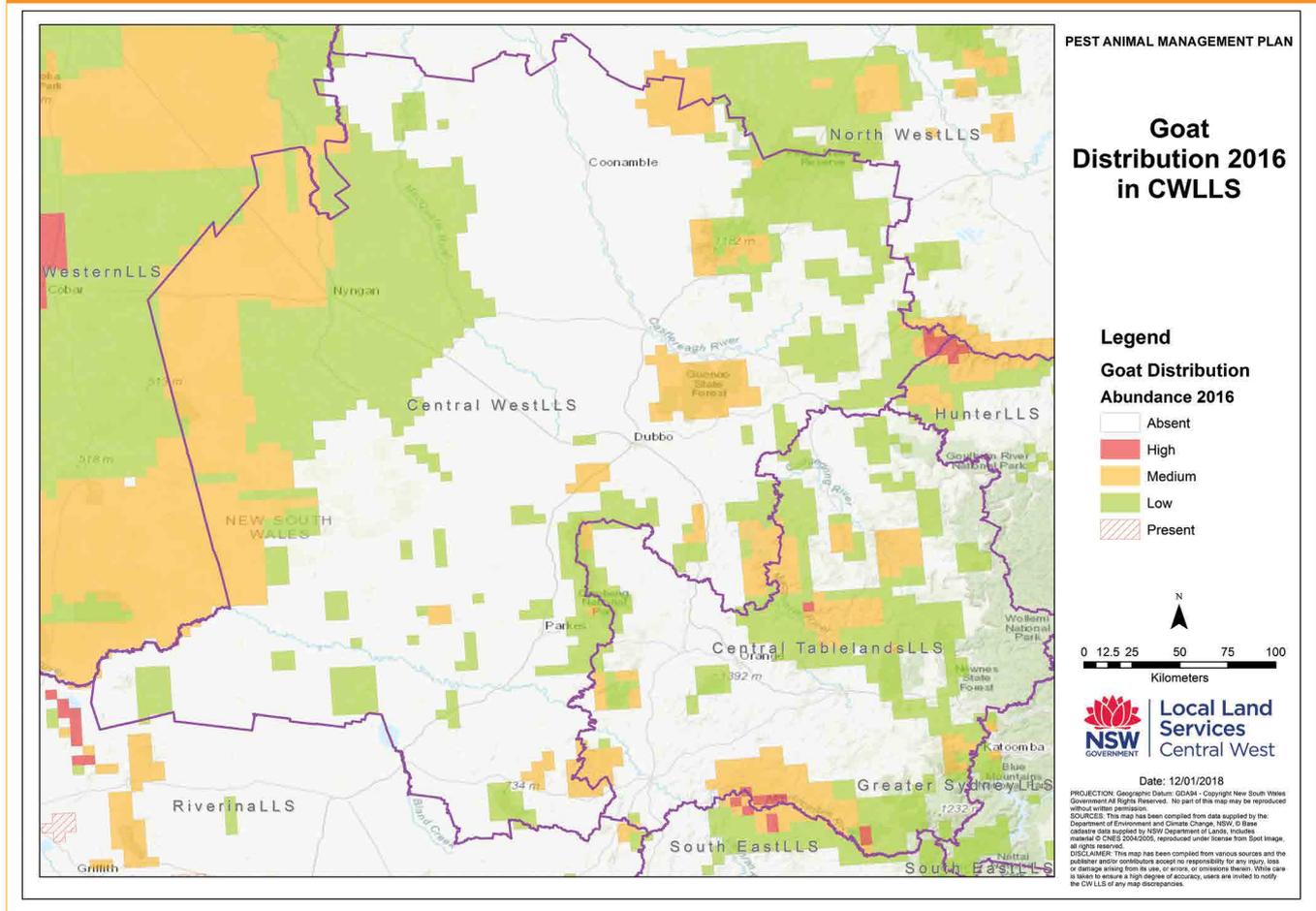




5.8 Species - feral goat

Feral goats are widespread across the Central West region. The harvesting of goats for consumption remains the main control when financial returns make this a viable option. Negative fluctuations in prices for wild goats reduces harvesting leading to a rise in goat densities and an increase in environmental damage. During these periods of poor financial returns control activities are required.

Feral goats in the Central West



Feral goat



Objective	Program name/area	Management category	Assets (where relevant)	Participants	Activities
Reduce feral goat impact on the environment	Central West region	Asset based protection	Threatened species Endangered ecological communities Crops and pastures	Private and public land managers	Mustering, trapping, aerial and ground shooting - ongoing
Create awareness with community about the impact of the species	Central West region	Asset based protection	Threatened species Endangered ecological communities Crops and pastures	Local Land Services	Incorporate species information into pest management communication strategies Community engagement through social media, newsletters, newspaper - ongoing



5.9 Species - pest bird species (management of bird pest)

Some pest bird species are significant environmental and agricultural pests e.g. European starling. Pest birds cause damage to the environment through selective feeding and competition for resources (such as nesting hollows and food), destroy and contaminate horticultural crops or occupy buildings and damage infrastructure (through nest building, defecation etc.) in urban environments.

Some species can be very aggressive towards native species (e.g. Indian myna) and human modified environments are preferred by many ground feeding pest bird species. Some pest birds prey on a wide range of native animals including frogs, reptiles, bird eggs and other birds or present significant disease risks.

A wide range of feral bird species have established in the region with some now very familiar to landholders and regarded as beneficial (such as the cattle egret). Many feral bird species are now very widespread (including Indian myna) and control is best undertaken on an as needs basis by landholders, particularly as some native birds can also be significant agricultural pests and may require management at the same time. Peafowl and red whiskered bulbul are currently present in low numbers in scattered populations within the Central West region.



Pest birds

Objective	Program name/area	Management category	Participants	Activities
Reduce negative impacts on high value agriculture and biodiversity	Central West region	Asset based protection	Local Land Services Landholders Industry organisations	Provide resources to support landholders to manage impacts - ongoing
	Central West region	Asset based protection	Local Land Services Public and private landholders Industry groups	Monitor and review emerging species through community consultation and monitoring with the assistance of local landholders and volunteers - ongoing
	Central West region	Asset based protection	Industry groups Affected landholders Research and funding organisations	Support development and testing of control methods by piloting control programs, supported by research, funding opportunities and effective monitoring - ongoing
	Central West region	Asset based protection	Local Land Services Public and private landholders	Ensure land managers understand their obligations under the Biosecurity Act to control pest birds on their land through community communications - ongoing
Create awareness with community about the impact of pest birds	Central West region	Asset based protection	Local Land Services Public and private landholders	Incorporate species information into pest management communication strategies. Community engagement through social media, newsletters, newspaper - ongoing

5.10 Species - pest fish

Pest fish can have major impacts on freshwater ecosystems and native species through predation, competition for resources (such as food and breeding grounds) and changes to freshwater environments (such as increasing turbidity and the balance of species). Common carp are a major environmental fish pest that has impacted on a wide range of native species and freshwater ecosystems.

Almost all fish species are difficult to control once established therefore avoidance of further incursions is an essential component of control. Species such as the tilapia have the potential to be a major problem. Simple care in the disposal of unwanted fish and alertness to unusual species can lead to great savings for our community and the lifeblood of our land (our waterways).



Pest fish

Objective	Program name/area	Management category	Assets (where relevant)	Participants	Activities
Support any state-wide biological control program for common carp	Central West region	Asset based protection	Freshwater ecosystems	Local Land Services Regional pest animal committee All relevant stakeholders	Communications with DPI and State pest animal committee on timing of any statewide program Active participation in program - ongoing
Prevent further spread existing pest fish	Central West region	Asset based protection	Freshwater ecosystems	Local Land Services DPI Fisheries	Incorporate species information into pest management communication strategies - ongoing
Monitor and review emerging species	Central West region	Asset based protection	Freshwater ecosystems	DPI Fisheries Local Land Services	Respond to alert list reports through referral to DPI - ongoing

5.11 Species - mice

Mice are generally present throughout the year however populations can increase rapidly and therefore early detection of mouse populations is important.

Mice can cause damage to most crops and transmit disease to humans and livestock. Mice numbers should be monitored by land managers to identify when a plague may be imminent.

If you require assistance in monitoring mouse populations or require advice on control methods, please contact Local Land Services on 1300 795 299.

6. Measuring success and continuous improvement

The development and monitoring toward key performance indicators (KPIs) is a critical component of this plan. Monitoring indicators provides information needed to:

- identify priorities for immediate and future management planning
- evaluate previous or current programs (including both control and community engagement activities)
- improve understanding and knowledge about pest animal densities, current and potential range and their current and potential impacts
- raise community 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 this chapter.

6.1 Key performance indicators

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

The KPIs set in this plan will be monitored and reviewed annually to ensure targeted progress on key programs and pest animals. This section will address how monitoring and evaluation of the KPIs will take place and the review the plan for continuous improvement.

6.1.1 Statewide KPIs

Providing a coherent story about the impact of the Regional Strategic Pest Animal Management Plans 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 statewide 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

6.1.2 Species KPIs

Wild dog

Objective	Indicator	Timeframe
Manage wild dog populations to minimise economic losses to livestock enterprises	Implement the Central West Local Land Services Regional Wild Dog Management Plan	Review of plan by June 2019
Continue or Increase numbers of stakeholders participating in broad scale control programs to protect agricultural assets	Increase individual land manager participation in group control activities by five per cent	Annually
Increase awareness of wild dog impacts and management strategies	Distribution of information twice annually Media releases, field day promotion, Local Land Services newsletter	Annually

Feral pig

Objective	Indicator	Timeframe
Enhance the ecological characteristics of environmentally sensitive areas by reducing the feral pig populations impacting those areas	Implement control programs as per local plans	Summer and spring
Continue or increase numbers of stakeholders participating in broad scale control programs to protect agricultural assets	Increase individual land manager participation in group control activities by five per cent	Annually
Increase awareness of feral pig impacts and management strategies	Distribution of information twice annually Media releases, field day promotion, Local Land Services newsletter	Annually

Wild deer

Objective	Indicator	Timeframe
Eradicate wild deer in environmentally sensitive areas and adjoining lands	Develop an eradication strategy and plan with local stakeholders	By end of 2018
Reduce the impacts of wild deer populations to the environment and agriculture	Development of a response plan for wild deer in the Central West region	By end of 2019

European red fox

Objective	Indicator	Timeframe
Reduce the impact of foxes on agriculture and the environment	Coordination of groups and support to individuals	Autumn/spring
Increase the number of landholders participating in broad scale control programs	Increase individual land manager participation in group control activities by five per cent	Annually
Increase awareness of fox impacts and management strategies	Distribution of information twice annually Media releases, field day promotion, Local Land Services newsletter	Ongoing

Wild rabbit

Objective	Indicator	Timeframe
Minimise impacts on pasture/crops and at risk native vegetation	Increase individual land manager participation in group control activities by five per cent	Annually

Wild horse

Objective	Indicator	Timeframe
Coordinated/integrated control cross tenure	Develop a horse management strategy for approval by the Minister DPI	Ongoing
Prevent distribution	No increase in populations or density in the Central West region	As indicated in pest animal density mapping done by DPI est. 2020
Information-sharing to support integrated wild horse control	Extension and stakeholder communication	Ongoing

Feral cat

Objective	Indicator	Timeframe
Reduce the impact of feral cats on native animals	Very difficult without a specific cat toxin	TBA
Improve awareness of the impact of cats on native animals	Distribution of information	Annually

Feral goat

Objective	Indicator	Timeframe
Reduce feral goat impact on the environment	Implementation of coordinated control programs dependent on market value	Re-evaluate annually/plan review
Create awareness with community about the impact of the species	Distribution of information twice annually Media releases, field day promotion, Local Land Services newsletter	Twice annually

Pest bird

Objective	Indicator	Timeframe
Reduce negative impacts on high value agriculture and biodiversity	Support development and testing of control methods by piloting control programs, supported by research, funding opportunities and effective monitoring	Ongoing
Prevent further spread of pest birds	Incorporate species information into pest management communication strategies	Annually

Pest fish

Objective	Indicator	Timeframe
Monitor and review emerging species	Respond to Alert list reports through referral to DPI	Ongoing
Support any state-wide biological control program for common carp	Active participation in program	As required
Prevent further spread of pest fish	Incorporate species information into pest management communication strategies	Annually

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 investigation process will be implemented by July 2019 to improve regional and statewide 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 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).

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 mechanisms (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>

Figure 3: Regulatory tools of the Biosecurity Act 2015.

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

8. Further information

Plan to manage biosecurity risks

This plan can be used by landholders and community members to understand manage and mitigate risks associated pest animal management in the region.

Organisations may choose to apply for funding or allocate resources to support strategic pest animal projects.

The activities outlined in this plan can be used by relevant landholders and community members in the area as guidelines for discharging their general biosecurity duty to improve pest animal management. Pest animal requirements under the Biosecurity Order (Permitted Activities) 2017, which is updated from time to time, should also be considered by landholders and the general community.

Use this plan as a guide to mitigate your risks in your on-farm biosecurity plan to ensure you are effectively managing pest animals in the most effective and efficient manner.

Educate yourself

While this plan sets a benchmark for integrated pest animal management across the region, there are a number of alternative mechanisms that can be used to meet individuals general biosecurity duty and individuals are encouraged to utilise the following resources as well as contact their Local Land Services office for further information.

Resources:

- Local Land Services
- Office of Environment and Heritage (National Parks and Wildlife)
- Department of Primary Industries
- The Centre for Invasive Species Solutions
- PestSmart Connect
- FeralScan.

Monitor your environment

- Be aware of changes in the landscape around you.
- Report anything unusual. If you become aware of unusual animals in the wrong place or illegal activities such as the movement, keeping, breeding and sale of controlled category non-indigenous animals, report it as soon as possible.
- Discuss ongoing monitoring programs and techniques with Local Land Services.
- Ensure you keep up to date with any Government and industry changes.

Comply

- Ensure you meet the requirements set out in both your on-farm biosecurity plan and any other on farm biosecurity plans for properties you deal with.
- Ensure you are aware of and comply with specific legislation for pest animals.

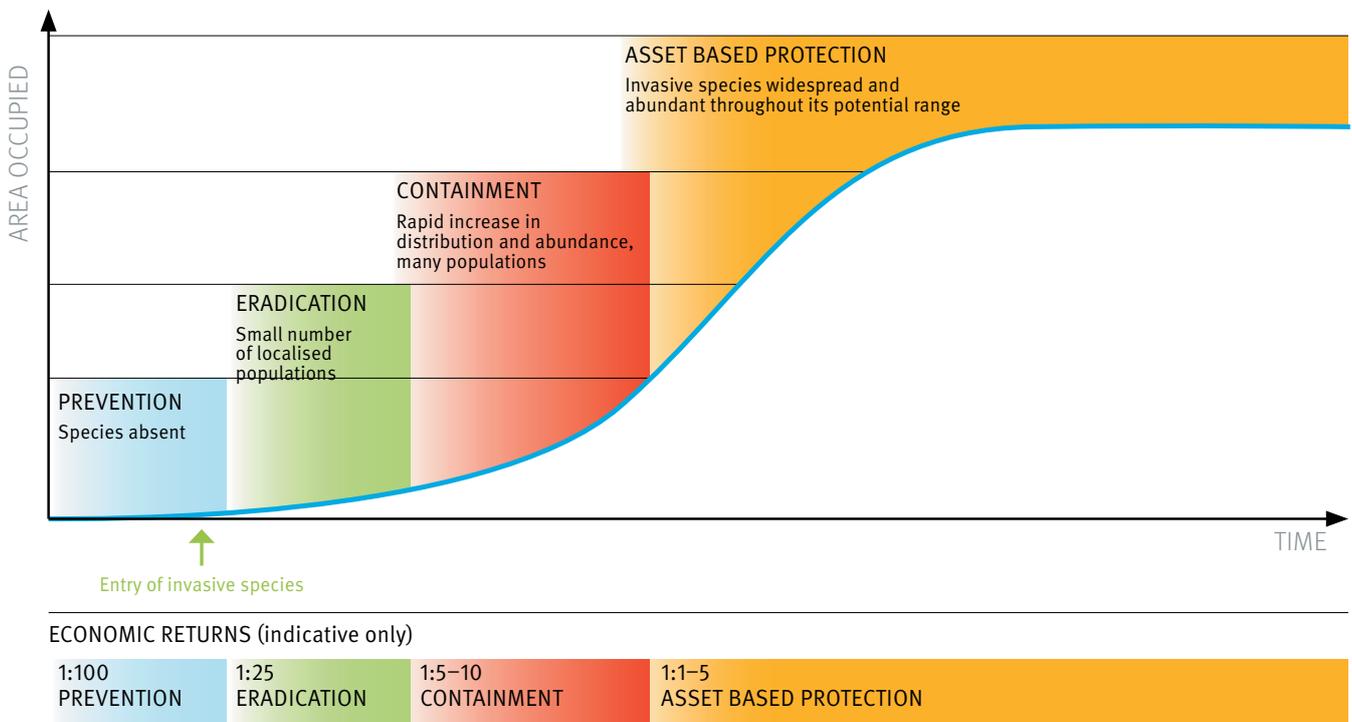
Appendix 1: Prioritisation process

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 4).
- 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).

Figure 4: The 'Invasion Curve', showing the importance of allocating resources to prevent the establishment of new pests. Sourced from Biosecurity Victoria, Department of Primary Industries, Victoria.

Generalised invasion curve showing actions appropriate to each stage



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 five categories: Limited Action, Asset-based Protection, Containment, Eradication or Prevention.

'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 is 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.



