Murray Regional Strategic Pest Animal Management Plan 2024-2028

Local Land Services

NSW GOVERNMENT

Acknowledgement of Country

The Murray Local Land Services region is situated in the traditional lands of the Wiradjuri, Wolgalu, Ngarigo, Banarang, Yorta Yorta, Barapa Barapa, Wamba Wamba, Nari Nari, Wadi Wadi and Mari Mari people. The Murray Local Board acknowledges and pays its respects to Elders, past and present and emerging of these nations.

Obligations to care for Country remain integral to Aboriginal and Torres Strait Islander lore, identity, culture and social and emotional well-being. The way in which traditional lands are being managed is of great interest to First Nations communities and Local Land Services understands that Aboriginal and Torres Strait Islander peoples have a significant contribution to make in relation to land management in the region.

Published by Murray Region of Local Land Services

Murray Regional Strategic Pest Animal Management Plan June 2024 –June 2028

First published May 2024

More information

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www.lls.nsw.gov.au

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Executive summary

The Murray Regional Strategic Pest Animal Management Plan was developed through consultation with a range of stakeholders. It is imperative that we all work together to manage pest animals.

This document covers 9 established pest species such as deer, pigs and rabbits, whilst highlighting 'alert species' which are pests that have been detected elsewhere yet pose a significant risk to our community and industries in the Murray Region of NSW.

Key outcomes from this plan include:

- the Murray community supports this plan.
- the Murray community shares the responsibility for pest animal management.
- the impact of priority pest animals on priority assets is reduced, and their spread contained.
- new pest species in the region are detected and incursions are eradicated.

This plan identifies a number of key stakeholders who greatly assist in the management of pests in the Murray Region of NSW. These include (but are not limited to) private and public land managers, the Indigenous community, NSW Department of Primary Industries (NSW DPI), Environment and Heritage (National Parks and Wildlife Service), WaterNSW, Forestry Corporation of NSW, Game Council of NSW, industry, special interest groups and community organisations.

1. Introduction

1.1 Overview

The Murray Regional Strategic Pest Animal Management Plan (RSPAMP or the plan) outlines how government, industry and the community can work together and share the responsibility to remove, 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 Murray Region. 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 work 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, land managers, government and industry to implement best practice behaviours to achieve effective pest animal management.

1.2 Purpose of plan

The plan's purpose is:

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 land managers will share responsibility and work together across land tenures to prevent, eradicate, contain and manage the impacts of pest animals.

RSPAMPs aim to 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 Audience of the plan

This plan is for land managers and other people or organisations dealing directly or indirectly with pest animals, including anyone with a General Biosecurity Duty. This includes, but is not limited to:

- Public land managers e.g. Local Land Services (LLS), NSW DPI, Crown Lands, National Parks and Wildlife Service (NPWS), Environment and Heritage, Forestry Corporation, Transport for NSW, and local governments
- Private land managers e.g. primary producers, non-government conservation lands, Indigenous groups, mining companies, utility companies and residential land holders
- Research organisations
- Community groups e.g. Landcare, Wild Dog Associations, pest animal management groups.
- Industry bodies e.g. NSW Farmers Association
- Government agencies (e.g. those providing extension services and access to funding – e.g. LLS, NSW DPI)

1.4 What is considered a pest animal?

Pest animals can be considered as any species (other than native species) that present a biosecurity threat.

Whilst the *NSW Biosecurity Act 2015* does not define pest animals, there are specific activities that are permitted under the Biosecurity Order (Permitted Activities) 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* outlines 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 meet their general biosecurity duty and land managers and community members should work with stakeholders identified for ongoing implementation of pest animal management practices.

This plan for the Central Tablelands region acknowledges that certain pest species won't be included due to a lack of effective, landscape scale control measures. These pest species may include the following pest fish and amphibian species (e.g. European carp, red eared slider turtles), pest bird species and pest rodent species. Pest rodent species are considered an in crop issue – for further management information contact your local agronomist. Please refer to section 1.8 for more information on alert species.

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 NPWS 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 NPWS can issue a biodiversity conservation licence to harm protected native animals under the *Biodiversity Conservation Act 2016*.

For further information visit: https://www.environment.nsw.gov.au/licences-and-permits/wildlife-licences

In both the NSW Wild Dog Management Strategy and National Wild Dog Action Plan, the term 'wild dog' refers to all wild-living dogs (Canis familiaris) and includes dingoes, feral domestic dogs and their hybrid descendants. There is considerable interest in dingo conservation in Australia, including concerns about their genetic integrity and preserving their ecological roles. Both the NSW Wild Dog Management Strategy and the National Wild Dog Action Plan promote a balance between managing wild dogs in areas where they have negative impacts and preserving their ecological roles in designated conservation areas.

For further information visit:

- NSW Wild Dog Management Strategy https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0004/445234/wild-dog-management-strategy-2022-2027.pdf
- National Wild Dog Action Plan https://wilddogplan.org.au/wp-content/themes/nwdap/docs/NWDAP2020-2030.pdf

1.6 Framework for managing pest animals

The goals of the RSPAMP are consistent with the goals of the *NSW Invasive Species (IS) Plan*.

The IS Plan adopts 4 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:

Build capacity and capability – ensure NSW has the ability and commitment to manage invasive species

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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 NSW. All stakeholders – government agencies, industry, land managers and members of the community – play a valuable role in confronting the challenges and achieving the goals and actions outlined in this plan.

Figure 1.6.1: How the RSPAMPs fit in the NSW biosecurity framework for pest animals

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 the coordination and regulation of pest animal management under the legislative framework. NSW DPI has a lead role in managing terrestrial and freshwater aquatic pest incursions. LLS supports the delivery of pest animal management activities and has a regulatory role under the *NSW Biosecurity Act 2015*.

The role of Local Land Services

The role of LLS is to be the interface between land managers and government across invasive species management. LLS is responsible for the operational aspects, including planning and coordination, of established terrestrial vertebrate pest management. LLS builds the capacity of land manager groups to start pest animal management, including education and compliance related to land manager obligations under the *NSW Biosecurity Act 2015* and *Local Land Services Act 2013*. LLS also provides operational assistance during invasive species incursions and surveillance operations.

Key roles of LLS in relation to invasive species include:

- providing capacity building and technical advice
- facilitating the planning, implementation and review processes of Regional Pest Animal Committees (RPACs) as a method of stakeholder consultation for strategic planning
- distributing the vertebrate pesticide 1080 (sodium fluoroacetate) and providing associated training for land managers
- coordinating largescale across tenure pest animal control programs with associated land manager communication and compliance activities as necessary
- supporting applied research and extension of latest research results.

The role of the NSW DPI, State Pest Animal Committee, Regional Pest Animal Committee, public land mangers, and private land managers in the delivery of the RSPAMP is outlined below:

NSW Department of Primary Industries

The NSW DPI is the lead agency for invasive species policy in NSW. It also takes a lead role in managing new terrestrial and aquatic invasive species incursions and for managing established aquatic pests. The NSW DPI supports the implementation of the regional key deliverables by:

- representing the NSW Government at national forums where invasive species management is discussed and coordinated.
- managing updates and amendments to the *NSW Biosecurity Act 2015*.
- administering the NSW Marine Pest Surveillance Plan (2022-2026).
- administering the NSW Freshwater Pest Surveillance Plan (2022-2026).
- managing Vertebrate Pest Research Units that collaborate nationally and internationally to develop improved invasive species control techniques and management approaches.
- administering licensing systems for recreational hunting of certain game and pest animals and for the keeping of certain permitted nonindigenous animals.
- facilitating delivery of accredited invasive species management training to promote best practice community engagement, planning and management.
- developing policies and guidelines to support the work of the State Pest Animal Committee to ensure a consistent approach to planning, operations and enforcement across the state.

State Pest Animal Committee

The State Pest Animal Committee (SPAC) oversee key policy and strategy documents to guide pest animal management outcomes across the state.

Regional Pest Animal Committee

Regional Pest Animal Committees (RPACs) facilitate tenure neutral strategic planning and coordination for priority pest animal management programs in each LLS region. RPACs have an important role to play in the delivery of this plan 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.

Working groups form from RPAC members to undertake particular activities. While the RPAC is not the lead for actual on ground control works, the committee and the working groups allow for strategic nil tenure planning for coordinated control undertaken by respective land managers or other lead bodies or organisations.

Public land managers

All Federal, State and local government agencies that manage land have an important role in the management of invasive species in NSW. These areas include: land reserved for its biodiversity, history or scenic value; land that has a commercial value containing harvestable resources; land used for the State's infrastructure or transport corridors; and land that has not been claimed for any specific purpose.

Private land managers

Key roles of private land managers in invasive species management include:

- managing invasive species on land and in aquatic environments used for production.
- managing risks when trading in potential or known invasive species used for, or held by, nurseries, zoos and collectors, agriculture, horticulture, aquaculture and biofuel developments.
- managing vectors or pathways for invasive species to prevent the establishment of invasive species, through movement of goods, produce and equipment or related activities such as the disposal of ships' ballast.

For more information on key roles and responsibilities in pest animal management, please refer to the Invasive Species Plan 2023-2028

1.8 Incursion management and alert species

We need to work together to ensure early detection and awareness of incursions and alert species can be managed swiftly and effectively. It is important the community remain vigilant and report any unusual sightings to ensure a rapid management response.

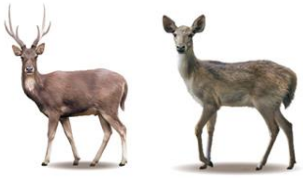
The *NSW Biosecurity Act 2015* outlines species that are prohibited from being kept in NSW.

Land managers and community members play a major role in reporting any unusual sightings of pest animals in the region.

The table below provides examples of some key alert species for the NSW Murary region.

List of alert species known to be found in the Murray region:

Species common name	Scientific name	Species illustrative image
African hedgehog	*Atelerix albiventris*	
American alligator	*Alligator mississippiensis*	
American corn snake	*Pantherophis guttatus* / *Elaphe guttata*	
Asian black-sniped toad	*Duttaphrynus melanosticus*	
Boa constrictor	*Boa constrictor*	
California kingsnake	*Lampropeltis getula californiae*	
Cane toad	*Rhinella marina*	

Species common name	Scientific name	Species illustrative image
Feral deer (chital)	*Axis axis*	
Feral deer (hog)	*Axis porcinus*	
Feral deer (rusa)	*Cervus timorensis*	
Green iguana	*Iguana iguana*	
Indian palm squirrel	*Funambulus palmaruman and Funambulus pennanti*	
Mozambique tilapia	*Oreochromis niloticus*	
Red eared slider turtle	*Trachemys scripta elegans*	
Veiled chameleon	*Chamaeleo calyptratus*	

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

- Complete the report an unusual animal sighting form
- Phoning the NSW DPI Invasive Plants and Animals Enquiry line at: 1800 680 244
- 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 NSW DPI, LLS and Environment and Heritage. Where species are widely established in NSW but have spread into a new region, LLS and the RPAC will consider whether local removal or containment should be attempted.

2. Your role in pest management

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 land managers, community, industry and government and requires a coordinated approach across all scales and 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 land managers 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, targeted and humane as possible.

3. Our region

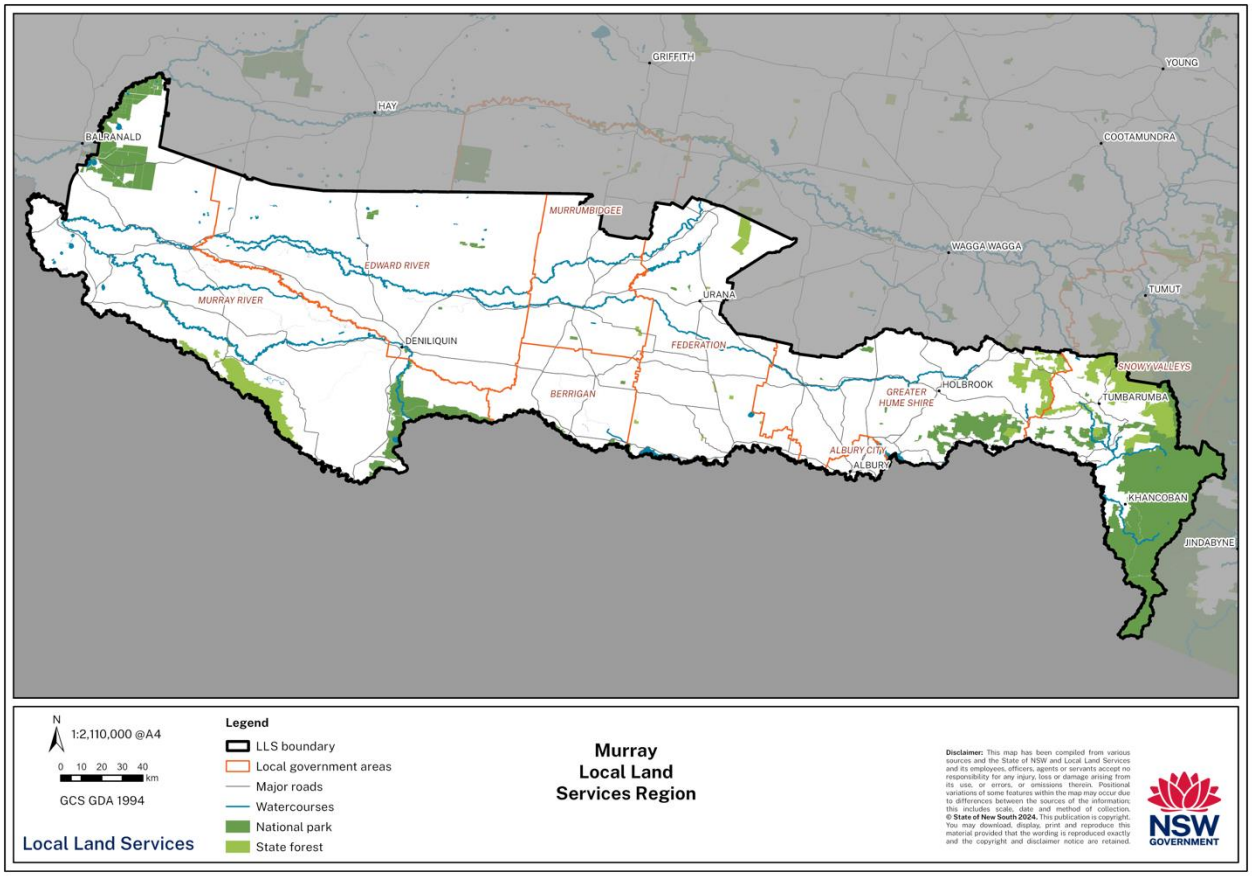
The NSW Murray LLS region covers a land surface area of over 42,000 km^2. Bordered by the Murray River in the south, the region's landforms and vegetation communities range from Australia's highest alpine peaks and slopes, forests, and grassy woodlands and grasslands of the Southwest Slopes region to the semi-arid woodlands and vast grasslands and scrublands of the Riverina Plains.

Agricultural industries are diverse, including irrigated and dryland cropping, livestock grazing, and dairy production, with an estimated one third of the region's community involved directly in agricultural enterprises. Extensive irrigation networks and the Snowy Hydro-Electric Scheme supply water to low rainfall areas. The region contains significant environmental assets such as the Central Murray state forests Ramsar sites.

Factors that currently influence pest animal management within the Murray region include restricted resources available for pest management, changes in farming practices (grazing to cropping), absentee land managers and small-scale farms, urban areas and public places with limited control options. Management of feral deer and feral cats is limited by a lack of control methods currently available for these species.

The Murray region borders Riverina, Western and South-eastern LLS regions as well as Victoria. Interregional cooperative programs are already in place for wild dogs (annual aerial baiting program) and feral pigs (Western Riverina Feral Pig Program) with both the Riverina and Western regions. While the Great Dividing Range and the Murray River present significant physical barriers to the Southeast region and Victoria, local management plans bordering these areas will consider possible cross-boundary pest management in conjunction with relevant stakeholders and agencies. The existing tristate partnership, comprising NSW, Victorian and South Australian regional natural resource management organisations, provides an excellent vehicle for inter-state cooperation on emerging cross-border pest animal issues e.g. common carp control developments.

Figure 3.1: Murray Local Land Services Region



60% of major land is used for grazing

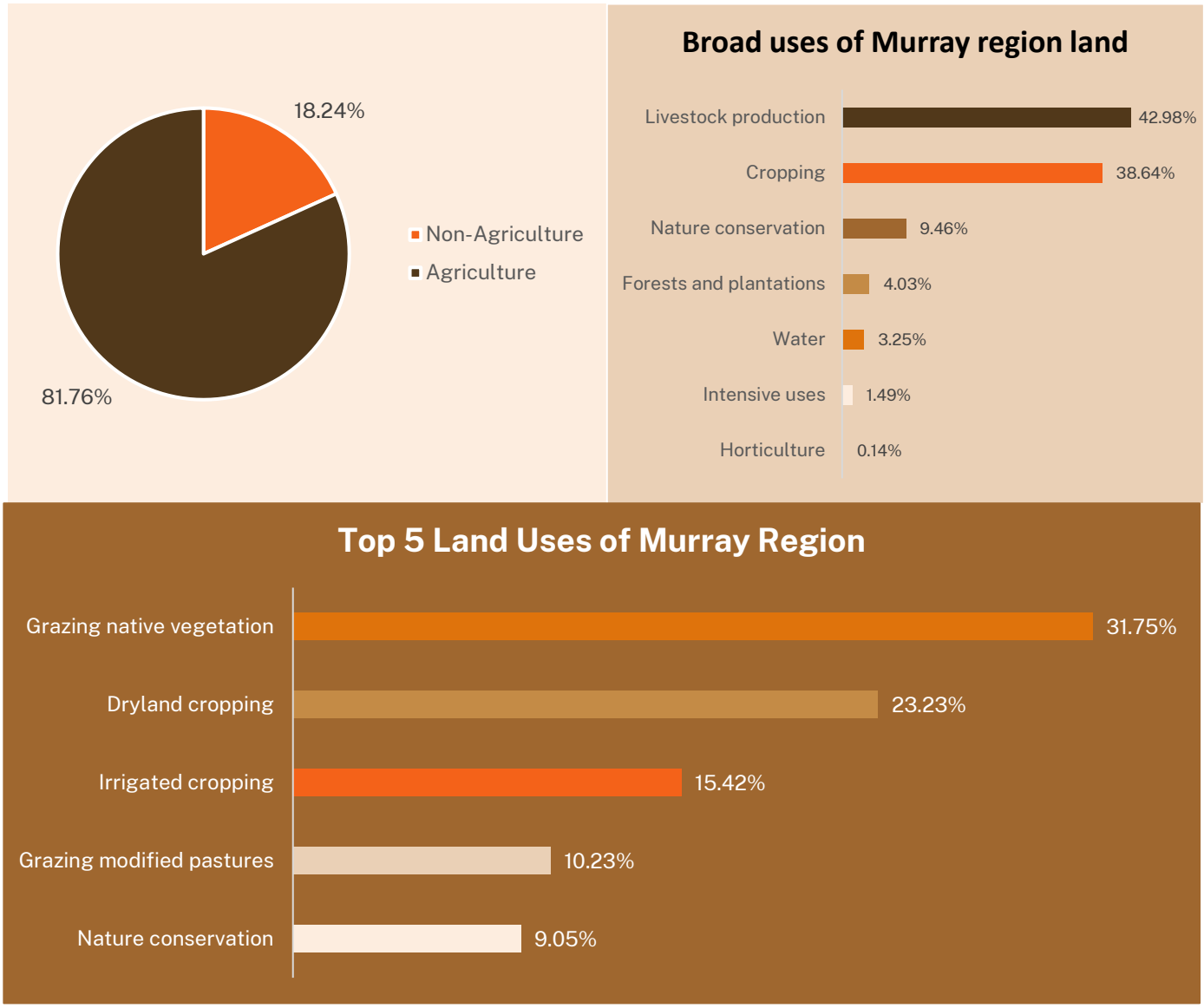
75% of land is privately owned in the region

33% of our residents are directly involved in agriculture

Table 3.1: Land use summary for Murray NRM region

Land use	Purpose	Details	Area (ha)	Share
Agriculture	Livestock production	Grazing native vegetation Grazing modified pastures Land in transition Irrigated pastures Intensive animal production	1,330,108 428,521 508 38,764 2,703	31.75% 10.23% 0.01% 0.93% 0.06%
	Cropping	Dryland cropping Irrigated cropping	973,206 645,895	23.23% 15.42%
	Horticulture	Dryland horticulture Irrigated horticulture Intensive plant production	463 5,432 64	0.01% 0.13% 0.00%
Non-agriculture	Nature conservation	Nature conservation Other protected areas including indigenous uses Minimal use	379,087 15,035 2,388	9.05% 0.36% 0.06%
	Forests and plantations	Production native forests Plantation forests (commercial and other)	131,106 37,879	3.13% 0.90%
	Intensive uses	Urban intensive uses Rural residential and farm infrastructure Mining and waste	40,997 18.958 2,346	0.98% 0.45% 0.06%
	Water	Water	136,244	3.25%
Grand Total			4,189,702	100.00%

Figure 3.2: Murray region land use summary



Data Sources:

ABARES 2021,Catchment scale land use of Australia –update December 2020, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra, February.

DAWE 2020, Nature Resource Management (NRM) Regions (2020), Department of Agriculture, Water and the Environment, Canberra, October.

4. Managing pest animals

Pests are regulated under the NSW *Biosecurity Act 2015* according to the risk they pose to the environment, community, and economy. Pests that create the highest *level of risk* and have the highest *feasibility of being controlled* are classified as priority pests.

Management action, investment and compliance effort should be directed toward priority pests. Risk-based decision-making and pest prioritisation ensures that the Murray's pest management response is:

- reasonably practicable
- matched to the degree of risk posed
- flexible and non-prescriptive.

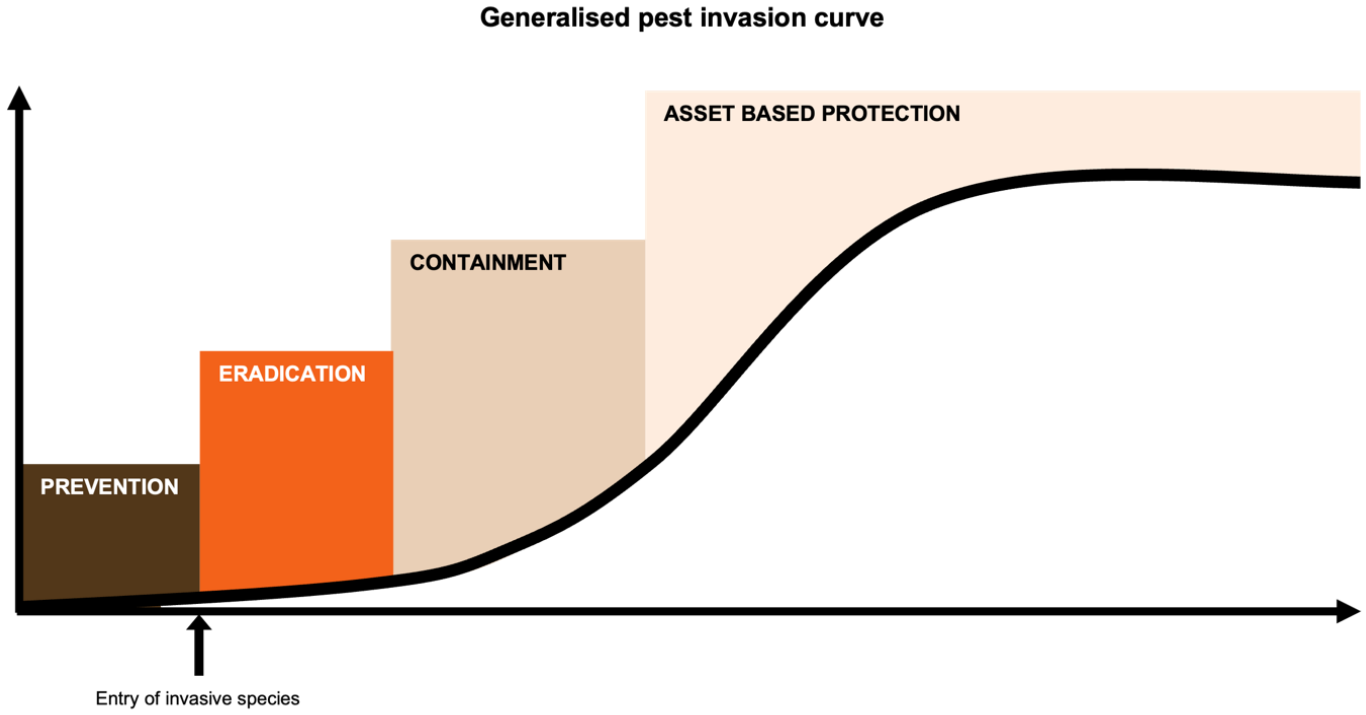
The pest prioritisation process used in this plan is guided by the principle that:

> *Managing new pests earlier rather than later is the most efficient and cost-effective way to protect local communities, environments, and industries from the impacts of pests in the long-term.*

The generalised 'pest invasion curve' (see ***Figure 4.1: The 'invasion curve' showing the importance of allocating resources to prevent the establishment of new pests. (Agriculture Victoria)***

Figure 4.1 outlines the approach taken to pest animal management within NSW. The curve illustrates the invasion process of pests from arrival to widespread establishment, while showing that the effort and resources required to control a pest rises with time and area occupied. Each stage along the continuum has a range of recommended activities required to achieve the overarching objective. Activities focused on preventing an invasive species incursion sit on the 'left hand side' of the curve and offer a greater return on investment than actions focussed on the management of established invasive species (the 'right hand side' of the curve), where measures seek to protect high value assets and are required in perpetuity.

Figure 4.1: The 'invasion curve' showing the importance of allocating resources to prevent the establishment of new pests. (Agriculture Victoria)



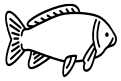
Economic returns (indicative only)

1:100 PREVENTION	1:25 ERADICATION	1:5-10 CONTAINMENT	<1:1-5 ASSET BASED PROTECTION

Definitions and responsibilities (indicative only)

PREVENTION	ERADICATION	CONTAINMENT	ASSET BASED PROTECTION
DEFINITION: to prevent the pest animal species arriving and establishing in the region causing adverse impacts on the environment, society and the economy. ALL LAND MANAGERS RESPONSIBILITIES: To understand report any sightings of alert species.	DEFINITION: To permanently remove the species from the state or region and to develop actions to prevent its re-establishment. ALL LAND MANAGERS RESPONSIBILITIES: To participate in coordinate programs and stay up-to-date with current information on pest animals in the region.	DEFINITION: To prevent the spread of pest animal species onto other parts of the state or region. ALL LAND MANAGERS RESPONSIBILITIES: To participate in coordinated programs, stay up-to-date and apply best practice pest animal management practices.	DEFINITION: To reduce the impact of widespread pest animals on key assets with high economic, environmental, and social value. ALL LAND MANAGERS RESPONSIBILITIES: To participate in coordinate programs, stay up-to-date and apply best practice pest animal management practices. Ensure practices are coordinate with the wide community.

Table 4.1: List of priority species mapped against their category in the 'Invasion curve'

Icon	Common name	Management category	Section in plan
N/A	Alert species	**PREVENTION**	1.8
	Wild dog (West of the Hume highway)	**ERADICATION**	5.1
	Feral goat (Albury City Council LGA)	**CONTAINMENT**	5.2
	Feral cat	**ASSET BASED PROTECTION**	5.3
	Feral deer	**ASSET BASED PROTECTION**	5.4
	Wild dog (East of the Hume highway)	**ASSET BASED PROTECTION**	5.1
	European red fox	**ASSET BASED PROTECTION**	5.5
	Feral goat (excluding Albury City Council LGA)	**ASSET BASED PROTECTION**	5.2
	Feral horse	**ASSET BASED PROTECTION**	5.6
	Indian myna	**ASSET BASED PROTECTION**	5.7
	Feral pig	**ASSET BASED PROTECTION**	5.8
	Wild rabbit	**ASSET BASED PROTECTION**	5.9
	Common carp	**LIMITED ACTION**	Appendix 3
	Watch alert species (house mouse)	**LIMITED ACTION**	Appendix 4

5. Our priority pest species

Pest animals for the Murray Region have been prioritised based on level or risk and feasibility of control assessed through prioritised guidelines using the South Australian Pest Animal Risk Management Guide and prioritisation tool (see Appendix 1). Priority species listed below have been sorted into management categories and further strategies and actions are detailed.

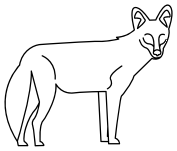
Pest animal management is most effective when it employs an integrated program of different tools and techniques. In this plan:

- **Primary control** refers to activities that can achieve rapid pest population knockdown over large areas in a cost-effective way.
- **Supplementary control** refers to activities that are generally only effective in helping to maintain pest population suppression once densities have already been reduced to low levels.

5.1 Wild dog

ERADICATION
(West of Hume highway)

ASSET BASED PROTECTION
(excl. West of Hume highway)



Key stakeholders	Responsibilities and expectations
Community groups	Wild dog/Pest Animal Management Groups are key community stakeholder groups who coordinate landholders in an area for landscape control. These groups run aerial baiting programs, through LLS, and liaise with other landholders and champion need for control in their areas.
Public and private land holders	All land managers can reduce risks from wild dog populations on land under their care and control, by undertaking activities that: • Reduce the risk of wild dogs breeding on or being introduced to their land. • Reduce the risk of wild dogs being released into the environment. • Reduce the risk of wild dogs accessing easy food sources on their land. • Reduce the negative impacts of wild dogs on priority assets on their land and neighbouring lands. Examples of activities a land manager could undertake to achieve these outcomes are: • participating in coordinated pest animal control programs • undertaking activities that incorporate both primary and supplementary pest animal control • reporting any wild dog activity to neighbours and their local biosecurity officer and wild dog scan • ensuring potential food sources such as carcasses, offal and food scraps are properly disposed of • ensuring pet and working dogs remain on their property and euthanising unwanted animals.

Distribution and impacts

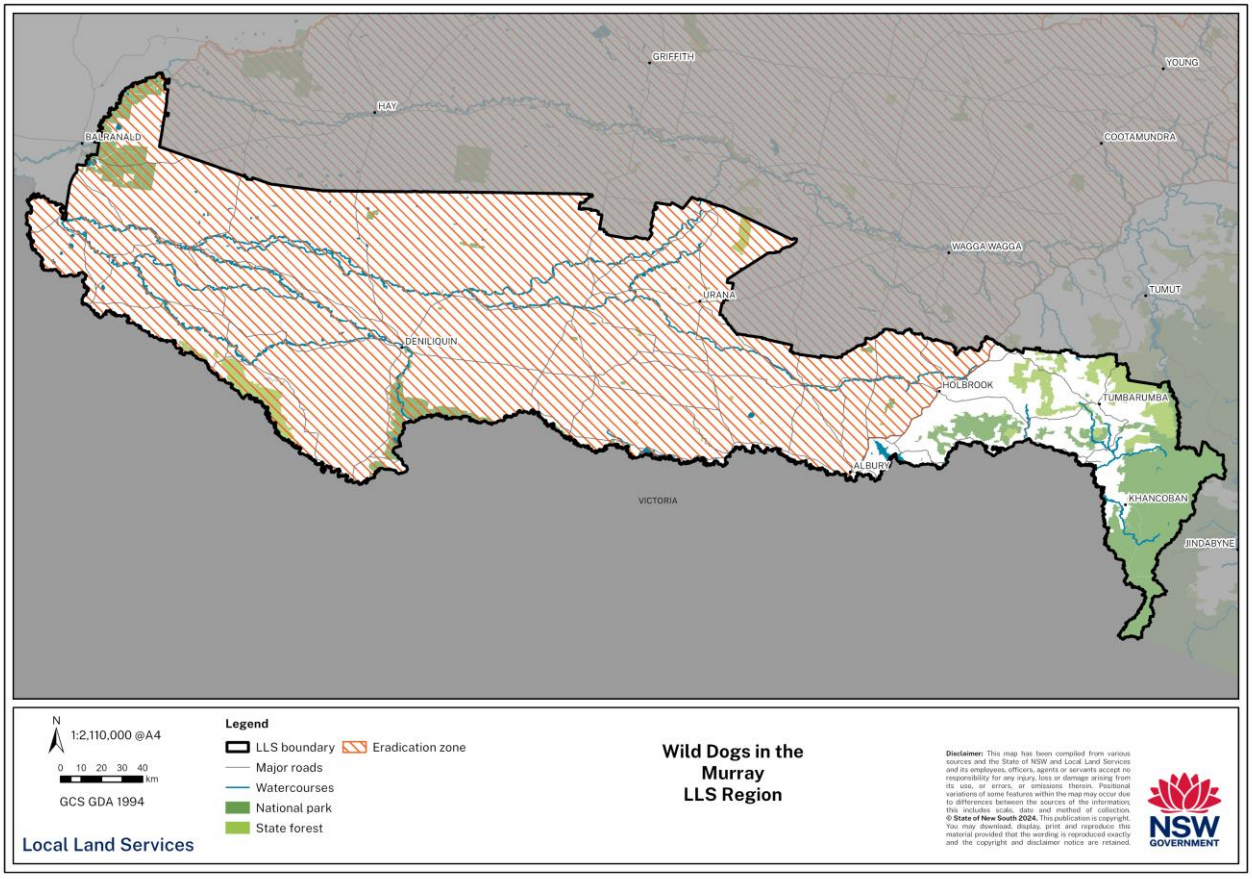
Wild dogs are established in the eastern part of the Murray LLS region (east of the Hume highway). Wild dogs have a significant impact on livestock and all land managers should participate in control programs.

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. This is to be achieved by having the RSPAMP and local wild dog management plans focus control on areas where the risk of negative impacts is greatest and not undertaking control in other parts of the landscape with a low risk of negative impacts from wild dogs to allow dingoes to fulfil their natural ecological role.

The region has well established collaborative management planning for wild dogs. These plans are developed by the Hume, Tumbarumba and Upper Murray Wild Dog Management Groups and outline the responsibilities, contributions, and intentions of each stakeholder.

Wild dog activity detected to the west of the Hume highway will be treated as a new incursion, and a specific, targeted eradication plan will be implemented to remove any wild dogs that are present.

Figure 5.1.1: Wild Dogs in the Murray LLS Region control zones



Wild dog management framework

Management category	Program name/area	Assets (where relevant)	Controls and timeframes
Asset based protection	All land within Murray LLS region, east of the Hume highway	Agriculture -livestock (e.g. sheep and calves)	Implement wild dog management plans, aerial baiting, ground baiting, trapping, shooting, exclusion fencing, monitoring, guardian animals – autumn for aerial baiting, ongoing
			Community meetings, field days, technical expertise, capacity building, feral scan – private reporting groups – ongoing
Eradicate	All land within Murray LLS region, west of the Hume Highway	Agriculture – livestock (e.g. sheep and calves	Prepare and implement a wild dog eradication plan, all methods available – as detected
		Ongoing community updates	Targeted within the incursion area – until eradication completed

5.2 Feral goat

CONTAINMENT
(Albury City Council LGA)

ASSET BASED PROTECTION
(excl. Albury City Council LGA)

Key stakeholders	Responsibilities and expectations
Public and private land holders	All land managers can reduce risks from feral goat populations on land under their care and control, by undertaking activities that: • reduce the risk of feral goats being released into the environment • reduce the negative impacts of feral goats on biodiversity assets on their land and neighbouring lands. Examples of activities a land manager could undertake to achieve these outcomes are: • participating in coordinated pest animal control programs • reporting any feral goat sightings or activity outside the mapped distribution to their local LLS Biosecurity Officer and FeralScan ensuring pet goats and livestock remain on their land.

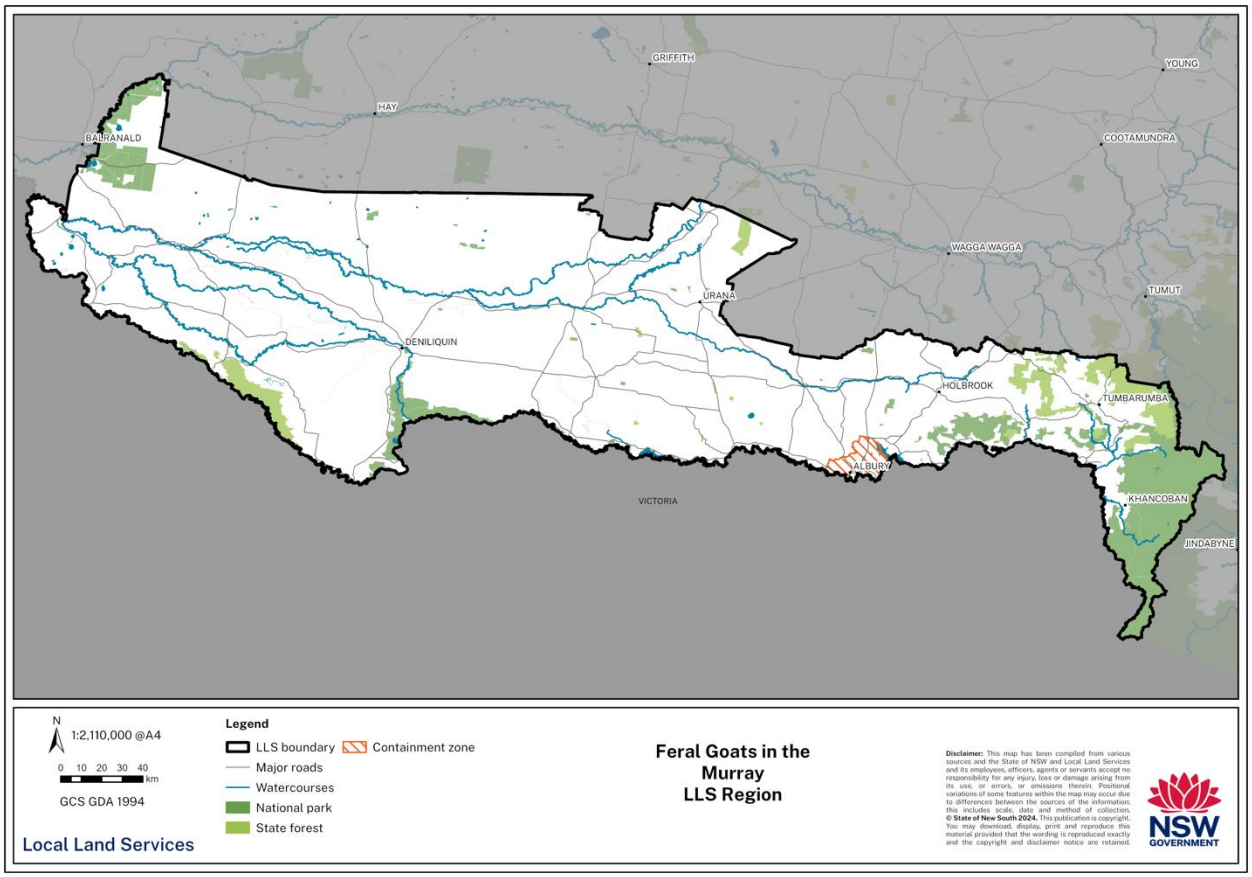
Distribution and impacts

Feral goat populations are largely found in small numbers and in isolated pockets across the region. Feral goats are mustered and sold as a resource by several land managers as market conditions remain favourable, and as such are being managed responsibly by regional landholders as part of their farming system with no impact on biosecurity for surrounding landscapes.

Land managers trading in goats within NSW are required to comply with the requirements of the National Livestock Identification Scheme. Where high populations of feral goats compete with livestock and native animals for pasture, contribute to land degradation and impact biodiversity through excessive grazing, they will be managed for asset protection.

The feral goat population in the Albury city council area is impacting on the environment, production and community amenity and therefore requires a coordinated control effort. The development and implementation of a local management plan within the Albury city council area will be an early priority to be delivered under this plan. Other areas requiring local plans will be identified as the regional plan is implemented.

Figure 5.2.1: Feral Goats in the Murray LLS Region control zones

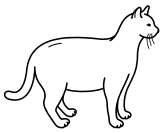


Feral goat management framework

Management category	Program name/area	Assets (where relevant)	Controls and timeframes
Containment	Albury City Council LGA	Agriculture, peri urban holdings, native vegetation	Primary - Coordinated control programs - ongoing Trapping - summer months on watering points for trapping Mustering, ground shooting, prepare and implement local goat management plans as required -ongoing
		Improve community participation in key areas	Targeted communications, e-newsletters, media coverage, social media, community meetings - ongoing
Asset based protection	Murray Region	Agriculture, peri urban holdings, native vegetation	Primary - Coordinated control programs - ongoing Trapping - summer months on watering points for trapping Mustering, ground shooting, prepare and implement local goat management plans as required -ongoing
		Improve community participation in key areas	Targeted communications, e-newsletters, media coverage, social media, community meetings - ongoing

5.3 Feral cat

ASSET BASED PROTECTION



Key stakeholders	Responsibilities and expectations
Government agencies	NPWS and LLS identify areas of fauna at risk or being impacted by cats and implement programs to reduce risk or impact.
Public and private land holders	All land managers can reduce risks from feral cats on land under their care and control, by undertaking activities that: • reduce the risk of feral cats breeding on or being introduced to their land • reduce the risk of feral cats being released into the environment. Examples of activities a land manager could undertake to achieve these outcomes are: • participating in coordinated pest animal control programs • inspecting/recording potential breeding sites like rabbit warrens, culverts etc on their land • keeping pet cats indoors, having them desexed and euthanising unwanted animals • reporting feral cat sightings, dumping or breeding activity through Feral Scan

Distribution and impacts

Feral cats are established and widespread across the Murray region. The species poses significant risk to the environment and the potential for disease transmission to livestock. Feral cats have been identified as a species warranting coordination with local government to progress control strategies.

The aim of the plan is to raise awareness of the impacts of feral cats on the environment, to work collaboratively with stakeholders to implement effective cat control programs and to encourage the community to embrace responsible cat ownership.

Community engagement, surveillance and reporting will be key focus areas for future feral cat management. The restricted number of control methods available is a significant limiting factor to effective feral cat management.

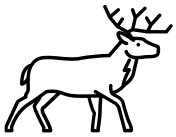
Note: Murray Local Land Services (2018). Pest distribution animal data has been sourced from NSW Government agencies and collated by the NSW Department of Primary Industries in 2016.

Feral cat management framework

Management category	Program name/area	Assets (where relevant)	Controls and timeframes
Asset based protection	Murray region	Livestock (farmed birds, small animals) Critical threatened species	Primary - Ground shooting, trapping, explore new management options, advocate for new targeted cat toxins, exclusion fencing - ongoing
		Improve community participation in key areas	E-newsletters, new innovations/control options, social media - ongoing

5.4 Feral deer

ASSET BASED PROTECTION



Key stakeholders	Responsibilities and expectations

Public and private land holders	All land managers can reduce risks from feral deer populations on land under their care and control, by undertaking activities that:
	• Reduce the risk of feral deer breeding on or being introduced to their land.
	• Reduce the risk of feral deer being released into the environment.
	• Reduce the negative impacts of feral deer on priority assets on their land and neighbouring lands.
	• Examples of activities a land manager could undertake to achieve these outcomes are:
	• Participating in coordinated pest animal control programs
	• Undertaking activities that incorporate both primary and supplementary pest animal control.
	• Reporting:
	  ○ Any feral deer sightings or activity outside the mapped distribution to their local biosecurity officer and Feral Scan
	  ○ Any deliberate release of feral deer to be reported.
	  ○ Any road related incidents or near misses to local police and report in Feral Scan.
	• Ensuring pet deer or livestock are tagged and remain on their land and euthanising unwanted animals.

Distribution and impacts

Feral deer are recognised in this plan due to their increasing impact on the key land use types: grazing modified pastures, cropping, plantation forest and conservation lands. The impacts of feral deer through grazing competition are considerable, together with the emergence of public safety issues for road users.

Feral deer species currently in the Murray region are fallow, red and sambar deer. The goal of the plan is to raise awareness and reporting of deer populations and to work with land managers and the community to develop and implement local feral deer control programs, where required, to limit the further spread and establishment of the species.

Feral deer are classified under the Game and Feral Animal Control Act 2002 (G&FAC) and Regulations 2012. Where local plans are implemented, consideration will be given to having the Game and Feral Animal Control Regulation 2012 suspended for feral deer in the local government area in which the local plan is to be implemented.

Assets where feral deer are currently distributed such as Central Murray State forests, Ramsar wetlands, the eastern slopes and ranges and other sites with significant environmental and cultural heritage will be prioritised for assessment of the need for the development of local feral deer management programs.

Figure 5.4.1: Fallow Deer in the Murray LLS Region distribution map

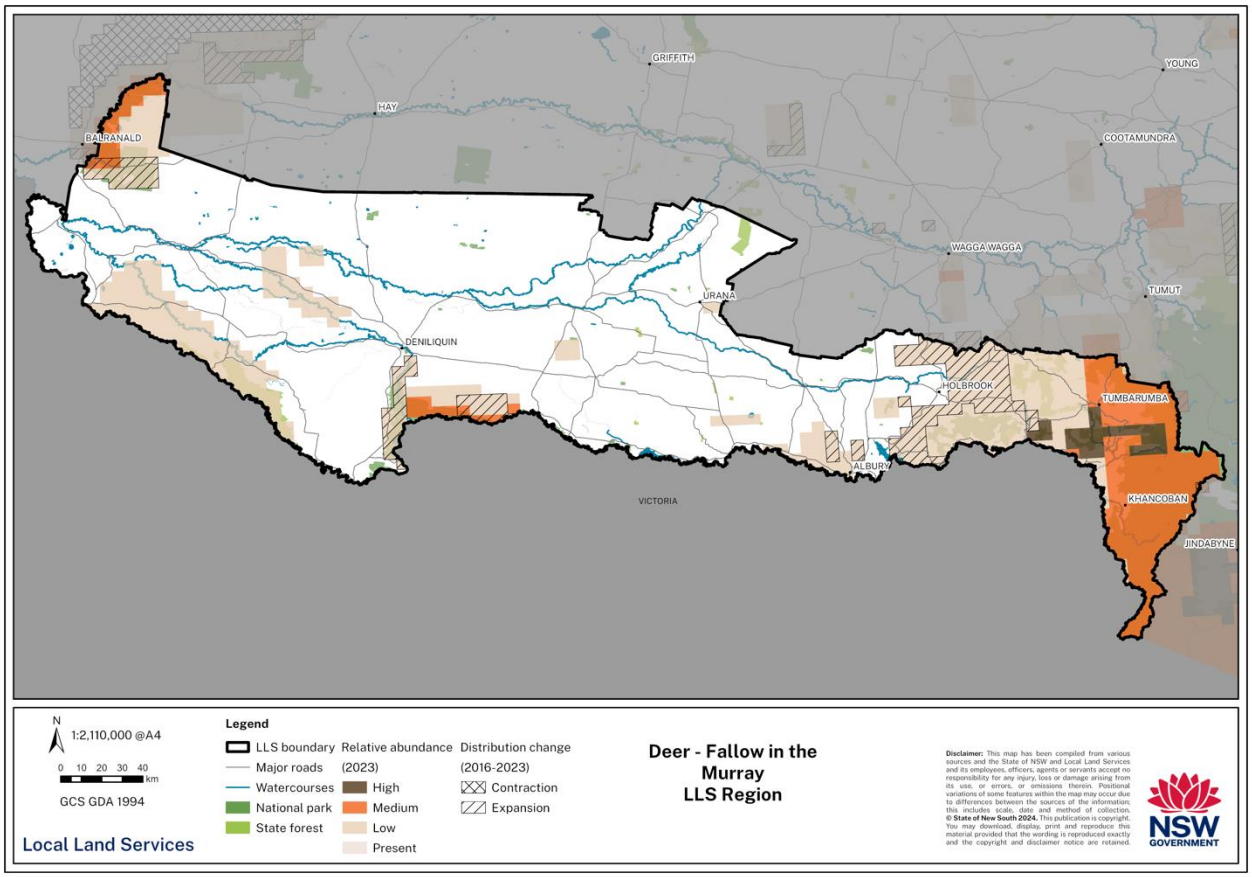


Figure 5.4.2: Red Deer in the Murray LLS Region distribution map

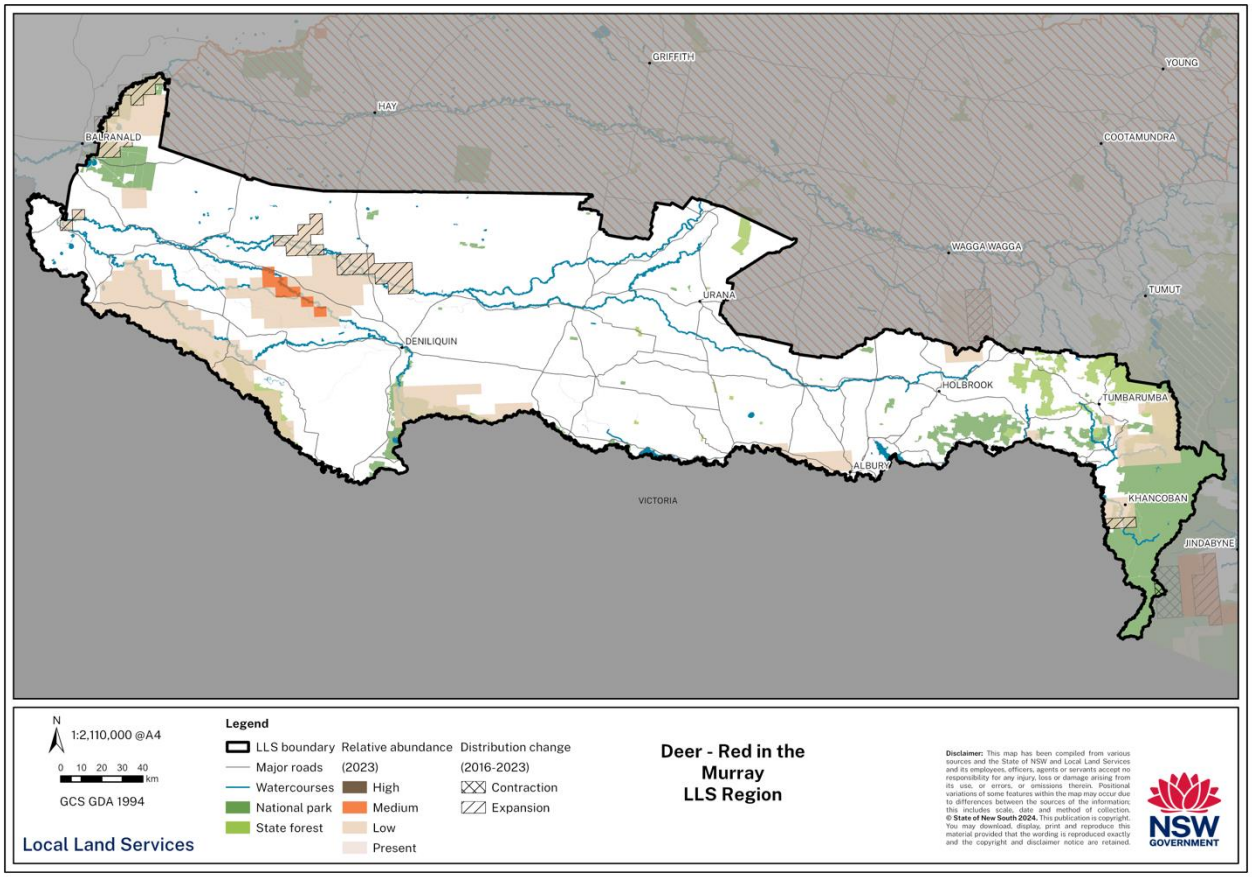
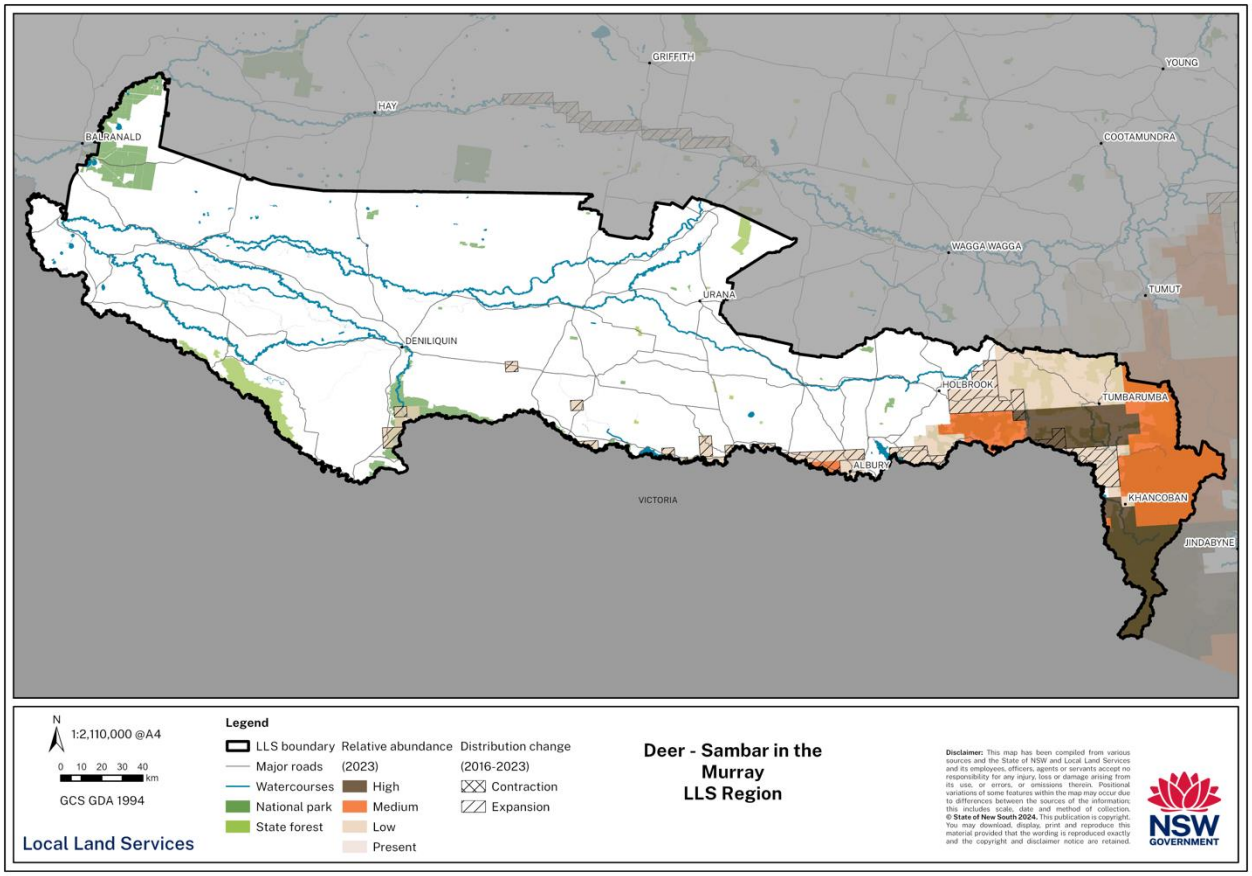


Figure 5.4.3: Sambar Deer in the Murray LLS Region distribution map



Feral deer management framework

Management category	Program name/area	Assets (where relevant)	Controls and timeframes
Asset based protection	Murray region	Agriculture, pastures, crops, forestry, horticulture, native vegetation, waterways	Regional deer plan, ground shooting, aerial shooting, recreational hunting, prepare and implement local management plans – ongoing
		Improve community participation in key areas	Targeted communications, e-newsletters, media coverage, social media, community meetings – ongoing

5.5 European red fox

ASSET BASED PROTECTION

Key stakeholders	Responsibilities and expectations
Government agencies	NPWS and LLS identify areas of fauna at risk or being impacted by foxes and implement programs to reduce risk or impact.
Public and private land holders	All land managers can reduce risks from European Red Fox populations on land under their care and control, by undertaking activities that: • Reduce the risk of foxes breeding on or being introduced to their land • Reduce the risk of foxes accessing easy food sources on their land • Reduce the negative impacts of foxes on priority assets on their land and neighbouring lands. Examples of activities a land manager could undertake to achieve these outcomes are: • Participating in coordinated pest animal control programs • Undertaking activities that incorporate both primary and supplementary pest animal control • Reporting any fox activity or dens to neighbours and their local biosecurity officer (and/or Feral Scan) • Ensuring potential food sources such as carcasses, offal and food scraps are properly disposed of.

Distribution and impacts

European foxes are widespread across the Murray region. As an established species that impacts on agricultural production and conservation lands, land managers should take all reasonable steps to suppress and destroy the population. Coordinated group fox baiting programs are well established within the Murray region. These programs provide land managers with technical support, training, access to fox baits and advice on best practice control options for fox populations.

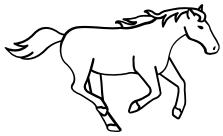
Barriers to effective control of fox populations are: changes in farming practices (grazing to cropping), absentee land managers, landholding aggregation, urban areas (public places - limited control options).

Major sheep-producing areas, Ramsar wetlands and other sites with significant environmental and cultural heritage will be prioritised for assessment of the need for the development of local management plans.

European fox management framework

Management category	Program name/area	Assets (where relevant)	Controls and timeframes
Asset based protection	Murray Region	Livestock – sheep, goats, farmed birds, piggeries, small domestic animals Critical threatened species.	Primary - Ground baiting, Autumn and Spring annually Fox exclusion fencing - ongoing Prepare and implement local fox management plans. Supplementary - Ground shooting - ongoing
		Improve community participation in key areas	Targeted communications, e-newsletters, media coverage, social media, community meetings - ongoing

5.6 Feral horse



ASSET BASED PROTECTION

Key stakeholders	Responsibilities and expectations
Government agencies	Take proactive actions to implement control.
Public and private land managers	All land managers can reduce risks from feral horse populations on land under their care and control, by undertaking activities that: • reduce the risk of feral horses breeding on or being introduced to their land. • reduce the risk of feral horses being released into the environment. Examples of activities a land manager could undertake to achieve these outcomes are: • participating in coordinated pest animal control programs • undertaking activities that incorporate both primary and supplementary pest animal control. • reporting feral horse sightings or activity outside the mapped distribution to their local LLS Biosecurity Officer and/or Feral Scan and any road related incidents or near misses to local police • ensuring horses are identifiable (branded) and remain on their land and euthanising unwanted animals.

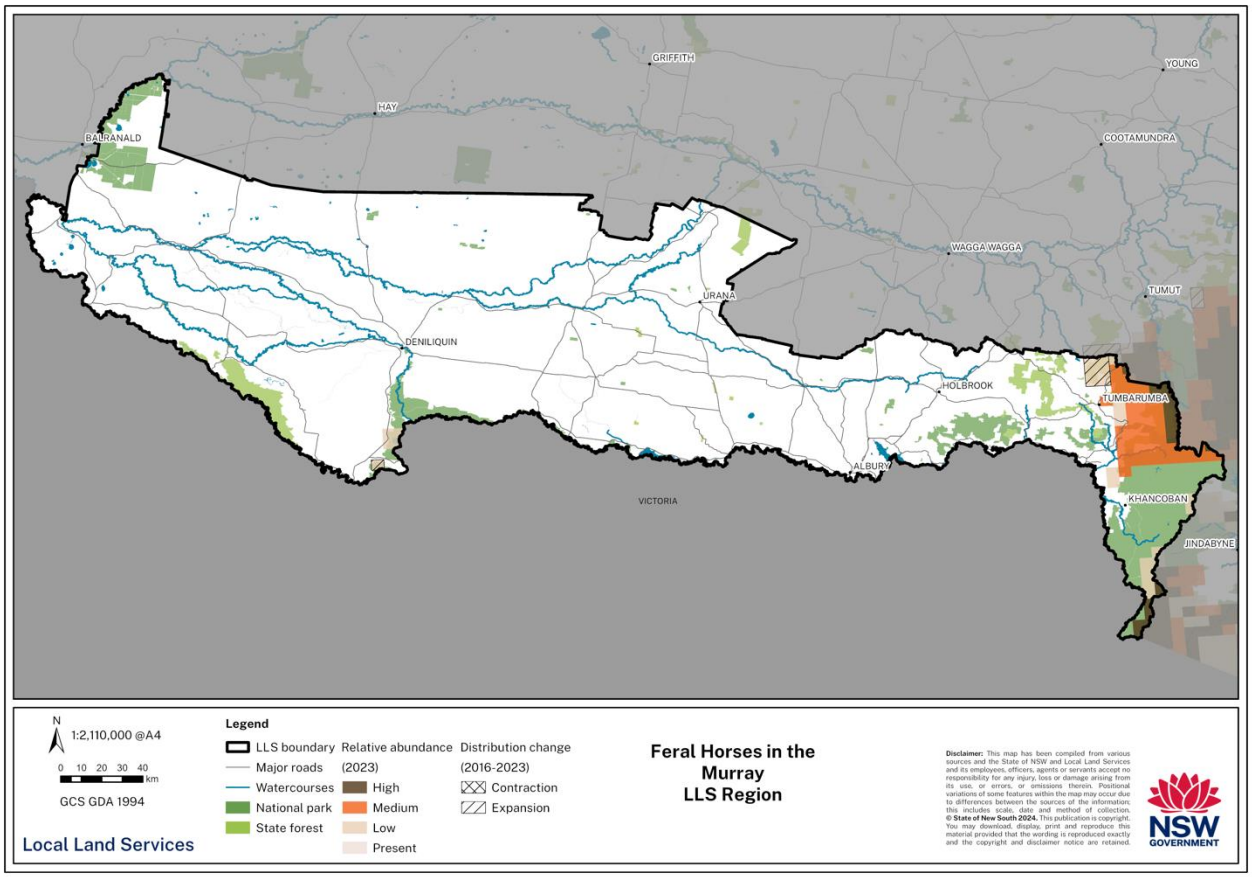
Distribution and impacts

A known established feral horse population is located in the eastern highland area of the Murray region, with small, localised populations in other areas of the region.

It is widely recognised that feral horses have negative impacts on sensitive environments and pose significant risks to road users. On land managed by NPWS Service and Forestry Corporation of NSW, the management of feral horses is currently guided by their feral horse management plans.

The aim of this plan is to raise awareness and provide guidance to land managers in managing feral horse populations using approved feral horse management practices.

Figure 5.6.1: Feral Horses in the Murray LLS Region distribution map



Feral horse management framework

Management category	Program name/area	Assets (where relevant)	Controls and timeframes
Asset based protection	Murray region	Environment, pastures, forestry, native flora, native fauna, waterways	Conduct control programs in line with approved horse management procedures - ongoing
		Improve community participation in key areas	Targeted communications, e-newsletters, media coverage, social media, community meetings - ongoing

5.7 Indian myna

ASSET BASED PROTECTION

Key stakeholders	Responsibilities and expectations
Government agencies	NPWS and LLS identify areas of fauna at risk or being impacted by cats and implement programs to reduce risk or impact.
Public and private land holders	All land managers can reduce risks from Indian mynas on land under their care and control, by undertaking activities that: • Reduce the risk of Indian mynas breeding on or being introduced to their land. Examples of activities a land manager could undertake to achieve these outcomes are: • Participating in coordinated pest animal control programs • Reporting Indian myna sightings or breeding activity through Feral Scan

Distribution and impacts

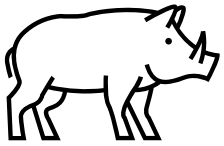
Indian myna are spreading across the Murray region. The species poses a significant risk to the environment. Indian mynas have been identified as a species warranting coordination with local government to progress control strategies, as they are an urban, peri urban and regional pest. The aim of the plan is to raise awareness of the impacts of Indian mynas on the environment, to work collaboratively with stakeholders to implement effective pest bird control programs and to encourage the community to report Indian myna activity. Community engagement, surveillance and reporting will be key focus areas for future Indian myna management.

Indian myna management framework

Management category	Program name/area	Assets (where relevant)	Controls and timeframes
Asset-based protection	Murray Region	Critical threatened species	Primary - Ground shooting, trapping, calling.
		Improve community participation in key areas	E-newsletters, new innovations/control options, social media - ongoing

5.8 Feral pig

ASSET BASED PROTECTION



Key stakeholders	Responsibilities and expectations
Government agencies	LLS to facilitate coordinated control programs, supply bait and traps for use.
Public and private land managers	All land managers can reduce risks from feral pig populations on land under their care and control, by undertaking activities that: • Reduce the risk of feral pigs breeding on or being introduced to their land • Reduce the risk of feral pigs being released into the environment • Reduce the risk of feral pigs accessing easy food sources on their land • Reduce the negative impacts of feral pigs on priority assets on their land and neighbouring lands. Examples of activities a land manager could undertake to achieve these outcomes are: • Participating in coordinated pest animal control programs • Undertaking activities that incorporate both primary and supplementary pest animal control • Reporting any feral pig activity to neighbours and their local biosecurity officer (and/or Feral Scan) • Ensuring potential food sources such as carcasses, offal and food scraps are properly disposed of • Reporting any deliberate release of feral pigs or other suspicious activity to the DPI Invasive Plants and Animals Enquiry Line 1800 680 244.

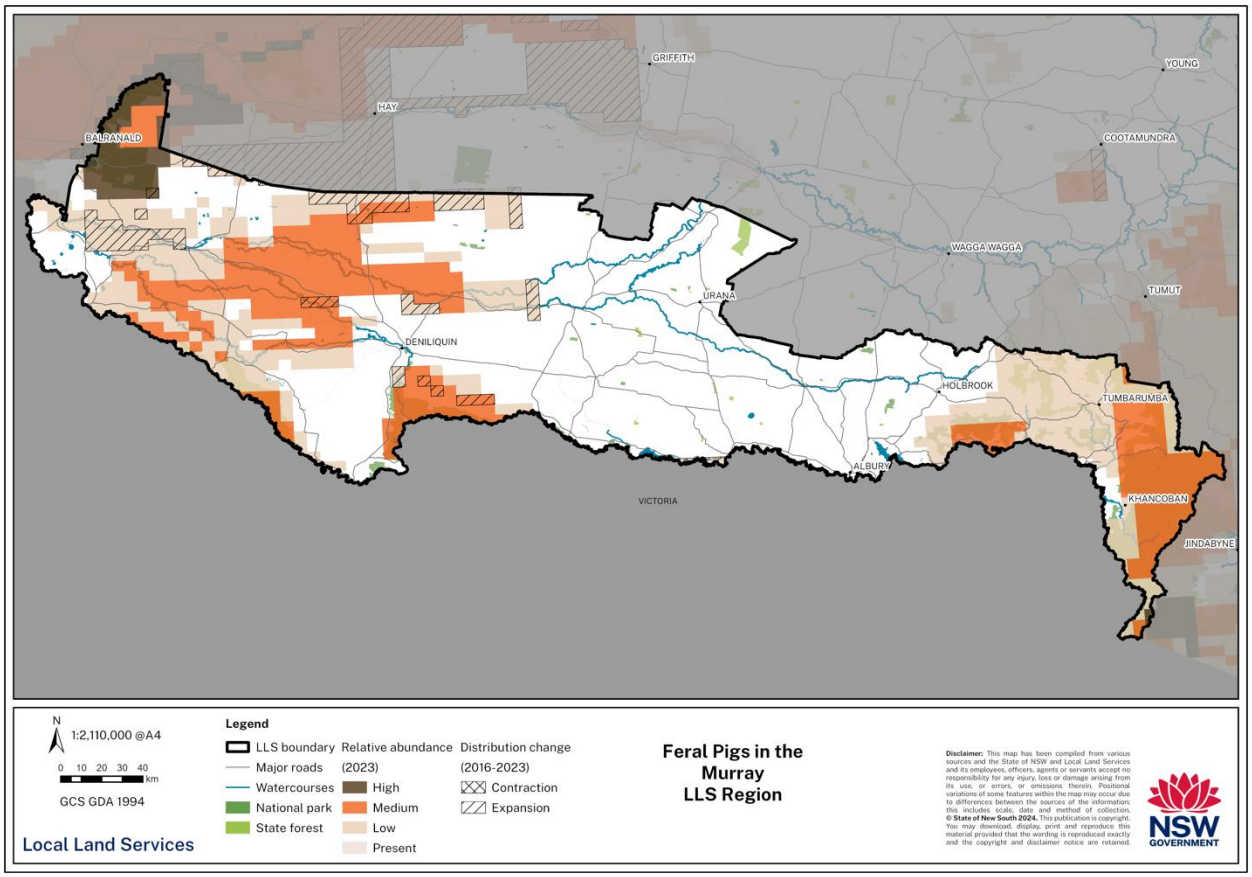
Distribution and impacts

Feral pigs are becoming increasingly embedded in the region and have been assessed as having negative economic, environmental, and social impacts. The species poses threats to the major land uses in the region, namely grazing, cropping, forestry, conservation and land being rehabilitated. Local control programs will provide land managers with technical support, chemical user training and access to best-practice control options to manage feral pig populations. Unauthorised and uncoordinated recreational hunting activities that scatter feral pig populations may jeopardise effective control.

An inter-regional feral pig program has been operating in the northwest of the region for several years. The program is a joint Murray, Riverina, and Western LLS program with participation by private land managers, NSW National Parks and Wildlife Service and NSW Department of Industry - Lands and Water and will serve as a template for future local feral pig management plans.

Mixed farming, including irrigation and dryland areas, forested areas, Ramsar wetlands and other sites with significant environmental and cultural heritage will be prioritised for assessment of the need for the development of new local feral pig management plans.

Figure 5.8.1: Feral Pigs in the Murray LLS Region distribution map

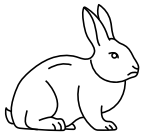


Feral pig management framework

Management category	Program name/area	Assets (where relevant)	Controls and timeframes
Asset-based protection	Murray region	Agriculture – Livestock (e.g. lambs), pastures, crops, water quality, infrastructure, critical threatened species	Primary – coordinated group programs – ongoing. Ground baiting, ground trapping, aerial shooting, prepare and implement local feral pig management plans - concentrated control programs during dry periods. Supplementary – ground shooting, recreational hunting - ongoing
		Human health Emergency animal disease	
		Improve community participation in key areas	Targeted communications, e-newsletters, media coverage, social media, community meetings - ongoing

5.9 Wild rabbit

ASSET BASED PROTECTION



Key stakeholders	Responsibilities and expectations
Government agencies	LLS will: • Support land managers to meet their General Biosecurity Obligation • Release the Calicivirus when as appropriate • Provide baits • Provide training resources on best practice.
Public and private land holders	All land managers with warrens and harbour are expected to participate fully in coordinated programs on warren and harbour destruction in their area, especially those with warrens suited to ripping. All land managers can reduce risks from rabbit populations on land under their care and control, by undertaking activities that: • Reduce the risk of rabbits breeding on or being introduced to their land • Reduce the risk of rabbits being released into the environment • Reduce the negative impacts of rabbits on priority assets on their land and neighbouring lands. Examples of activities a land manager could undertake to achieve these outcomes are: • Participating in coordinated pest animal control programs • Undertaking activities that incorporate both primary and supplementary pest animal control • Reporting warrens and known harbour to their local biosecurity officer or through Feral Scan) • Keeping pet rabbits secure and euthanising unwanted animals.

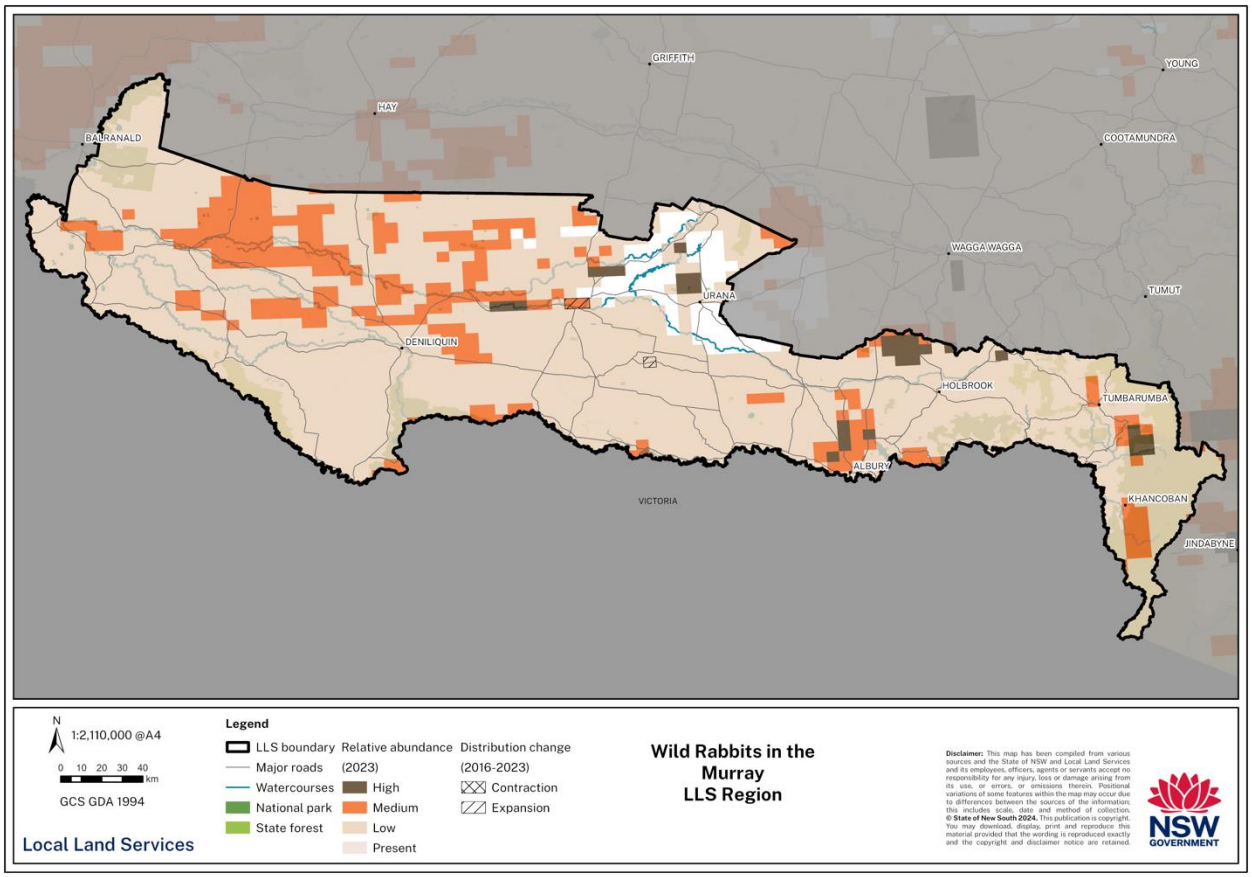
Distribution and impacts

Wild rabbits are widespread across the Murray region. This plan aims to reinvigorate rabbit management and encourage land managers to become more active in their direct control methods each year. Annual rabbit control programs are well established in the pastoral areas, being areas of high rabbit infestation, within the region. Local control programs will provide land managers with technical support, chemical user training and access to best-practice control options to manage rabbit populations. Seasonal variations may reduce the effectiveness of biological control and use of these controls will be managed accordingly.

Barriers to effective control of the wild rabbit are changes in farming practices, small scale farms, urban areas (public places - limited control options) and seasonal conditions.

Mixed farming areas, Ramsar wetlands and other sites with significant environmental and cultural heritage will be prioritised for assessment of the need for the development of local rabbit management plans.

Figure 5.9.1: Wild Rabbits in the Murray LLS Region distribution map



Wild rabbit management framework

Management category	Program name/area	Assets (where relevant)	Controls and timeframes
Asset based protection	Murray region	Infrastructure, dams, crops, waterways, pasture, native vegetation, soil structure, cultural heritage sites	Primary – ground baiting, harbour destruction, biological control, exclusion fencing, prepare and implement local rabbit management plans – ongoing, prolonged ground baiting during dry periods
			Supplementary – ground shooting, fumigation, trapping - ongoing
		Improve community participation and awareness in key areas	Targeted communications, e-newsletters, media coverage, social media, community meetings – ongoing
		Improve reporting to guide state-wide activities	LLS database, Feral Scan use - ongoing

6. Measuring success and continuous improvement

The development and monitoring toward key performance indicators (KPIs) is a critical component of this plan. Monitoring indicators provide 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 chapter 6.1 below.

6.1 Key performance indicators (KPIs)

KPIs have been set to ensure practices are effective and achieving outcomes. These are focused at a regional scale to ensure the implementation of programs delivers 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 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 review the plan for continuous improvement.

6.1.1 Statewide 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 on targeted evaluations on important outcomes which will be able to be aggregated to a State level to provide information on progress to reduce pest animal density and distribution and the impact on economic, social and environmental issues.

Goal	Indicator	Rationale
Goal 1: Exclude – prevent the establishment of new invasive species	Number of incursions identified in the Murray region.	This KPI focuses on early detection, aiming to keep the number of new detections as low as possible through effective surveillance and biosecurity measures.
Goal 2: Eradicate or contain – eliminate or prevent the spread of new invasive species	Number of successful eradications of incursions of identified alert species outbreaks out of number of eradication programs rolled out within the Murray region. Number of successful containments of incursions of identified alert species outbreaks out of number of containment programs rolled out within the Murray region.	Eradication efforts are quantified by counting successful cases where new invasions were eliminated, demonstrating effective response capabilities. Where eradication efforts are not considered feasible, a containment approach should be considered.
Goal 3: Effectively manage – reduce the impacts of widespread invasive species	Reduction in the distribution, relative abundance and/or impacts of selected widespread invasive species within targeted areas over a set timeframe.	This KPI measures management effectiveness through the observable decrease in the distribution, relative abundance and/or impacts of widespread invasive species in critical ecosystems or regions.

Goal	Indicator	Rationale
Goal 4: Build capacity and capability – ensure NSW has the ability and commitment to manage invasive species	Number of training programs completed focused on management each year. Number of active coordinated pest animal control groups focused on management each year.	This KPI tracks the enhancement of organisational and community capacity to manage invasive species through education, training and collaborative efforts.

6.1.2 Species KPIs

Feral cat:

Objective	Activities	Indicator	Timeframe
Reduce the impacts to critical threatened species with sites to be identified in localised project plans.	Hold discussions with local government, NPWS and community undertaken on feral cat management and promotion of responsible cat ownership	Discussions with local government, NPWS and community undertaken on feral cat management and promotion of responsible cat ownership held	By 30th June then annually
Reduce the impacts to agricultural production.			
Promote responsible pet ownership.			

Feral deer:

Objective	Activities	Indicator	Timeframe
Prevent further establishment of feral deer populations.	Complete and/or implement local feral deer management plan for sites identified as negatively impacted by feral deer	Local feral deer management plan or plan in place for sites identified as negatively impacted by feral deer	By 30th June 2025
Reduce the impacts of feral deer on agricultural production, threatened species and ecological communities	Collect data on feral deer populations across the Murray region	Improved monitoring of feral deer populations and associated data collection across the Murray region established	By 30th June 2024

Wild dog:

Objective	Activities	Indicator	Timeframe
Reduce the impacts of wild dogs on agricultural production east of the Hume highway	Complete Hume Wild Dog Management Plan.	Completed Hume Wild Dog Management Plan.	Renew plan 30th June 2026
	Complete Upper Murray Cooperative Wild Dog Plan.	Completed Upper Murray Cooperative Wild Dog Plan.	Renew plan 31st Dec 2024
	Complete Tumbarumba Wild Dog Management Plan.	Completed Tumbarumba Wild Dog Management Plan	Renew plan 31st Dec 2024
No stock losses or impacts west of the Hume Highway	Implement education plan for wild dog incursions west of the Hume Highway	Education plan implemented for wild dog incursions west of the Hume Highway	Within one month on incursion report
Wild dog management groups are facilitated. Engage the community in wild dog management	Hold wild dog groups as part of management plans	Wild dog groups held as required as per the management plans.	Annually
	Identify, action and reported against regionally relevant goals of the NSW Wild Dog Strategy 2022-2027	Regionally relevant goals of the NSW Wild Dog Strategy 2022 - 2027 have been identified, actioned, and reported against.	Annually
	Deliver Vertebrae Pest Induction training	50 people have completed Vertebrate Pest Induction training.	Annually
	Produce and deliver targeted communications to encourage community to report wild dog activity.	Targeted communications to encourage community to report wild dog activity completed.	Annually

European red fox:

Objective	Activities	Indicator	Timeframe
Reduce the impacts of foxes on agricultural production and critical threatened species. Prevent the spread of disease	Complete local fox management plan/s	Local fox management plan or plans are in place	By 31 Dec 2024
	Establish and implement methodologically sound monitoring program	A methodologically sound monitoring program has been established and implemented	By 30 June 2024
	Conduct Vertebrate Pest Induction Training	50 people complete Vertebrate Pest Induction Training	By 30 June and then annually
Increase land manager participation in group control programs	Deliver Spring and autumn newsletters, e-newsletters and community meetings	Spring and autumn newsletters, e-newsletters and community meetings delivered	By 30 June and then annually

Feral goat:

Objective	Activities	Indicator	Timeframe
Reduce the impacts of feral goats on agriculture production, threatened species and ecological communities within the Albury city council area.	Complete Splitters Creek Management Plan targeting feral goats.	Splitters Creek Management Plan in place targeting feral goats.	By 30th June 2024 to June 2028
Identify sites outside the Albury city council that require action to reduce the impacts of feral goats on agricultural production and the environment.	Complete process to identify sites.	Site identification process completed.	By 30th June 2025
	Complete local feral goat management plans for identified sites.	Local feral goat management plans in place for identified sites.	By 30th June 2025

Feral horse:

Objective	Activities	Indicator	Timeframe
Land managers to manage feral horses in line with their current feral horse management plans, policies and/or objectives to reduce impacts on agricultural production, threatened species, the environment and/or public safety	Conduct annual review of status of feral horse management across the region	Annual review by the Murray Regional Pest Animal Committee of the status of feral horse management across the region completed	By 30th June 2025
	Develop and deliver targeted communications to encourage community to report feral horse activity	Targeted communications to encourage community to report feral horse activity completed.	Annually

Indian Myna:

Objective	Indicator	Timeframe
Reduce the impacts to critical threatened species with sites to be identified in localised project plans.	Discussions with local government, Public and Private land managers, and community to raise awareness of the impacts of the Indian myna.	By 30th June then annually

Feral pig

Objective	Activities	Indicator	Timeframe
Reduce the impacts of feral pigs on agricultural production, threatened species and ecological communities.	Complete local feral pig management plan/s	Local feral pig management plan or plans in place.	By 30th June 2024
	Conduct Vertebrate Pest Induction training for landholders	50 landholders have attended Vertebrate Pest Induction training	Annually by 30 June
Density and distribution data collection.	Collect data on feral pig populations across the Murray region	Improved monitoring of feral pig populations and associated data collection across the Murray region established	By 30th June 2024

Wild rabbit

Objective	Activities	Indicator	Timeframe
Reduce the impacts of wild rabbits on agricultural production, threatened species, ecological communities and cultural heritage	Develop local wild rabbit management plan.	Local wild rabbit management plan in place.	By 30th June 2025
	Deliver Vertebrate Pest Induction Training.	50 people complete Vertebrate Pest Induction Training.	Annually
	Develop and implement a methodologically sound monitoring program, including monitoring the effectiveness of RHD program	A methodologically sound monitoring program, including monitoring the effectiveness of RHD programs, has been established and implemented	By 30th June 2025
Coordinated wild rabbit baiting programs, increased reporting of rabbit activities	Deliver Autumn and Spring newsletters, social media, targeted field days.	Autumn and Spring newsletters, social media, targeted field days delivered annually.	Annually

6.2 Measuring performance

Reporting will occur on an annual basis based on the KPIs identified in this plan. A formal MERI process will be followed 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 and improvement

The Murray Regional Strategic Pest Animal Committee will foster adaptative management and continual improvement in pest animal management.

A midterm review of this plan will start in year 3 (2026) and a full review will commence nearing the end of the 5-year term for this plan (2028).

Pest animal risk assessments will be updated as needed and particular focus on year 3 will be on evaluation and review of the pest animals listed in this plan.

NSW Government agencies including LLS and DPI have important roles in ensuring that everyone meets their obligations in pest management. Compliance actions are based on risks. Updated compliance frameworks are being developed that will guide pest animal and weed enforcement. LLS will develop Annual Operations Plans over the first two years of the plan.

The Annual Operations Plans will detail pest control programs based on specific local risks. Assets requiring greater protection, biodiversity and cultural heritage will be considered when prioritising control programs. Pest population monitoring will be used to evaluate program effectiveness.

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 help land managers, the 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 has 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. Land managers, industry and the community should be familiar with these tools and what they require of them in their daily practices.

Further information on the NSW Biosecurity legislation can be found on the NSW DPI website:

- https://www.dpi.nsw.gov.au/dpi/bfs/aquatic-biosecurity/aquatic-biosecurity-legislation

Biosecurity management tools

Table 7.1: Tools available to authorised officers under the *NSW Biosecurity Act 2015* and the *NSW Biosecurity Regulation 2017* to manage the impact and spread of pest animals.

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. For example Hendra virus, foot and mouth disease and avian Influenza.

Control order

Can be made by the Minister or a delegate to establish a control zone or establish measures in connection with a control zone to prevent, eliminate, minimise and manage a biosecurity impact. For example disposal of contaminated stock to prevent entering the food chain.

Prohibited dealing

A dealing with biosecurity matter described in Schedule 3 of the Act. For example non indigenous animals such as the African Pgymy 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. For example phylloxera exclusion zone in Riverina.

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. For example a direction to a land manager to implement foot rot program.

Biosecurity undertaking

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 land managers and community members to understand, manage and mitigate risks associated pest animal management in the region. Organisations may choose to apply for funding/allocate resources to support strategic pest animal projects.

The activities outlined in this plan can be used by land managers and community members in the area as guidelines for discharging their general biosecurity duty to improve pest animal management.

Biosecurity Order Permitted Activities

These are updated from time to time, should also be considered by land managers and the general community.

Use this plan as a guide to mitigate your risks in your on farm biosecurity plan to ensure you are 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 your general biosecurity duty and you are encouraged to utilise the following resources as well as contact your LLS office for further information.

Resources

- Local Land Services
  https://www.lls.nsw.gov.au/help-and-advice/pest-control
- Department of Primary Industries
  https://www.dpi.nsw.gov.au/biosecurity/vertebrate-pests/pest-animals-in-nsw
- Environment and Heritage (NSW National Parks and Wildlife)
  https://www.environment.nsw.gov.au/topics/parks-reserves-and-protected-areas
- Centre for Invasive Species Solutions
  https://invasives.com.au/
- PestSmart Connect
  https://pestsmart.org.au/
- FeralScan
  http://www.feralscan.org.au/

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 nonindigenous animals, report it as soon as possible.
- Discuss ongoing monitoring programs and techniques with LLS.
- 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.

For further information go to www.lls.nsw.gov.au/murray or contact your nearest LLS office by telephoning 1300 795 299.

Appendices

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.
- 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)

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 1 of 4 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.

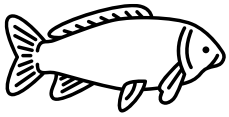
'Eradication' or 'containment' are generally only realistic management options for new incursions and small isolated populations of species where this is a good selection of control techniques available.

Appendix 2: Acronyms

AM	Area manager
BES	Biosecurity and emergency services
Bio	Biosecurity officer
DCCEVW	Department of Climate Change, Energy, the Environment and Water
DPI	Department of Primary Industries
EWMO	Environmental Water Management Officer
FAAST	Feral aerial animal shooting team
ISPH	Invasive species and plant health
NPWS	'NSW National Parks and Wildlife Service'
NSW DPI VPRU	NSW Department of Primary Industries, Vertebrate Pest Research Unit
RSPAMP	Regional Strategic Pest Animal Management Plan
VPIT	Vertebrate Pesticide Induction Training
LLS	Local Land Services
NPWS	National Parks and Wildlife Service

Appendix 3: Common carp

LIMITED ACTION



Common carp are a major environmental pest that have impacted on a wide range of native species and have added turbidity in many catchments. Almost all fish species are difficult to control once established, but species-specific biological control offer some hope in controlling widespread aquatic pest species.

The strategy and focus of management for carp in the region will be to support any coordinated Commonwealth or NSW government biological control programs.

Appendix 4: Watch list species

LIMITED ACTION

Species that do not currently require specific coordinated control across the region but whose distribution will be monitored for possible future local coordinated management.

House mouse

Mouse 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 Murray Local Land Services 1300 795 299.