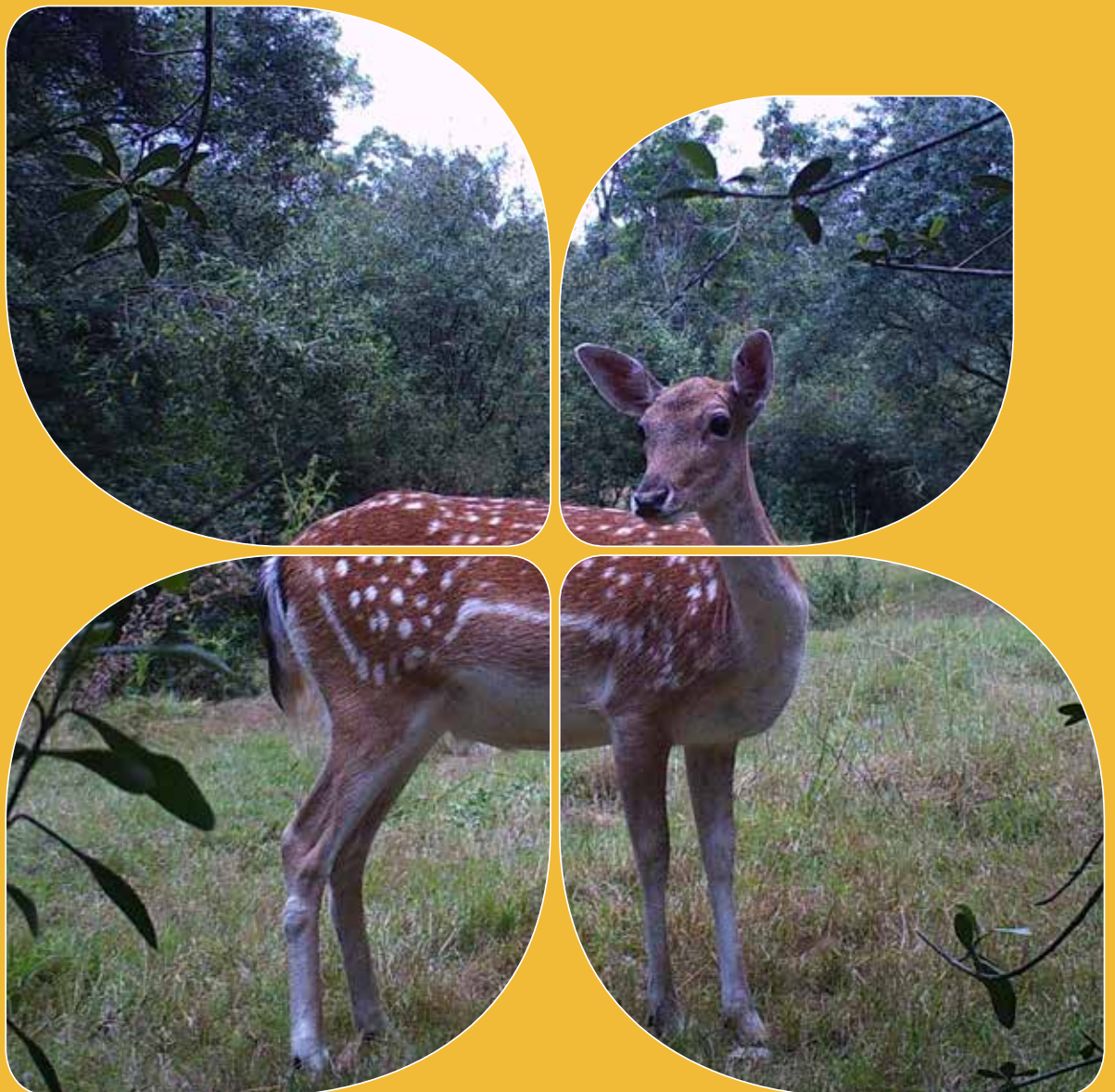


# South East Regional Strategic Pest Animal Plan **2018 - 2023**



# Acknowledgement of Country

Local Land Services acknowledges the Traditional Custodians of the land and pays respect to Elders past, present and emerging. We also recognise the unique, diverse and enduring cultures of First Nations peoples in NSW. 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.



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South East Regional Strategic Pest Animal Plan 2018-2023

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**Disclaimer:** The information contained in this publication is based on knowledge and understanding at the time of writing on 1 June 2020. However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of Local Land Services or the user's independent adviser.

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# Ministers foreword

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

The South East Regional 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

This document was developed through consultation with a range of stakeholders. The South East Regional Strategic Pest Animal Management Plan (RSPAMP) outlines that it is imperative that we all work together to manage pest animals across our region.

This document covers 11 established pest species such as deer, pigs and rabbits whilst also highlighting 'alert species' which are pests that have been detected elsewhere yet pose a significant risk to our community and industries in the South East of NSW.

Key outcomes of this plan include:

**Outcome 1:** The South East RSPAMP is effective in supporting the community to reduce pest animal impacts

**Outcome 2:** The South East community shares the responsibility for pest animal management

**Outcome 3:** The impact of priority pest animals on priority assets is reduced, and their spread contained

**Outcome 4:** New pest species in the region are detected and incursions are eradicated.

This plan identifies a number of key stakeholders who can greatly assist in the management of pests in the South East of NSW. These include (but are not limited to) private and public land managers, Aboriginal land managers, NSW Department of Primary Industries (NSW DPI), South East Local Land Services, Office of Environment and Heritage (OEH), WaterNSW, Forestry Corporation of NSW, Game Council of NSW, professional shooters, professional pest controllers, special interest groups such as recreational hunting groups and community organisations.



# 1. Introduction

## 1.1 Overview

The RSPAMP outlines how government, industry and the community can work together and share the responsibility to eradicate, contain or manage pest animals in terrestrial and freshwater aquatic environments across the region.

The economic impact of wild rabbits, carp, pigs, foxes, dogs, goats and introduced birds has been estimated at \$170 million in NSW.

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 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 and 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 its 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 welltrained and resourced people.

This plan is one of 11 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 land managers 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.

For the purpose of this plan the term 'land managers' includes both public and private (unless specified one or the other).

## 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 excluding wild dogs) 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* will outline mandatory measures for pest animal management in NSW. General control and management of pest animals outlined in this plan can be considered mechanisms for individuals to discharge their general biosecurity duty and land managers and community members should work with stakeholders identified for ongoing implementation of pest animal management practices.

## 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 (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, NPWS can issue a biodiversity conservation licence to harm protected native animals under the [https://www.legislation.nsw.gov.au/ Biodiversity Conservation Act 2016](https://www.legislation.nsw.gov.au/Biodiversity%20Conservation%20Act%202016). For further information visit <http://www.environment.nsw.gov.au/wildlifelicences/OccupierLicences.htm>

## 1.5 Framework for pest animals

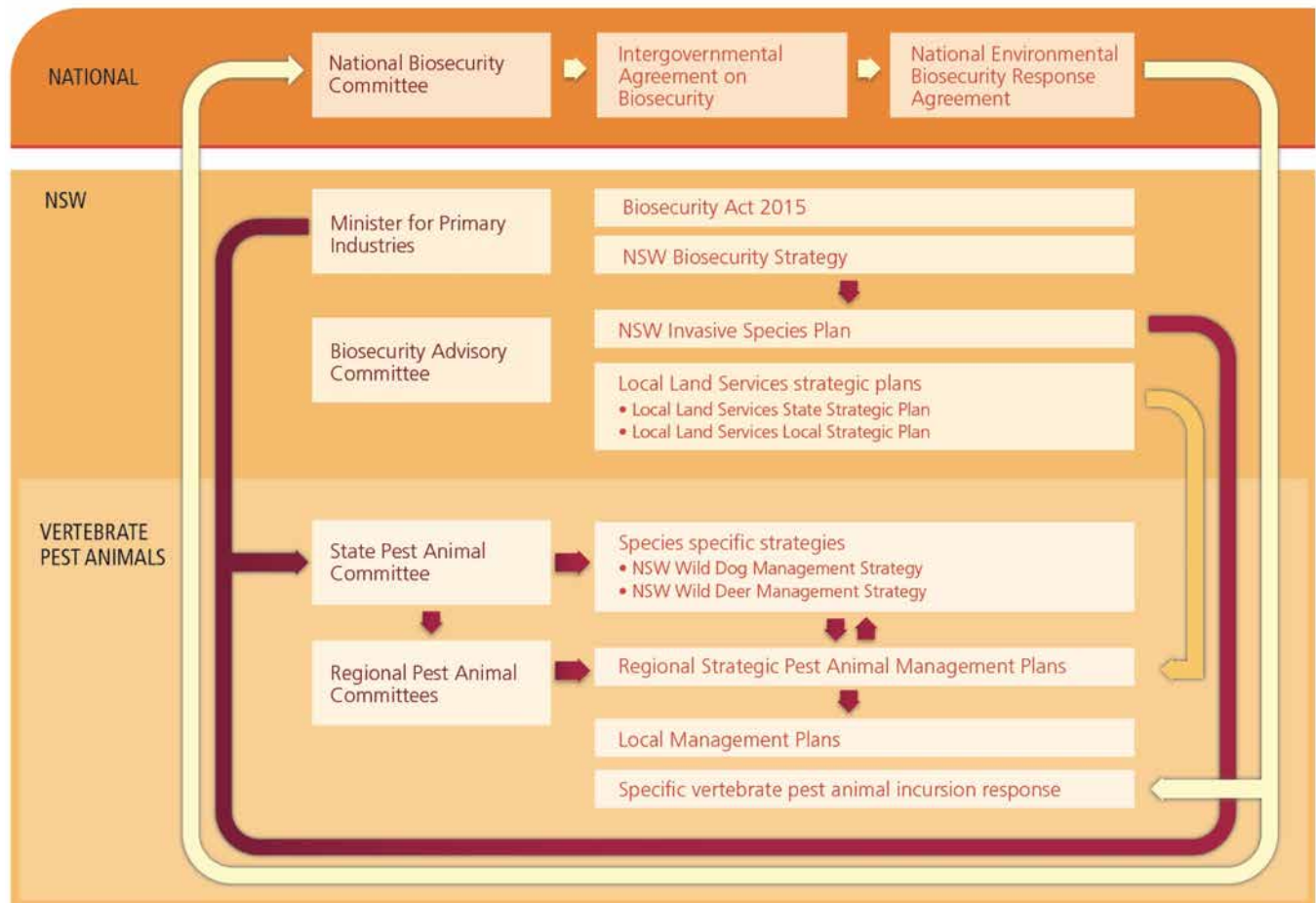


Figure 1. The NSW Biosecurity framework for Pest Animals in NSW.

## 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 and private 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 improved pest animal management outcomes via enhanced engagement, participation and delivery of coordinated pest animal management activities across all land tenures.

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 (LLS) 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 NSW Invasive Species Plan 2018-2021.

### State Pest Animal Committee

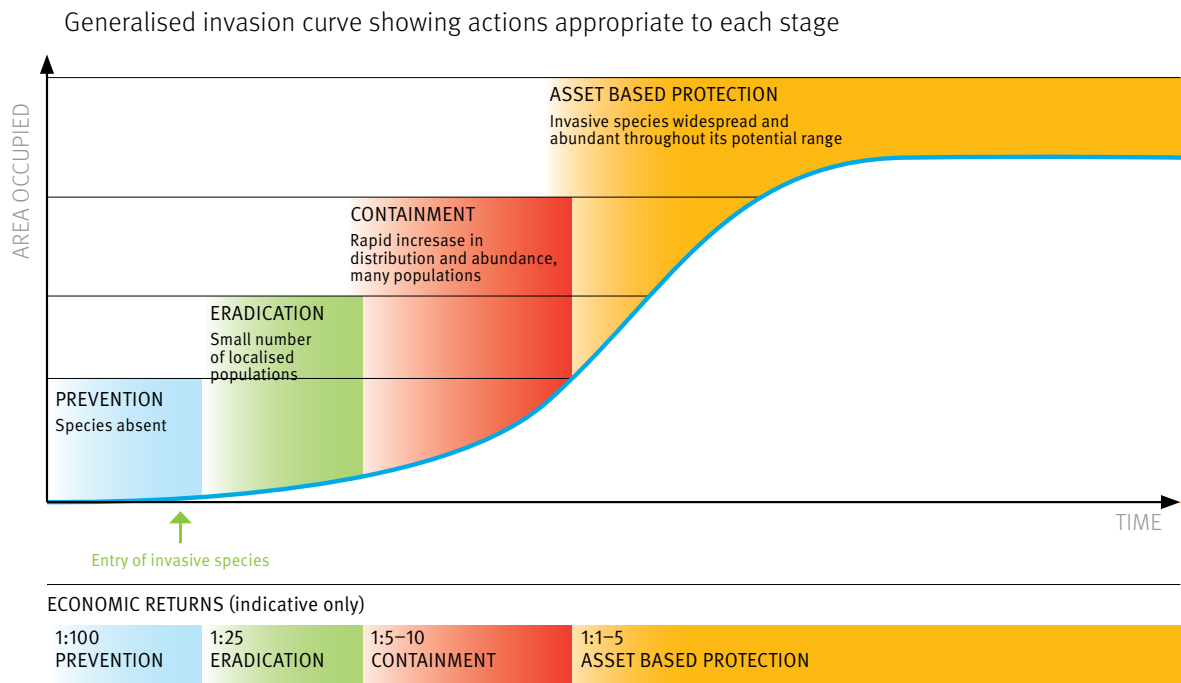
The State Pest Animal Committee (SPAC) is responsible for overseeing a consistent approach to the ongoing operation of Regional Pest Animal Committee (RPAC) and development of tenure neutral RSPAMPs across the State. The SPAC oversees key policy and strategy documents to guide pest animal management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

### 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 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 RSPAMP as required.

## 1.7 Incursion management and alert species

Alert species are pest animals that may have been detected in the South East region but are not established or are present in other areas of the State but not yet entered the South East region. We need to work together to ensure early detection and awareness of incursions and alert species are able to be managed swiftly and effectively. It is important the community remain vigilant and report any unusual sightings to ensure a rapid management response. 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 2).



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

Figure 2: The ‘Invasion Curve’, showing the importance of allocating resources to prevent the establishment of new pests. (Agriculture Victoria)

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 South East include cane toad, American corn snake, red-eared slider turtle, tilapia and mice if reaching plague proportions.

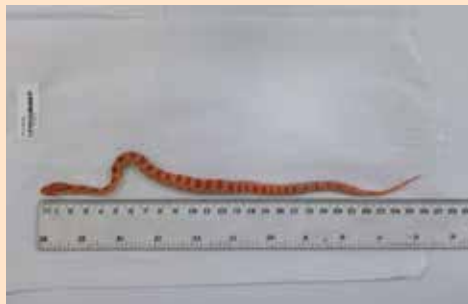


The following mechanisms can be used to report unusual situations in the region:

- complete the [Report an unusual animal sighting](#) form or
- phone: 1800 680 244 or
- email: [invasive.species@dpi.nsw.gov.au](mailto:invasive.species@dpi.nsw.gov.au).

The table below summarises the alert species for the NSW South East region. This list is subject to change with little notice if new incursions of invasive species are identified.

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 & OEH. Where species are widely established in NSW but have spread into a new region, LLS and the RPAC will consider whether local eradication or containment should be attempted.

### Alert species for the NSW South East Region

Common name	Management Category	Assessment and Rationale	Images provided by NSW DPI						
American corn snake	Prevention	<p>The American corn snake species has spread throughout the world through the pet trade and has entered Australia illegally. In Australia, the importation of live animals is controlled by the (Commonwealth) Biosecurity Act 2015 and the Environment Protection and Biodiversity Conservation (EPBC) Act.</p> <p>The snake is a potential hosts for exotic pests and diseases which threaten native and domestic animals, such as the reptile tick bacterium (<i>Cowdria ruminantium</i>) which can result in the death of grazing animals thereby representing a risk to Australian agricultural industries. The corn snake is also known to carry the parasite, <i>Cryptosporidium</i> which can infect humans, domestic and native animals with diarrhoeal disease.</p> <p>The American corn snake threatens many species of fauna including rodents, ground nesting birds and lizards.</p> <p>Six corn snakes were detected in the NSW South East region during 2017 in the following locations:</p> <table><tr><td>2 x Dapto</td><td>1 x Bomaderry</td></tr><tr><td>1 x Nowra</td><td>1 x Sanctuary point</td></tr><tr><td colspan="2">1 x St Georges Basin</td></tr></table> <p><b>Strategies</b></p> <p>For this species, the South East region remains 'prevent'.</p>	2 x Dapto	1 x Bomaderry	1 x Nowra	1 x Sanctuary point	1 x St Georges Basin		  
2 x Dapto	1 x Bomaderry								
1 x Nowra	1 x Sanctuary point								
1 x St Georges Basin									

Common name	Management Category	Assessment and Rationale	Images provided by NSW DPI
Cane toad	Prevention	<p>The invasion and establishment of the cane toad (<i>Rhinella marina</i>) in NSW has been identified as a 'key threatening process' under the <i>Biodiversity Conservation Act 2016</i>.</p> <p>Although the cane toad is listed as a widespread pest animal under the NSW Biosecurity Act 2015, its current distribution in NSW is restricted to the far north-east coast (approximately north of the Clarence River).</p> <p>Cane toad biosecurity zone was developed in consultation with the NPWS, and aligns with the known distribution of cane toad populations in other NSW regions.</p> <p>For this species, the South East region remains 'prevent'.</p>	
Mice	Prevention	<p>Mice are generally present throughout the year in the South East. However, populations can increase rapidly and therefore early detection of a mouse plague is important.</p> <p>Mice plagues cause damage to most crops and can transmit diseases to humans and livestock.</p> <p>In order to prevent the build-up of mice to plague proportions control measures should be implemented as soon as possible. Plague proportions should be reported.</p> <p>Therefore for this species, the South East region remains 'prevent plagues'.</p>	
Red-eared slider turtle	Prevention	<p>NSW DPI report detections of this species just north of the South East region. The closest detections (at the time of writing this document) were in Campbelltown and south of Camden (in the Greater Sydney LLS region).</p> <p>Therefore for this species, the South East region remains 'prevent'.</p>	
Tilapia	Prevention	<p>As mouth breeders, this species has the potential to be a significant biosecurity threat. Therefore in order to protect waterways from this species of fish the aim is to raise awareness in the public domain.</p> <p>Therefore for this species, the South East region remains 'prevent'.</p>	

## 2. Guiding principles of pest animal management

The following principles should be considered and implemented by all community, industry, land managers 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 land managers, 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 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, target-specific and humane as possible.



### 3. Our region

South East region covers 55,600 square kilometres in the southeast of NSW. From Stanwell Park in the north to the Victorian border in the south and westward from Boorowa in the north to Thredbo in the south. This region includes 698 kilometres of coastline, which is about 40% of the NSW coast. The South East region supports a diverse and distinct mixture of landscape, livelihood, lifestyle and cultural values.

NPWS and Forestry Corporation, WaterNSW and Local Aboriginal Land Councils are also significant land managers within our region. As the South East is so diverse, strategic and coordinated pest animal management is critical to building the sustainability of natural environments, primary industries, and local communities in the region. In particular the proximity of the South East region to the major gate way of Sydney poses a significant risk of animal pest and diseases through the movement of people, transport, commodities and other goods.

The South East region also has a significant connection with the Australian Capital Territory (ACT). The South East shares a large percentage of the ACT border and there is a potential biosecurity risk pathway between them given the amount of movement of people and/or goods including Canberra Airport now receiving international flights.

#### People

The South East region is home to approximately 605,000 people including over 16,500 Indigenous Australians. The majority of people reside in regional centres along the coast, with Wollongong, Shellharbour, Kiama, Bomaderry, Nowra and Ulladulla being the largest. The tablelands regional centres include Goulburn, Yass, Queanbeyan and Cooma. It's important to note that absentee land owner tenures are a common occurrence in this region.

#### Environment

Nature conservation and forestry makes up a significant per cent of the land use in the South East region. Large sections of this landscape are rugged, forested and difficult to access providing many challenges when managing invasive pests.

The prosperity of the South East region is supported by its natural landscape. Therefore invasive pest animals if not managed could impose significant costs to these values.

#### Agriculture

The South East region has a high incidence of vertebrate pests impacting on the agricultural sector and the environment. Impacts from feral pigs, wild dogs, rabbits, foxes and emerging threats such as deer, require active and coordinated management.



## South East Region

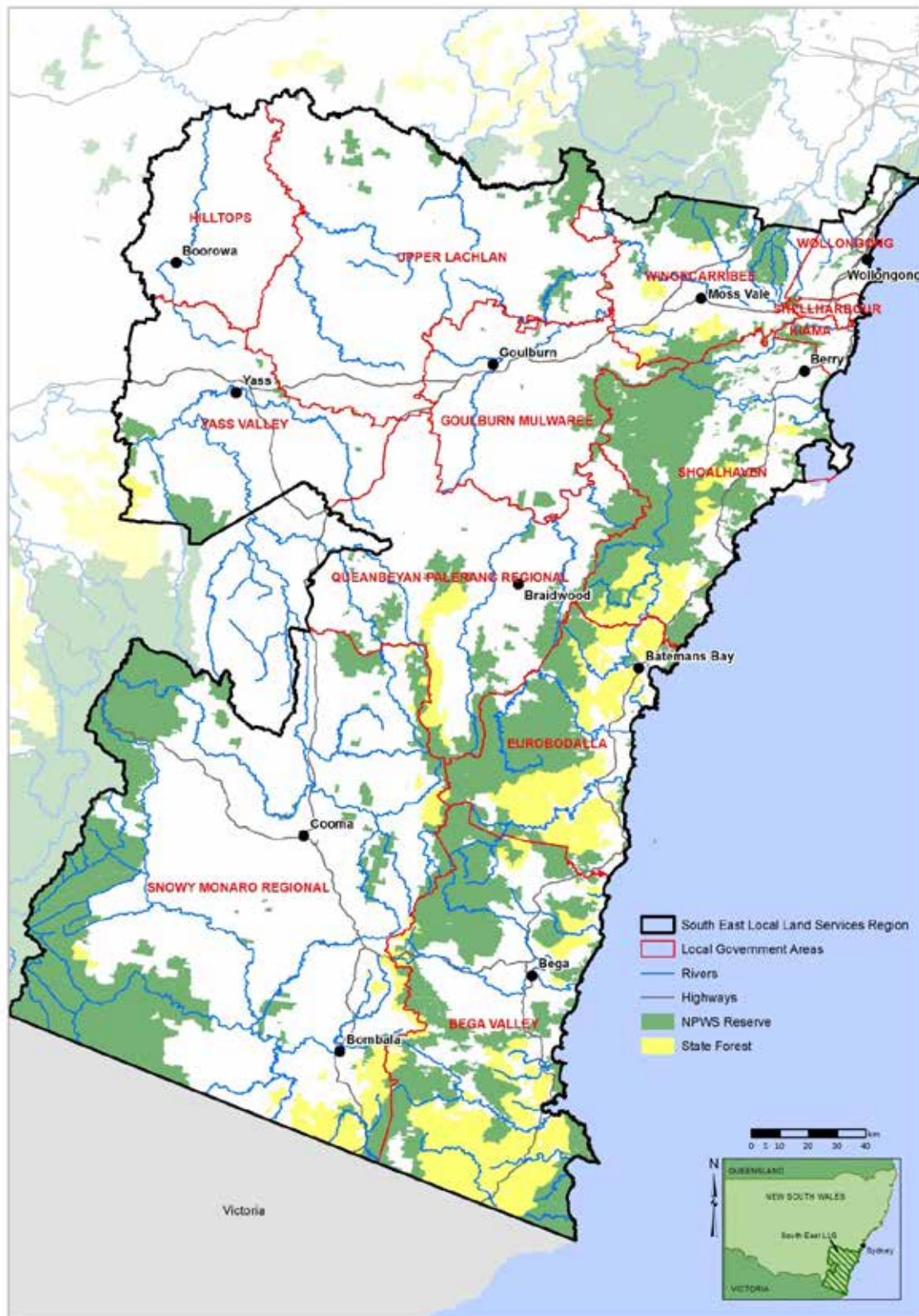


Figure 3: Map of NSW South East Local Land Services region.



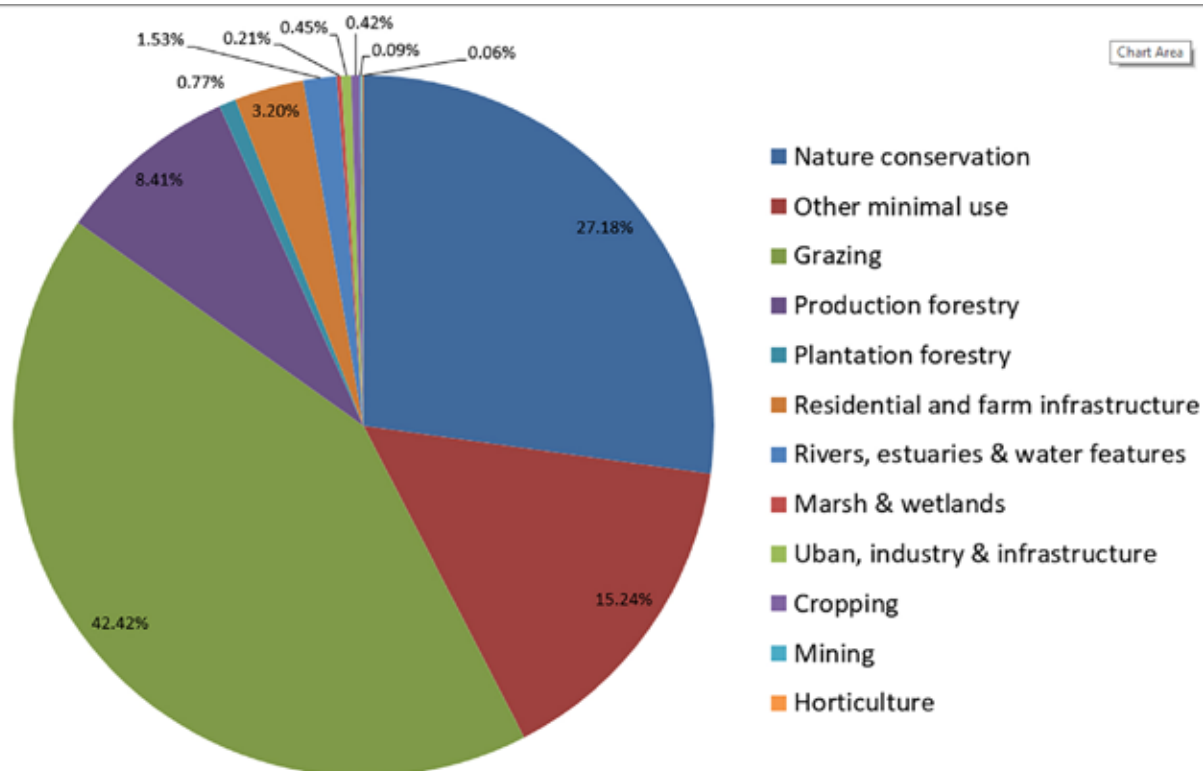


Figure 4: 2013 Land use data for the NSW South East Local Land Services region.

Pest animal distribution maps are available at <https://www.dpi.nsw.gov.au/biosecurity/vertebrate-pests/publications/distribution-maps-for-vertebrate-pests> and are based on statewide data compiled from reports submitted and gathered. The maps are at a coarse scale and provide general guidance only about pest animal distribution. A key priority for future implementation of this plan will be to improve reporting of pest animals to refine regional information collected on pest animal distribution and relative abundance. Improved information on distribution and abundance will better guide management and investment and assess effectiveness.

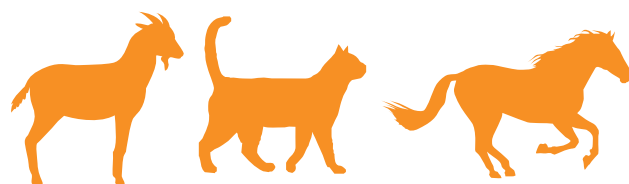


## 4. Managing our pest animals

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

Pest animals in South East region have been prioritised based on this framework.

Management Category	Overview
Prevention	<p><b>GOAL:</b> To prevent the pest animal species arriving and establishing in the Region causing adverse impacts on the environment, society and the economy.</p> <p><b>STAKEHOLDER RESPONSIBILITY:</b> To understand and report any sightings of alert species.</p>
Eradication	<p><b>GOAL:</b> To permanently remove the species from the State or Region and to develop actions to prevent its re-establishment.</p> <p><b>STAKEHOLDER RESPONSIBILITY:</b> To participate in coordinated programs and stay up-to-date with current information on pest animals in the region.</p>
Containment	<p><b>GOAL:</b> To prevent the spread of the pest animal species onto other parts of the State or Region.</p> <p><b>STAKEHOLDER RESPONSIBILITY:</b> To participate in coordinated programs, stay up-to-date and apply best practice pest animal management practices.</p>
Asset Based Protection	<p><b>GOAL:</b> To reduce the impact of widespread pest animals on key assets with high economic, environmental and social value.</p> <p><b>STAKEHOLDER RESPONSIBILITY:</b> 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.</p>
Limited Action	<p><b>GOAL:</b> 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.</p> <p><b>STAKEHOLDER RESPONSIBILITY:</b> Stay up-to-date with current information.</p>



## 5. Our priority pest species

Pest species listed below in order of priority have been categorised into management categories and further strategies and actions are detailed in subsequent tables. Pest animals for the South East region have been prioritised based on the level of risk and the feasibility of control as assessed through objective science based prioritisation methods and expert advice.

Common Name	Management Category	Section in Plan
Deer (all species)	Asset based protection for existing established populations. For new incursions and/or isolated populations (as defined by the RPAC), the priority is to eradicate or contain if feasible.	5.4
Wild rabbit	Asset based protection.	5.5
Feral pig	Asset based protection for existing established populations. For new incursions and/or isolated populations (as defined by the RPAC), the priority is to eradicate or contain if feasible.	5.6
Wild dog	Asset based protection.	5.7
Feral Cat	Asset based protection.	5.8
European fox	Asset based protection.	5.9
Feral goat	Asset based protection for existing established populations. For new incursions and/or isolated populations (as defined by the RPAC), the priority is to eradicate or contain if feasible.	5.10
Wild horse	Asset based protection for existing established populations. For new incursions and/or isolated populations (as defined by the RPAC), the priority is to eradicate or contain if feasible.	5.11
Indian Myna	Limited action. Support projects managing this pest.	5.12
Carp	Limited action. Support projects managing this pest.	5.13
Redfin perch	Limited action. Support projects managing this pest.	5.14

### 5.1 Participation and responsibility

All land managers have a responsibility under the general biosecurity duty to manage pest animals on land under their care and control, by for example:

- actively contribute to reducing negative impacts of pest animals on priority assets on their land and neighbouring lands (for example by participating in coordinated pest animal control programs or undertaking their own management activities that incorporate both primary and supplementary pest animal control programs).
- actively contribute to preventing spread of pest animals from their land or being introduced to their land (for example by controlling pest animals living on your land).
- reducing the risk of pest animals being released into the environment (for example by providing suitable and well maintained fencing if you are a deer farmer).
- reducing the risk of pest animals accessing easy food sources on their land (for example leaving animal carcasses for predatory pests to feed on).

All community members are encouraged to report any sightings or activity to their neighbours and their LLS office.

## 5.2 Local and sub-regional management plans

Since this plan is a strategic document for the entire region, the management tables below reflect this wider regional context. This plan provides a framework that informs the more detailed development of local and sub-regional management plans to address one or more of the priority pest species defined further in this Section. The RSPAMP is not intended to override local plans, rather to support local planning and decision making.

Local communities should document their priorities in subsequent local or subregional management plans. Wild dog management plans are an example of a local management plan. These plans developed at the local or sub-region scale will help identify specific priority assets, prioritise pest species relevant to that locality, develop relevant Key Performance Indicators (KPIs), determine management priorities, identify primary and supplementary control activities, support collaborative cross tenure control and enable land managers to meet their general biosecurity duty.

Local and sub-regional management plans should specify what control and monitoring work will be done and where, who is responsible for conducting identified activities and how sharing across tenures will occur and/or pay for that work, and timelines for achieving the work. These plans assist with pest animal management through:

- incorporating local knowledge and local decision making into determining priorities and approaches
- improving community awareness, cooperation and engagement to support cross-tenure pest animal management
- prioritising pest animal management in the context of other natural resource management work
- focusing effort at the appropriate time and scale
- increasing adoption of best practice pest animal management approaches that account for the latest control techniques and research
- formalising monitoring and reporting on the management plans performance.

Local and sub-regional management plans (including wild dog management plans) need to support the objectives of the RSPAMP and comply with the requirements under the *Biosecurity Act 2015*, particularly pest animal management being a shared responsibility and to support land managers to meet their general biosecurity duty. The formation of local management groups such as Wild Dog or Feral Fighter groups will support local management plan implementation and underpin a cross tenure approach to pest animal management in the South East.

The South East Regional Pest Animal Committee (South East RPAC) will oversee the RSPAMP implementation. The South East RPAC will provide guidance that supports the development and coordinated implementation of local and sub-regional management plans, and will receive executive support from South East LLS and overarching guidance from the local board. Where cross-boundary pest management issues arise, LLS boards are the appropriate bodies to engage with to resolve them. The committee will work with LLS, land managers and the community to implement the plans. The committee will maintain an adaptive flexible approach to manage priorities as circumstances change. For example drought events, floods or fires pose either opportunities or threats for pest management that may require specific and timely intervention.

## 5.3 Community engagement

The RSPAMP outlines how government, industry and the community can work together and share the responsibility of pest management across the region. To achieve this effective community engagement, education and collaboration is required. The following are the key outcomes for ongoing community engagement and participation with the RSPAMP.

- improving community participation in coordinated control
- increasing number of people reporting pest animal sightings and impacts
- local and sub-regional management plans are in place for impacted areas and that they comply with the general biosecurity duty
- local and sub-regional management plans are being monitored
- increasing the pest control skills of land managers.

Note: Land managers as referred to in the tables below include public and private entities unless otherwise stated.

## 5.4 Deer (all species)

### Impacts

Deer have a significant impact on the environment and 'herbivory and environmental degradation caused by wild deer' is listed as a key threatening process under the *Threatened Species Conservation Act 1995*. Deer also impact the community by being a public nuisance, browsing on garden plants and have been the cause of significant motor vehicle and railway accidents, especially around the Illawarra and Alpine areas. These community based impacts are increasing. Deer compete with livestock for forage, cause crop damage through trampling and grazing, destruction to revegetation works, damage fencing, injury to livestock such as horses especially in the deer rut and are known to carry some of the same diseases that affect livestock.

The distribution of deer has increased dramatically over the last decade, both in overall range, abundance and the number of species recorded. As their population numbers rise in the South East region, so does the threat to the environment, agriculture and public safety.

### Distribution

A number of species are present including; fallow, rusa, red, sambar, hog and chital. Locations where deer have become well established include the Illawarra region, south and south west of the region in farmlands. Populations exist in parts of Kosciuszko National Park, other parks, State forests and adjoining areas including the Nadgee Nature Reserve and Towamba valley. Other populations exist in the region with varying distributions and population density. The distribution of wild deer is likely to continue to expand.

### Management

Deer are declared as a game animal in NSW under Schedule 3, Part 1 of the *Game and Feral Animal Control Act 2002*. Hunters need to acquire a licence to hunt deer on public or private land. NSW Police and NSW DPI retain regulatory oversight of hunting activities. Currently parts of the *Game and Feral Animal Control Act 2002* are suspended for Wollongong Local Government Area (LGA), Bega LGA and Snowy Monaro LGA however this plan aims to have this suspension extended to cover all the South East LGA's with further removal of all Game Act restrictions.

This plan aims to eradicate deer where they exist in isolated pockets and prevent new incursions. Deer populations across the region are managed more broadly to control their distribution, density and impacts to the community. However, effective control in the South East is often difficult and limited, due to shooting being a main control method and the peri-urban and urban context of parts of the region where discharging a firearm is not permitted and potentially unsafe. Wild deer can also become increasingly difficult to hunt successfully as they learn to avoid hunters and other capture devices.

Primary control methods include:

- exclusion fencing
- shooting (aerial).

Supplementary control methods include:

- shooting (ground)
- trapping and euthanise.

Best practice pest control supports an integrated, cross tenure approach using a range of primary and supplementary control measures. Further information on best practice pest animal control can be found at:

<https://www.dpi.nsw.gov.au/biosecurity/vertebrate-pests/pest-animals-in-nsw>

Land managers are encouraged to report wild deer sightings to their nearest LLS office.





Table 5-a Wild deer management table.

Management category objective	Assets	Strategies	Responsibility
Asset based protection for existing populations.	<p>Agricultural production such as pasture, crops and horticulture.</p> <p>Native fauna and vegetation.</p> <p>Public safety.</p> <p>Urban assets.</p> <p>Environment protection.</p> <p>Economic impact.</p> <p>Social benefits.</p>	<p>1. Establish management groups and local management plans.</p> <p>2. Local plans should include if appropriate:</p> <ul style="list-style-type: none"> <li>a. Prevent / minimise wild deer spread into new areas.</li> <li>b. Undertake population density investigations.</li> <li>c. Provide coordination of wild deer control programs in the management areas and key locations and assets.</li> <li>d. Promote land manager engagement to report sightings, monitor and control.</li> <li>e. Respond to wild deer hazard reports and control wild deer in response to public complaints.</li> <li>f. Monitor distribution change.</li> <li>g. Monitor social, economic and environmental impacts.</li> <li>h. Consider timing of control events to minimise issues related to carcass management.</li> </ul> <p>3. Support research and trials to improve effectiveness of wild deer best practice options.</p> <p>4. Support research to understand distribution and movement patterns. Asset protection to include environmental, economic, and social impacts.</p> <p>5. Advocate for additional control methods and support trials of new control methods.</p> <p>6. Advocate for all the South East region Local Government areas to have the restriction in the Game Act for control removed.</p> <p>7. Monitor compliance and undertake enforcement including targeted property inspection programs.</p> <p>8. Develop cooperative arrangements with Local Government.</p>	<p>Local management groups or Feral Fighter groups, private and public Land managers, LLS, NSW DPI, Local Government.</p> <p>Strategic and reactive control measures as per local management plans.</p>
Eradication or containment for isolated populations and new incursions.	<p>Agricultural production such as pasture, crops and horticulture.</p> <p>Native fauna and vegetation.</p> <p>Public safety.</p> <p>Urban assets.</p> <p>Environment protection.</p> <p>Economic impact.</p> <p>Social benefits.</p>	<p>1. Establish wild deer management groups and develop local management plans with the aim to contain and/or eradicate identified populations.</p> <p>2. Implement local management plans that:</p> <ul style="list-style-type: none"> <li>a. Detail surveillance program and show distribution mapping.</li> <li>b. Monitor pathways of potential introduction and develop preventative options.</li> <li>c. Engage all land managers in cross-tenure management.</li> <li>d. Population control aimed for local eradication or containment.</li> <li>e. Monitors progress towards local eradication or containment.</li> </ul> <p>3. Conduct coordinated wild deer control for eradication or containment.</p> <p>4. Implement surveillance and monitoring to locate any distribution changes or new wild deer populations.</p> <p>5. Monitor pathways of potential introduction and develop preventative options</p> <p>6. Support programs to record sightings.</p>	<p>Local management groups or Feral Fighter groups, private and public Land managers, LLS, NSW DPI, Local Government.</p> <p>Strategic and reactive control measures as per local management plans.</p>



## 5.5 Wild rabbit

### Impacts

Rabbits still have the potential to have a major impact on grazing, native flora, horticultural industries and gardens in the South East region. Rabbits occupy a wide range of habitats, including (but not limited to) native and modified grasslands, woodland, heath and forest, and often achieve high densities in some agricultural and suburban areas.

### Distribution

Rabbits occupy the entire region and all land uses except heavily forested natural areas. While numbers have been controlled with the Calici virus relative to historical infestations, results are mixed. Effectiveness may be impacted by conditions, seasonal influences and operational approach.

### Management

The primary focus for management of rabbits is a long-term reduction in rabbit numbers in the region. This can only be achieved through a coordinated and strategic approach. All land managers are expected to suppress and destroy populations and to participate fully in coordinated programs.

Primary control methods include:

- ground baiting
- warren destruction
- biological control measures (including RHDV)
- fumigation methods.

Supplementary control methods include:

- shooting.

Best management pest control supports an integrated, cross tenure approach using a range of primary and supplementary control measures. Further information on best management pest animal control can be found at: <https://www.dpi.nsw.gov.au/biosecurity/vertebrate-pests/pest-animals-in-nsw>

Land managers are encouraged to report rabbit sightings via the FeralScan app/website.



Table 5-b Rabbit management table.

Management category objective	Assets	Strategies	Responsibility
Asset based protection	<p>Agricultural production such as pasture, crops, river banks stabilisation and soil stabilisation.</p> <p>Native vegetation, urban assets and cultural heritage sites and general infrastructure.</p>	<ol style="list-style-type: none"> <li>1. Establish and support Feral Fighter or other management groups that support land manager participation with control.</li> <li>2. Develop cross tenure local management plans in priority areas that include primary and supplementary control and support the implementation of priority actions in those local management plans.</li> <li>3. Identify priority environmental, economic and infrastructure assets and locations in the region where rabbit management will have most benefit.</li> <li>4. Conduct coordinated wild rabbit control around key locations and assets.</li> <li>5. Increase effective rabbit management options available by supporting research and development.</li> <li>6. Support innovative management, e.g. cross-tenure broad-scale management, bio-control, virus release, exclusion fencing, restrictions on sale, etc.</li> <li>7. Promote responsible pet rabbit ownership to minimise re-establishment of wild populations.</li> <li>8. Monitor compliance and undertake enforcement including targeted property inspection programs.</li> <li>9. Monitor effectiveness of management programs on rabbit populations and protection of identified assets.</li> </ol>	<p>Feral Fighter or other local management groups, private and public Land managers, LLS, NSW DPI, OEH, Local Government.</p> <p>Strategic and reactive control measures as per local management plans.</p>



## 5.6 Feral pig

### Impacts

Feral pigs are significant environmental and agricultural pests. They cause damage to the environment through wallowing, rooting for food and selective feeding and destroy crops and pasture, as well as habitat for native plants and animals. They may also prey on young lambs and a wide range of native animals including frogs, reptiles, birds and small mammals.

Feral pigs create significant soil disturbance and may act as a vector in the spread of weeds. Pigs can also carry disease and parasites that affect stock and pose a disease risk to humans (brucellosis). They are also a major potential host of a number of exotic diseases such as Aujeszky's disease and foot and mouth disease. Having large and/or unmanaged feral pig populations would greatly hinder any emergency response to these exotic diseases.

Feral pigs are known to have a significant impact on water quality including altering drainage, increasing turbidity and sedimentation which is of particular concern and raises importance of feral pig control within Sydney's declared drinking water catchment that supplies water to over 4.5 million people.

### Distribution

Feral pigs occupy large areas of the South East region.

### Management

The primary focus of feral pig management in the region is more proactive and coordinated control of feral pig numbers and addressing impacts before they have become problematic. All affected and adjoining land managers are expected to participate fully in coordinated programs in their area.

Primary control methods include:

- coordinated ground baiting
- trapping and euthanise
- shooting (aerial - in inaccessible areas).

Supplementary control methods include:

- shooting (ground).

Best management pest control supports an integrated, cross tenure approach using a range of primary and supplementary control measures. Further information on best management pest animal control can be found at: <https://www.dpi.nsw.gov.au/biosecurity/vertebrate-pests/pest-animals-in-nsw>

Land managers are encouraged to report feral pig sightings to their nearest LLS office.





Table 5-c Feral pig management table.

Management category objective	Assets	Strategies	Responsibility
Asset Protection for existing populations.	<p>Agricultural production such as pasture, crops, plantation forestry and horticulture.</p> <p>Native vegetation and wildlife.</p> <p>Water ways and wetlands.</p> <p>Declared drinking water catchments.</p> <p>Animal and human health (protected from disease).</p>	<p><b>1.</b> Establish and support Feral Fighter or other management groups that support land manager participation with control.</p> <p><b>2.</b> Develop cross tenure local management plans in priority areas that include primary and supplementary control.</p> <p><b>3.</b> Implement priority actions from local management plans, including:</p> <ul style="list-style-type: none"> <li><b>a.</b> Identify and map key sites and assets in the management areas.</li> <li><b>b.</b> Develop and implement site / area / population based coordinated and collaborative management programs.</li> <li><b>c.</b> Support strategic feral pig control in accordance with local management plans.</li> <li><b>d.</b> Conduct coordinated feral pig control around key locations and assets.</li> <li><b>e.</b> Promote integrated pig management methods to land managers.</li> <li><b>f.</b> Monitor effectiveness of control programs.</li> <li><b>g.</b> Undertake population density investigations.</li> <li><b>h.</b> Promote land manager engagement to report sightings, monitor and control.</li> </ul> <p><b>4.</b> Monitor compliance and undertake enforcement including targeted property inspection programs.</p> <p><b>5.</b> Advocate for additional control methods.</p> <p><b>6.</b> Participate in research to understand distribution and movement.</p>	<p>Local management groups or Feral Fighter groups, private and public Land managers, LLS, Water NSW.</p> <p>Strategic and reactive control measures as per local management plans.</p>
Eradication or containment for isolated populations and new incursions.	<p>Agricultural production such as pasture, crops, plantation forestry and horticulture.</p> <p>Native vegetation and wildlife.</p> <p>Water ways and wetlands.</p> <p>Declared drinking water catchments.</p> <p>Animal and human health (protected from disease).</p>	<p><b>1.</b> Establish feral pig management groups and develop local management plans with the aim to contain and/or eradicate identified populations.</p> <p><b>2.</b> Implement local management plans that:</p> <ul style="list-style-type: none"> <li><b>a.</b> Detail surveillance program and show distribution mapping.</li> <li><b>b.</b> Monitor pathways of potential introduction and develop preventative options.</li> <li><b>c.</b> Engage all land managers in cross-tenure management.</li> <li><b>d.</b> Population control aimed for local eradication or containment.</li> <li><b>e.</b> Monitors progress towards local eradication or containment.</li> </ul> <p><b>3.</b> Conduct coordinated feral pig control for eradication or containment.</p> <p><b>4.</b> Implement surveillance and monitoring to locate any distribution changes or new feral pig populations.</p> <p><b>5.</b> Monitor pathways of potential introduction and develop preventative options.</p> <p><b>6.</b> Support programs to record sightings.</p>	<p>Local management groups or Feral Fighter groups, private and public Land managers, LLS, Water NSW.</p> <p>Strategic and reactive control measures as per local management plans.</p>

## 5.7 Wild dog

### Impacts

A wild dog is defined as 'any dog, including a dingo, that is, or has become wild but excludes any dog kept in accordance with the *Companion Animals Act 1998*, the *Exhibited Animals Protection Act 1986* or the *Animal Research Act 1985*'. Wild dogs may include feral dogs, dingoes and dingoes that have interbred with feral dogs. Wild dogs may have significant negative impacts, through predation on domestic livestock including sheep, cattle, goats, alpaca and poultry which can also lead to negative social and psychological consequences for land managers and their families. They may also act as a reservoir for parasites and diseases that affect livestock, wildlife, pets and people. In the South East, domestic dogs are also known to have major impacts such as attacking livestock and other domestic animals.

Dingoes have a positive impact through their significant spiritual, totemic, cultural and dialect relationships for local Aboriginal communities. Both pure-bred and hybridised dingoes continue to have contemporary, spiritual and symbolic relationships with local Aboriginal community.

Wild dogs may also have a positive impact through their natural ecological role, which is still being understood. While foxes and cats are a key threat to our native animals, wild dogs tend to target larger more common prey and in general do not represent the same threat to wildlife. Some research suggests wild dogs may suppress the activity or abundance of native grazers (wallabies and kangaroos) and other pest animals such as wild pigs, foxes and cats (Glen and Woodman, 2013). However, the dynamic between wild dogs and other pest species is debated in the literature.

### Distribution

Wild dogs may live in a wide variety of habitats but most commonly occur in bushland and forest areas where human disturbance is limited and where shelter, food and water is available.

### Management

Land managers are expected to suppress and destroy any wild dog populations which negatively impact on livestock assets. Control programs are well established in the region and land managers are expected to participate fully in programs that are conducted in their area. The primary focus of wild dog management is reducing the negative impacts of wild dogs on commercial livestock (cattle and sheep) and hobby farms (cattle, sheep and other small ruminants) across the region and to reduce the personal impacts on land managers. Rural communities and government have developed Wild Dog Management Plans (WDMPs) for dog affected areas in the region. Over the last decade these plans have led to significant improvements in wild dog control. The plans are being revised to consider the general biosecurity duty, be developed in accordance with the NSW Wild Dog Management Strategy and to support the objectives of this RSPAMP.

The conservation of dingoes is a goal of the NSW Wild Dog Management Strategy 2017-2021. It is to be achieved by having Wild Dog Management Plans focus control on areas where the risk of negative impacts is greatest rather than across the entire area of wild dog distribution. Aboriginal people who hold cultural knowledge about an area, objects and places that may be directly or indirectly affected by the WDMP must be consulted to help identify Dingo Conservation Areas to manage the harm to dingoes from control activities.

Concerns relating to domestic dogs should be reported to your local council.

Primary control methods include:

- coordinated ground baiting
- aerial baiting - remote locations only and when coordinated with ground baiting on adjoining lands
- trapping and euthanise
- exclusion fencing (in suitable landscapes)
- guardian animals (in suitable landscapes).

Supplementary control methods include:

- shooting (ground).

Best management pest control supports an integrated, cross tenure approach using a range of primary and supplementary control measures. Further information on best management pest animal control can be found at: <https://www.dpi.nsw.gov.au/biosecurity/vertebrate-pests/pest-animals-in-nsw>

Land managers should report wild dog sightings or attacks to South East Local Land Services and inform their neighbours.



Table 5-d Wild dog management table.

Management category objective	Assets	Strategies	Responsibility
Asset based protection	<p>Agricultural production such as sheep, calves, goats and poultry.</p> <p>Livestock health and welfare.</p> <p>Community health and wellbeing.</p>	<ol style="list-style-type: none"> <li>1. Support wild dog management groups, Feral Fighter or other control groups that encourage land manager participation in planning and implementing wild dog control.</li> <li>2. Support, maintain or develop cross tenure local WDMPs, Feral Fighter and or Local Management Plans in priority areas that include primary and supplementary control measures.</li> <li>3. Conduct coordinated wild dog control around key locations and assets.</li> <li>4. Identify Dingo Conservation Areas within WDMPs where wild dog control will not occur.</li> <li>5. Monitor compliance and undertake enforcement including targeted property inspection programs.</li> <li>6. Monitor changes in wild dog presence and livestock impacts.</li> <li>7. Establish one point of reporting to monitor, evaluate and report to inform and improve wild dog management.</li> <li>8. Investigate funding and coordination of aerial baiting where asset protection outcomes can be achieved.</li> <li>9. Support management and awareness programs that reduce the threat of roaming domestic dogs to livestock and wildlife, the issues they cause around peri-urban areas and their contribution to wild dog populations.</li> <li>10. Promote and facilitate funding and research programs to improve effectiveness of management options.</li> <li>11. Explore and promote non-lethal control methods to mitigate wild dog attacks on stock.</li> </ol>	<p>Local wild dog management groups, Feral Fighter or other local management groups, private and public Land managers, LLS, NSW DPI.</p> <p>Strategic and reactive control measures as per Wild Dog or other local management plans.</p>



## 5.8 Feral cat

### Impacts

Cats are a major threat to our wildlife in terms of predation and disease transmission. They can colonise a wide range of habitats, eat a wide range of prey, and can survive with limited access to water. They are a recognised threat to many threatened species in the region. Feral cats also pose a serious health risk to humans, livestock and native animals as carriers of disease such as toxoplasmosis and sarcosporidiosis.

Cat-related toxoplasmosis can cause debilitation, miscarriage and congenital birth defects in humans, livestock and native animals. Feral cats also represent a high-risk reservoir for exotic diseases such as rabies if an outbreak were to occur in Australia.

### Distribution

Feral cats likely occupy the entire region and all land uses but their exact distribution is not well known. They may reside or enter regional towns and built up areas at night in search of food.

### Management

The primary focus of management is developing effective control strategies and techniques for cats, to reduce impacts on wildlife and the disease risk to humans. A significant flow on effect from control of cats will be a reduced risk of disease transmission to commercial livestock. At present control options for cats are limited and this means that broad-scale and landscape level control is both expensive and difficult. A range of strategies (timing, frequency and scale of control) and improved control methods (baits, toxins and biological control) are needed for long term effective management of cats in the region. Identification and control of key breeding sites for cats and fostering responsible cat ownership are interim strategies. Municipal waste facilities can be key breeding areas for both cats and foxes and rabbit warrens are potential breeding areas for cats as well as rabbits. Targeted control of these breeding areas provides integrated control of pest animals.

Land managers are encouraged to report feral cat sightings via the FeralScan app/website.





Table 5-e Feral cat management table.

Management category objective	Assets	Strategies	Responsibility
Asset Protection	Native wildlife and specific native species in line with Saving Our Species program.  Poultry.	<ol style="list-style-type: none"> <li>1. Document key assets and locations in the region that are impacted by feral cats.</li> <li>2. Support feral cat management consistent with the Saving our Species program.</li> <li>3. Implement asset based protection of state and nationally recognised threatened species.</li> <li>4. Conduct coordinated feral cat control around key locations and assets.</li> <li>5. Promote responsible cat ownership.</li> <li>6. Implement domestic cat containment, mandatory de-sexing or other forms of control.</li> <li>7. Monitor effectiveness of management programs on feral cat populations and protection of identified assets.</li> <li>8. Increase effective management options available by supporting research and development into feral cat control.</li> <li>9. Advocate for new control methods such as specific cat toxin or biological control.</li> </ol>	<p>Private and public Land managers, LLS, NSW DPI, OEH, Local Government, local communities.</p> <p>To be determined activities in this program are currently unfunded.</p>

## 5.9 European fox

### Impacts

Foxes are nationally listed as a key threatening process and are a major threat to our wildlife, being a recognised threat to many threatened species in the region. They attack smaller livestock, small domestic pets, pose a disease risk (hydatids) and spread weeds. Evidence from monitoring cameras show that foxes extend well into urban areas at night scavenging for food and threatening pets and urban wildlife, including shorebird nesting sites. Foxes also affect the dairy industry by spreading a disease that leads to abortions in Dairy cattle. Fox dens are common in riverbanks and along watercourses. Like wild dogs, fox activity has social and psychological consequences for land managers and their families.

### Distribution

Foxes effectively occupy the entire region and all land uses. They populate all land types in NSW, from agriculture to urban areas, preying on native animals, lambs, calves, and poultry. Reduction in fox numbers across a large part of the region is a secondary benefit of wild dog baiting activities that benefits our natural environment and sheep producers.

### Management

The primary focus for management is reducing the impact of foxes on lambs (commercial meat and wool), dairy cattle and biodiversity (threatened species). Control strategies and techniques for foxes are relatively well established but the capacity of foxes to disperse and recolonise creates some challenges. Long term landscape scale programs are needed to reduce fox numbers below critical thresholds to more effectively protect threatened species and reduce impacts on biodiversity.

Primary control methods include:

- coordinated Ground baiting.

Supplementary control methods include:

- shooting (ground)
- trapping and euthanise.

Best management pest control supports an integrated, cross tenure approach using a range of primary and supplementary control measures. Further information on best management pest animal control can be found at: <https://www.dpi.nsw.gov.au/biosecurity/vertebrate-pests/pest-animals-in-nsw>

Land managers are encouraged to report fox sightings via the FeralScan app/website.





Table 5-f European fox management table.

Management category objective	Assets	Strategies	Responsibility
Asset based protection	<p>Agricultural production such as sheep, calves and other small livestock species.</p> <p>Native wildlife.</p> <p>Livestock health and welfare.</p> <p>Community health and wellbeing.</p>	<ol style="list-style-type: none"> <li>1. Establish and support Feral Fighter or other management groups that support land manager participation with control.</li> <li>2. Develop cross tenure local management plans in priority areas that include primary and supplementary control.</li> <li>3. Document key assets and locations in the region that are impacted by foxes.</li> <li>4. Conduct coordinated fox control around key locations and assets.</li> <li>5. Support fox management consistent with the Saving our Species program.</li> <li>6. Implement asset-based protection of migratory waders including state and nationally recognised threatened species.</li> <li>7. Monitor compliance and undertake enforcement including targeted property inspection programs.</li> <li>8. Monitor effectiveness of management programs on fox populations and protection of identified assets.</li> <li>9. Increase effective management options available by supporting research and development into fox control.</li> <li>10. Support innovative fox control such as Integrated Pest Management, cross-tenure broad-scale baiting, bio-control and exclusion fencing programs.</li> </ol>	<p>Feral Fighter or other local management groups, private and public Land managers, LLS, NSW DPI, OEH, Local Government.</p> <p>Strategic and reactive control measures as per local management plans.</p>

## 5.10 Feral goat

### Impacts

Feral goats are a major agricultural and environmental pest, but also a commercial resource, providing income to farmers who muster them for sale. Feral goats compete with stock and some native animals for pasture, contribute to land degradation through grazing and browsing and impact on biodiversity by damaging vegetation and competing with native animals.

### Distribution

Feral goats are concentrated in a few key areas of the South East region.

### Management

Private land managers who seek to utilise feral goats as an income source via mustering for sale need to understand the relationship between the density of feral goats and the damage they cause, so they can maximise the benefits versus the costs of management and negative impacts on the land and environment.

Management of feral goats on public lands is carried out to reduce impacts on their natural and cultural values including threatened species. Isolated populations on public lands are to be removed entirely wherever possible and where mustering is supported on public lands, removal is to be complete. Where mustering is not practical on public lands, aerial shooting will be considered.

Primary control methods include:

- trapping and euthanise
- muster and sell.

Supplementary control methods include:

- shooting (ground)
- shooting (aerial - in inaccessible areas).

Best management pest control supports an integrated, cross tenure approach using a range of primary and secondary control measures. Further information on best management pest animal control can be found at: <https://www.dpi.nsw.gov.au/biosecurity/vertebrate-pests/pest-animals-in-nsw>

Land managers are encouraged to report feral goat sightings to their nearest LLS office.





Table 5-g Feral goat management table.

Management category objective	Assets	Strategies	Responsibility
Asset Protection for existing populations.	<p>Agricultural production such as pasture, crops, plantation forestry and horticulture.</p> <p>Native vegetation.</p> <p>Water ways and wetlands.</p> <p>Cultural heritage sites.</p>	<ol style="list-style-type: none"> <li>1. Establish and support Feral Fighter or other management groups that support land manager participation with control.</li> <li>2. Develop cross tenure local management plans in priority areas that include primary and supplementary control.</li> <li>3. Implement priority actions from local management plans, including: <ol style="list-style-type: none"> <li>a. Identify and map key sites and assets in the management areas.</li> <li>b. Develop and implement site / area / population based coordinated and collaborative management programs.</li> <li>c. Support strategic feral goat control accordance with local management plans.</li> <li>d. Conduct coordinated feral goat control around key locations and assets.</li> <li>e. Promote integrated feral goat management methods to land managers.</li> <li>f. Monitor effectiveness of control programs.</li> <li>g. Undertake population density investigations.</li> <li>h. Promote land manager engagement to report sightings, monitor and control.</li> </ol> </li> <li>5. Monitor compliance and undertake enforcement including targeted property inspection programs.</li> <li>6. Participate in research to understand distribution and movement.</li> <li>7. Support market opportunities for feral goat meat.</li> </ol>	<p>Local management groups or Feral Fighter groups, private and public Land managers, LLS.</p> <p>Strategic and reactive control measures as per local management plans.</p>
Eradication or containment for isolated populations and new incursions.	<p>Agricultural production such as pasture, crops, plantation forestry and horticulture.</p> <p>Native vegetation.</p> <p>Water ways and wetlands.</p> <p>Cultural heritage sites.</p>	<ol style="list-style-type: none"> <li>1. Establish feral goat management groups and develop local management plans with the aim to contain and/or eradicate identified populations.</li> <li>2. Implement local management plans that: <ol style="list-style-type: none"> <li>a. Detail surveillance program and show distribution mapping,</li> <li>b. Monitor pathways of potential introduction and develop preventative options.</li> <li>c. Engage all land managers in cross-tenure management.</li> <li>d. Population control aimed for local eradication or containment.</li> <li>e. Monitors progress towards local eradication or containment.</li> </ol> </li> <li>3. Conduct coordinated feral goat control for eradication or containment.</li> <li>4. Implement surveillance and monitoring to locate any distribution changes or new feral goat populations.</li> <li>5. Monitor pathways of potential introduction and develop preventative options.</li> <li>6. Support programs to record sightings.</li> </ol>	<p>Local management groups or Feral Fighter groups, private and public Land managers, LLS.</p> <p>Strategic and reactive control measures as per local management plans.</p>



## 5.11 Wild horse

### Impacts

Wild horses are large hoofed animals that can be a danger to humans, especially with regards to road safety and can have serious impacts on plants, wetlands, streams and native animals and landscapes, particularly in sensitive environments. Horses also spread weeds. Australia has the largest population of wild horses in the world and community perspectives on horses in our environment vary substantially.

### Distribution

The majority of the wild horse populations in the South East region are in the Cooma-Monaro and Snowy River localities.

### Management

The management of wild horse populations should be done so using approved wild horse management practices. The aim of this plan is to raise awareness and provide guidance to land managers in managing wild horses.

Land managers (in neighbouring wild horse areas) should report sightings to their nearest LLS office and use the FeralScan app to inform their local community.





Table 5-h Wild horse management table.

Management category objective	Assets	Strategies	Responsibility
Asset Protection for existing populations in accordance with the approved Wild Horse Management Plan.	Native vegetation, soils, waterways, wetlands, threatened species and ecological communities.  Pastures and crops.  Cultural heritage.  Public safety.	<ol style="list-style-type: none"> <li>1. Implement control in accordance with approved Wild Horse Management Plans to minimise spread, reduce impacts on priority assets and minimise risk to public safety.</li> <li>2. Support monitoring of densities, distribution and impacts.</li> <li>3. Support the development, trials and implementation of effective and humane horse control practices such as fertility control technology.</li> </ol>	<p>NPWS.</p> <p>Strategic and reactive control measures as per an approved Wild Horse Management Plan.</p>
Eradication or containment for isolated populations and new incursions.	Agricultural production such as pasture, crops and horticulture.  Native vegetation.  Public safety.	<ol style="list-style-type: none"> <li>1. Implement local management plans that: <ol style="list-style-type: none"> <li>a. Detail surveillance program and show distribution mapping,</li> <li>b. Monitor pathways of potential introduction and develop preventative options.</li> <li>c. Engage all land managers in cross-tenure management.</li> <li>d. Population control aimed for local eradication or containment.</li> <li>e. Prevents re-entry including use of exclusion fencing to protect priority assets.</li> <li>f. Monitors progress towards local eradication or containment.</li> </ol> </li> <li>2. Implement surveillance and monitoring to locate any distribution changes or new wild horse populations.</li> <li>3. Monitor pathways of potential introduction and develop preventative options.</li> <li>4. Support programs to record sightings.</li> </ol>	<p>NPWS (excluding areas covered under Wild Horse Management Plans), Forestry Corp, Private and public land managers, LLS.</p> <p>Strategic and reactive control measures as per local management plans.</p>

## 5.12 Indian myna

### Impacts

The South East region is home to several endangered species of birds that are directly impacted by the Indian myna. These include (but not limited to) the Superb Parrot and the Glossy Black Cockatoo. The Indian myna is also known to spread weeds including Lantana.

### Distribution

The Indian myna birds are a sedentary species, i.e. there are no seasonal movements. This species (like most pests) are highly adaptable and feed on a variety of food sources including fruit, vegetables, seeds, grains, nectar, eggs, grain and invertebrates. Indian Myna birds are often observed forcibly taking the nesting hole of a native bird.

### Management

There are small but active volunteer groups within the South East region particularly in the Eurobodalla and Bega Valley managing Indian myna birds. Such groups play a significant role in managing the biosecurity threat posed by this species of bird.

### Strategies

- identify key assets and locations in the region impacted by Indian Myna
- review existing and recent Indian Myna programs and products in the region, e.g. Community groups, Local Government and Landcare projects
- support / build on recent effective Indian Myna programs
- develop local or regional coordinated Indian Myna programs in areas where management will provide most benefit
- increase effective management options available by supporting control programs and R&D that consider Integrated Pest Management, cross tenure projects, bio-control, trapping, education and advice, etc.
- incorporate monitoring into Indian Myna programs
- land managers are encouraged to report Indian myna sightings via the FeralScan app/website.



## 5.13 Carp

### Impacts

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, in the same way that the Calici virus has had a big impact on rabbit numbers.

### Strategies

The strategy and focus of management for carp in the region will be to support any state-wide biological control programs.



## 5.14 Redfin perch

### Impacts

Redfin perch have been in Australia for at least 100 years, however there is little research regarding their impact, information is based on personal observations. They are predators which consume both invertebrates and small native fish. They can spread viral diseases such as Epizootic Haematopoietic Necrosis. This virus is one factor reducing the number of native fish in recent decades.

### Strategies

- increase community awareness of the potential threat
- support communities to participate in monitoring in areas know to be currently free of redfin perch
- promote good biosecurity measures to local recreational fishing groups.



## 6. Measuring success and continuous improvement

The success of the plan will be evaluated at the middle (2021) and end (2023) of the term of the plan against four outcomes:

**Outcome 1:** The South East RSPAMP is effective in supporting the community to reduce pest animal impacts

**Outcome 2:** The South East community shares the responsibility for pest animal management

**Outcome 3:** The impact of priority pest animals on priority assets is reduced, and their spread contained

**Outcome 4:** New pest species in the region are detected and incursions are eradicated.

The findings of the evaluations will be communicated across the region by the South East RPAC and will be used to guide improvement and inform regional pest animal management planning, policy and communications.

KPIs will be measured for each outcome to inform evaluations. Additional indicators developed under the State Monitoring, Evaluation, Reporting and Improvement (MERI) Framework will be incorporated after June 2019.

### 6.1 Key performance indicators (KPIs)

The pest animal program KPIs will ensure practices are effective and achieve outcomes. The indicators to be set will be monitored and reviewed to ensure targeted progress on key programs and pest animals. Monitoring of the KPIs will be used to inform evaluations at the state and regional levels.

#### 6.2.1 Program Monitoring Evaluation Reporting and Improvement (MERI) Framework

Providing a coherent story about the impacts of the RSPAMPs across the State will require a coordinated Monitoring, Evaluation, Reporting and Improvement (MERI) framework. Monitoring activities at regional scale will provide information for adaptive management and annual reporting for pest management as well as providing organised information about the achievement of objectives in regional pest management plans.

Objective	Indicator	Framework
Develop consistent state-wide pest animal data metrics	Metrics are developed and RPACs are reporting on the metrics in a consistent manner.	MERI Framework for Pest Animal Management in NSW <a href="https://www.dpi.nsw.gov.au/biosecurity/vertebrate-pests/legislation/state-strategies/monitoring,-evaluation,-reporting-and-improvement-meri-framework-for-pest-animal-management-in-nsw">https://www.dpi.nsw.gov.au/biosecurity/vertebrate-pests/legislation/state-strategies/monitoring,-evaluation,-reporting-and-improvement-meri-framework-for-pest-animal-management-in-nsw</a>
Develop a consistent MERI process for RSPAMPs	MERI process established to guide monitoring and management of pest animals in NSW for oversight by SPAC.	

The Monitoring Evaluation Reporting and Improvement (MERI) Framework for the South East RSPAMP will feed into the state MERI framework, but more importantly provide a mechanism to monitor and evaluate progress towards the plan outcomes.

All of the South East regional KPIs will be collected and reported in the mid and end-of-term evaluations.



Data will be collected through six sources:

- local Pest Plans
- reports of sightings and impacts by the community (LLS systems, FeralScan or similar)
- two land manager surveys (2021 and 2023)
- two surveys of pest animal management practitioners (2021 and 2023)
- two external audits
- data collected by LLS.

Objective	Indicator	Framework
Develop and implement pest animal data metrics relevant to the South East region	Data metrics collection, collation and analysis systems are implemented.	Refer to Appendix 2
Develop a MERI process that supports the 4 outcomes of the South East plan	MERI process established to guide monitoring and management of pest animals in South East for oversight by RPAC.	

## 6.2 Measuring performance

Reporting will occur on an annual basis based on the monitoring framework identified in this plan. Formal monitoring, evaluation, reporting and improvement processes have been implemented to improve regional and state-wide collaboration and reporting on pest animal indicators across NSW. Improved intelligence on key pest animals will lead to more efficient management tools and outcomes.

## 6.3 Plan review

A 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 NSW Biosecurity Act 2015

The *NSW Biosecurity Act 2015* is a new piece of legislation that allows improved management of biosecurity risks in NSW to enable land managers, 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. Land managers, industry and community should be familiar with these tools and what they require of them in their daily practices.

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

### Regulatory tools: NSW Biosecurity Act 2015

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



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

#### Biosecurity Management Tools

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

Figure 5: Regulatory tools of the Biosecurity Act 2015.

## 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 relevant land managers 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**, which is 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 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 LLS office for further information.

#### Resources:

- Local Land Services
- Office of Environment and Heritage (National Parks and Wildlife)
- NSW Department of Primary Industries
- Invasive Animals CRC
- 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 nonindigenous 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 2).
- 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](http://pir.sa.gov.au/__data/assets/pdf_file/0017/254222/SA_pest_animal_risk_assessment_guide_Sept2010.pdf)

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

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

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

## Appendix 2: Monitoring, evaluation, reporting and improvement process

The intention of this section is to guide the NSW Government and the people of South East NSW in evaluating our progress in managing pest animal impacts over the life of the South East Regional Strategic Pest Animal Management Plan (RSPAMP). It will allow us to see what is working and how; what isn't working and why; and adjust our efforts accordingly. It provides the framework for us to identify and celebrate our successes, as well as challenges and opportunities to make improvements. It also identifies the process we will follow to show what outcomes we are achieving in pest animal impact management in South East NSW with increasing transparency, accountability and value for taxpayer dollars spent.

The success of pest animal management in South East NSW is measured against the four outcomes of the RSPAMP:

**Outcome 1:** The South East RSPAMP is effective in supporting the community to reduce pest animal impacts.

**Outcome 2:** The South East community shares the responsibility for pest animal management.

**Outcome 3:** The impact of priority pest animals on priority assets is reduced, and their spread contained.

**Outcome 4:** New pest species in the region are detected and incursions are eradicated.

Indicators for each outcome were chosen to reflect:

- 1) good governance, collaboration and adaptive management
- 2) acknowledgement of shared responsibility of pest animal management under the NSW Biosecurity Act 2015 and NSW Biosecurity Regulation 2017
- 3) the reduction of impact of priority pest animals on priority assets
- 4) an increase in awareness and collaboration for managing pest animal incursions.

### Approach

#### What will be measured?

Progress towards each outcome is measured using one outcome indicator and several performance indicators.

- An outcome indicator is a measure (of effectiveness) that can reasonably demonstrate to the public the performance of the RSPAMP in achieving the specific outcome.
- A performance indicator is a quantitative or qualitative measure (of performance) that is used to demonstrate change, and that details the extent to which results are being or have been achieved.

Scale was a key consideration in the development of these indicators – they are regional and strategic.

What will be measured is summarised in table below with more detailed explanations in subsequent sections.

#### How will it be measured?

The South East Regional Pest Animal Committee (RPAC) has oversight of the monitoring, evaluation, reporting and improvement process. Every six months, the RPAC will be responsible for reviewing, monitoring and making recommendations for improvement towards outcome and performance indicators. These recommendations are likely to include targets for initiatives (activities and outputs).

Examples of initiatives are:

- developing, implementing and reviewing local and regional plans
- engaging with particular stakeholders, partners and community groups
- providing funding to address priorities
- collecting and analysing data
- reviewing evidence to inform priorities
- developing, delivering and participating in awareness raising and training events
- developing and distributing information including best practice guides and communications material

- undertaking pest animal management
- responding to incursions
- conducting inspections.

### How will the findings be communicated?

South East Local Land Services is responsible for the RPAC and for communication of outcomes. The RSPAMP will be evaluated by the RPAC in the middle and the end of the plan's term, in 2021 and 2023. The findings of the evaluations will be communicated by South East Local Land Services.

### Summary of outcome indicators and performance indicators used to measure the success of the RSPAMP

Outcome 1							
The RSPAMP is effective in supporting the community to reduce pest animal impacts							
Outcome indicator							
Investment profile aligns with priorities							
Performance indicators							
South East RPAC reviews performance against indicators and identifies initiatives every six months			South East RPAC oversees evaluations in 2021 and 2023 and reconsiders priorities			Evidence of decision-making stored	

Outcome 2			Outcome 3			Outcome 4	
The South East 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	
Outcome indicators							
Number of people and organisations acknowledging and acting on their responsibility			Number of local operational groups reducing impacts			People and organisations collaborating in detection and incursion response initiatives	
Performance indicators							
Events and materials to increase knowledge and capacity	Community groups and public land managers participating	Number of reports	Local operational groups reporting to sub-regional plan	Community support for plan priorities	Area and intensity of operations	Events and materials that promote awareness	Number of reports of ‘unusual animals’



## Outcome 1: The South East RSPAMP Plan is effective in supporting the community to reduce pest animal impacts

This is an umbrella outcome for the other three outcomes. Success will be ultimately dependent on good governance, collaboration between government agencies, stakeholders and the community, and the monitoring and evaluation of performance.

### Outcome indicator

The profile of pest animal management investment is aligned with regional and local priorities across the pest animal management categories of prevention, eradication, containment, asset-based protection and limited action.

### Performance indicators

- a. Outcome and performance conversations are held half-yearly at South East RPAC meetings. The RPAC will review the performance against indicators over the previous six months; recommend targets for indicators for the upcoming six months; and identify initiatives (activities and outputs) that will drive progress towards these targets.
- b. South East RPAC oversees transparent, accurate and timely evaluations of the RSPAMP in 2021 and 2023.
- c. Evidence of decision-making processes, performance against indicators and evaluations are collected and stored.

## Outcome 2: The South East community shares the responsibility for pest animal management

This outcome relates to the Biosecurity Act and Regulation under which everyone has a general biosecurity duty to manage biosecurity matter (including pest animals) to prevent biosecurity impacts.

### Outcome indicator

Number of people and organisations acknowledging and acting on their pest animal management responsibility.

### Performance indicators

- a. Number of events and materials that promote knowledge and capacity to manage priority pests and the risks they pose.
- b. Number of community groups (including Aboriginal, environmental and industry groups) and public land managers involved in the prevention of pest animal impacts.
- c. Number of reports of priority pest animal sightings, damage and control in Feral Scan.

## Outcome 3: The impact of priority pest animals on priority assets is reduced, and their spread contained

Identification of management actions to reduce the impact of priority pest animals on priority assets will be done through sub-regional pest plans for our six sub-regions: Far South Coast, South Coast, Monaro, Palerang, Boorowa/Yass and Goulburn.

### Outcome indicator

The number of local operational areas reducing the impact of priority pests on priority assets.

### Performance indicators

- a. Number of operational groups within a local area reporting to the sub-regional plan.
- b. Number and type of community members supporting local operational groups.
- c. Area (ha) and intensity of operations for priority pest animals.

## Outcome 4: New pest species in the region are detected and incursions are eradicated

Incursion responses are led at a state level by the NSW Department of Industry. At a regional level the priority is to increase awareness, increase probability of detection and support responses to non-indigenous animal incursions. Detecting new pest animals and eradicating incursions requires collaboration to increase awareness and respond effectively.

### Outcome indicator

Number of people and organisations contributing to detection and incursion response initiatives.

### Performance indicators

- a. Number of events and materials that promote awareness of detecting and responding to new pest animals.
- b. Number of reports of unusual animal sightings ([www.dpi.nsw.gov.au/biosecurity/forms/report-an-unusual-animal-sighting](http://www.dpi.nsw.gov.au/biosecurity/forms/report-an-unusual-animal-sighting)).

Notes

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