



Eastern Region Pest Animal Strategy

2020-2030

Volume 2 Supplementary Information

This strategy has been collaboratively developed by the Eastern Region Pest Animal Network. The Network is comprised of representatives of individual Local Government Areas as well as public land managers and authorities including Melbourne Water, Parks Victoria, Port Phillip and Westernport Catchment Management Authority and the Department of Environment, Land, Water and Planning. The following organisations support this strategy. Participating organisations support the broad objectives of the strategy and will seek to collaborate on regional pest animal management. These organisations will tailor actions to suit their organisation and are not bound to undertake all actions in the strategy, but continue to work collaboratively with Network partners to achieve the vision of 'Working together to minimise the impacts of pest animals across the Region'.

Eastern Region Pest Animal Network



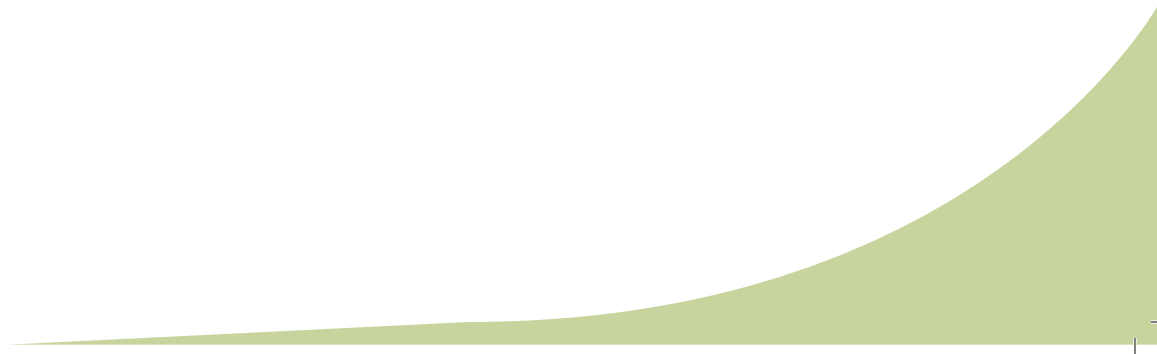
Document Tracking

Project Name	Eastern Region Pest Animal Network Eastern Region Pest Animal Strategy 2020-2030 Volume 2 Supplementary Information
Project Number	19MEL 12938
Project Manager	Alastair Jones
Prepared by	Alastair Jones, Sophie Powrie, Rachel Brown
Reviewed by	Sophie Powrie
Approved by	Sophie Powrie
Status	Volume 2 Final
Version Number	1
Last saved on	22 April 2020

This report should be cited as 'Eco Logical Australia 2020. *Eastern Region Pest Animal Strategy 2020-2030 Volume 2 Supplementary Information*. Prepared for the Eastern Region Pest Animal Network.'

Contents

Appendix A Pest Species Profile.....	5
A1 Common Issues.....	5
A2 European Fox.....	7
A3 Feral Cat.....	10
A4 European Rabbit.....	13
A5 Feral Deer.....	15
A6 Common (Indian) Myna.....	18
Appendix B Legislative Context.....	23
Appendix C Summary of Network Pest Control Actions.....	29
Appendix D Operating Procedures.....	39
D1 Response Steps.....	39
D2 European Fox Protocols.....	42
D3 Feral Cat Protocols.....	46
D4 European Rabbit Protocols.....	50
D5 Feral Deer Protocols.....	53
D6 Common (Indian) Myna Protocols.....	55
Appendix E Action Plan Template.....	57
Appendix F Pest Animal Management Resources.....	59
F1 Federal Control Resources.....	60
F2 State Control Resources.....	61
F3 Local Control Guidelines.....	62

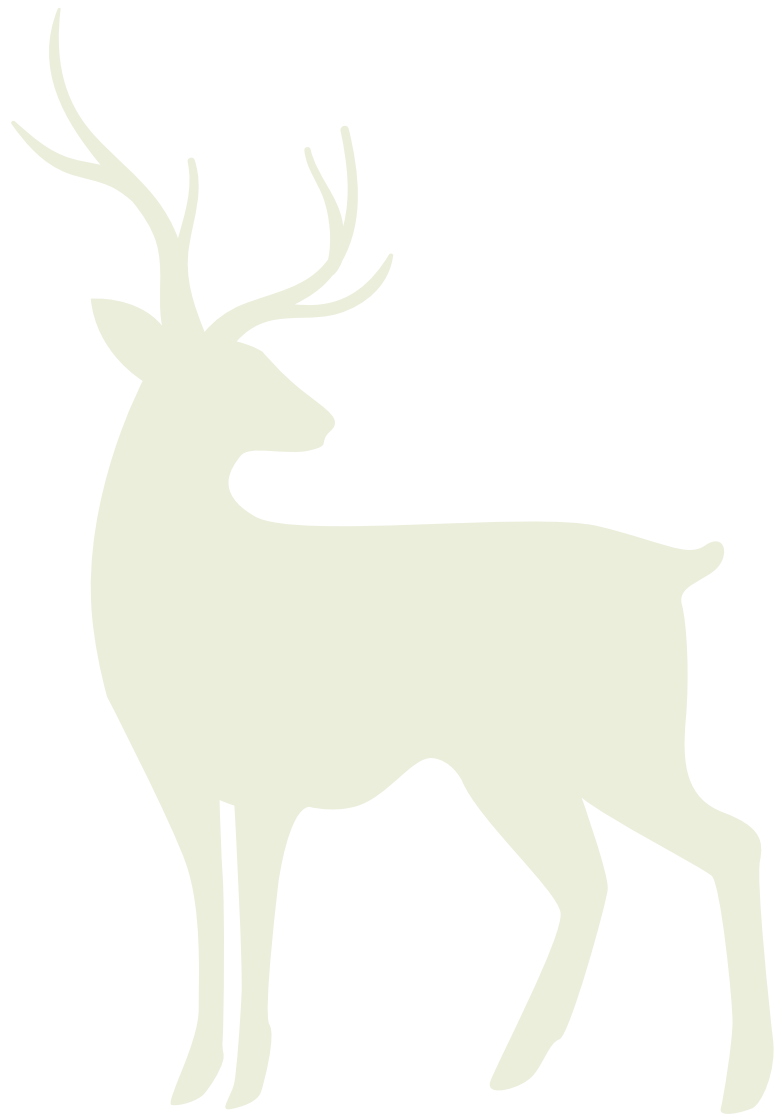


Acknowledgements

This document has been prepared by Eco Logical Australia Pty Ltd with support from Eastern Region Pest Animal Network.

Disclaimer

This document may only be used for the purpose for which it was commissioned and in accordance with the contract between Eco Logical Australia Pty Ltd and Knox City Council (on behalf of the Network). The scope of services was defined in consultation with Knox City Council (on behalf of the Network), by time and budgetary constraints imposed by the client, and the availability of reports and other data on the subject area. Changes to available information, legislation and schedules are made on an ongoing basis and readers should obtain up to date information. Eco Logical Australia Pty Ltd accepts no liability or responsibility whatsoever for or in respect of any use of or reliance upon this report and its supporting material by any third party. Information provided is not intended to be a substitute for site specific assessment or legal advice in relation to any matter. Unauthorised use of this report in any form is prohibited.



Appendix A

Pest Species Profile

A1 Common Issues

Increasing Urbanisation and Peri-urban Development

- Urbanisation continues to affect biodiversity in the region principally through the spread of exotic species, pollution and increased predation by domestic cats and dogs on native fauna and the fragmentation of local, natural habitat.
- The changing social demographic associated with urban and peri-urban expansion has also impacted the ability of rural/residential communities to manage pest animal issues collaboratively due to high rates of absentee landholders, reduced understanding of the issues and reduced involvement with traditional rural/community networks engaged in such activities.

- A survey found that most (96%) Victorians regarded feral cats as pests, but did not see domestic cats the same way, with only 34% regarding them as pests (Johnston & Marks 1997)

Animal Welfare and Environmental Impact of Pest Animal Management

- There has been an increasing scrutiny of pest animal management welfare related issues (<http://www.pestsmart.org.au/animal-welfare/attitudes-to-animal-welfare/>) and is further facilitated by accessible and timely communication technologies, particularly smart phones, increasing peri-urban populations and changing social and community attitudes. There is an expectation that animal suffering associated with pest animal management be minimised, this is particularly so for species for which sectors of the community have a special affinity or attachment, for example wild horses and deer.
- The Network support methods to control or manage pest animals that are humane, target specific and have minimal unintended environmental impact.
- Operating procedures in this strategy are informed by the Australian Animal Welfare Strategy (AAWS) to ensure the humane treatment of all animals in Australia and the relative humaneness of a range of pest animal control methods.
- This strategy uses existing Model Codes of Practice (CoPs) and Standard Operating Procedures (SOPs) have been developed for a range of pest animal species as guidance to jurisdictions and their management of animal welfare aspects of pest animal control.
- The SOPs are guiding documents only and can be modified by jurisdictions to suit their particular needs and legislation. The CoPs have been endorsed by the National Biosecurity Committee and remain as guiding documents.
- CoPs encompass all aspects of controlling a pest animal species. A CoP for a pest animal species provides general information on best practice management, control strategies, species biology and impact, and the humaneness of current control methods.



Image: David Croft/Department of Planning, Industry and Environment

A2 European Fox

Pest Status VIC

Declared Established pest animal in Victoria under the CaLP Act. Predation of native animals by the introduced European Fox *Vulpes vulpes* is listed as key threatening processes under the Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act) and Flora and Fauna Guarantee (FFG) Act (1998). Fox considered a threat to 14 species of birds, 48 mammals, 12 reptiles and two amphibians, with the orange-bellied parrot, spotted quail-thrush (from Mt Lofty Ranges), herald petrel, Gilbert's potoroo and western swamp tortoise listed as critically endangered¹. Foxes are also likely to predate shorebirds and migratory shorebirds, with the extent of impact currently unknown in the Eastern Region. The national economic impact of foxes is estimated to be \$227.5 million annually. This includes \$17.5 million in sheep production losses, \$190 million in environmental impacts, \$16 million in management costs and \$4 million in research costs².

As a declared established pest species, foxes may not be eradicated however populations of foxes may be controlled for asset protection. Agriculture Victoria administrate the Victorian Fox and Wild dog Bounty for eligible hunters, subject to terms and conditions. Eligible hunters may receive \$10 per head for each fox killed.

¹ <http://agriculture.vic.gov.au/agriculture/pests-diseases-and-weeds/pest-animals/a-z-of-pest-animals/red-fox>

² <http://agriculture.vic.gov.au/agriculture/pests-diseases-and-weeds/pest-animals/a-z-of-pest-animals/red-fox>

Biology

Foxes are medium sized, carnivorous mammals. They live up to nine years. Foxes reach sexual maturity within 12 months of age, mating occurs in winter (June-October) and gestation lasts between 51 to 53 days. Litter size averages three to six pups and up to 12 with cubs being born in spring (DPI 2019). Young usually appear from the den in late spring and at 10 -12 weeks will leave the den, by six months cubs are independent and dispersal of young is typically within 30 kms from the den site (DPI 2019).

Foxes are generalist predators and have been found to consume at least half of the threatened fauna listed under the EPBC Act (1999) (Reddiex & Forsyth 2004).

Foxes are nocturnal hunters and during times of food abundance, such as spring, cache excess food and recover resources when prey is scarce, for example during winter (DPI 2019). Foxes are typically solitary. During the breeding cycle, dog (male) and vixen (female) foxes will form a family group prior to breeding and sometimes subordinate litter mates may remain in the natal home range as helpers.³

³ <https://www.dpi.nsw.gov.au/biosecurity/vertebrate-pests/pest-animals-in-nsw/foxes/fox-biology>



Image: David Croft/Department of Planning, Industry and Environment

Resource distribution is thought to dictate home range and social organisation of foxes in Australia. Home range size varies 10-300km². In resource rich areas carrying capacity is high and a family group of six to seven individuals can occupy a shared range of 3-5km² (Saunders, Gentle & Dickman 2010). Range size varies with the type of habitat, population density of foxes and availability of food.

Distribution

Fox populations are widely established in urban, suburban, agricultural and natural environments throughout the Eastern Melbourne region. Foxes inhabit many urban areas, especially where there is cover provided by parklands and reserves and food is easy to find. The densities of foxes residing in cities (3-16 per sq km) can be considerably higher than densities observed in farmland in central Victoria (4 per sq km).

Outside urban areas, the fox is probably most abundant in fragmented agricultural landscapes that provide a range of habitats, food and cover. Estimates of fox abundance are hampered by its nocturnal and cryptic behaviour. In addition, foxes will fill the landscape to a density determined by the availability of food and suitable habitat. Habitat suitability is usually determined by the densities of prey animals within an area

A large portion of Australia falls within the preferred climatic range for this species and foxes have capacity to spread in the Eastern Melbourne Region (Yarra Council 2012, Saunders, Gentle & Dickman 2010). Human modification of the Australian landscape for farming and development has enabled foxes to spread widely across the landscape through pasture lands and modified patchy landscapes. Foxes exploit abundant food sources including rabbits and native fauna which have not evolved with fox-specific predation avoidance strategies (Saunders, Gentle & Dickman 2010).

Control

Baiting with sodium monofluoroacetate (1080) is considered to be the most cost-effective broadscale option for fox control currently (Saunders, Gentle & Dickman 2010). Other methods of fox control, such as trapping, shooting, and baiting with other poisons, are more labour intensive but are recommended for use concurrently with a bait control program to account for bait shy animals, bait caching and subsequent bait avoidance (Saunders, Gentle & Dickman 2010). Exclusion fencing is also an effective method for fox control, however may not be a suitable control option.

Optimal bait density will vary with fox density, home range size and habitat use (Saunders, Gentle & Dickman 2010). However, for most areas of Australia, 5-10 baits per square km is considered to be the optimum density for reduction of fox populations (Saunders & Mcleod, 2007), at an ideal frequency of four times per year (Moseby & Hill 2011; DPAW, 2014). Aerial baiting is more cost effective for large areas than ground baiting (Fairbridge & Fisher, 2001; Saunders & Mcleod, 2007), due to the lower labour costs and time involved. Techniques to prevent caching are also highly recommended, this includes the use of highly palatable bait types which are as fresh as possible (Saunders, Gentle & Dickman 2010). Pre-baiting and the use of continuous scent trails should not be undertaken, these techniques can lead to bait aversion and increase the chance of caching (Saunders, Gentle & Dickman 2010).

For control to be most effective Saunders, Gentle and Dickman (2010) recommend initial intensive and widespread control measures in order to reduce fox populations, followed by sustained maintenance control to prevent population recovery over time. Buffer zones are also highly recommended in order to prevent immigration of new individuals into the target area. The use of buffer zones in control efforts has been effective in reducing edge effects and more sustained population control due to reduced immigration (Saunders, Gentle & Dickman 2010). Maintenance control may at times require efforts equal to initial control measures and techniques, and an adaptive management approach is recommended to respond to changes in population density over time.



A3 Feral Cat

Pest Status

Declared Established pest animal on specified Crown land in Victoria. Declaration applies to areas of Crown land managed by the Department of Environment, Land, Water and Planning (DELWP), Parks Victoria, Phillip Island Nature Park and the four Alpine Resort Management Boards. The Declaration excludes areas managed under lease or licence or unused roads bordered by private land on both sides. Predation by cats is listed as key threatening processes under the EPBC Act and FFG Act. Approximately 80 endangered and threatened species are at risk from feral cat predation in Australia⁴. The cost of feral cat management and research has been estimated at \$2 million per year nationally. The economic loss inflicted by feral and domestic cats, based on bird predation alone, has been estimated at \$144 million annually⁵.

To protect the welfare of all cats, including the safety of free-roaming domestic cats, feral cat control will only be actively implemented in the specified areas by government and agency staff and their approved agents.

Feral cats have not been declared as a pest animal on private land. Domestic cats are subject to night time curfews in many Council areas in the region by Local Order. All domestic cat owners must register pets and follow responsible pet ownership including to prevent their cat from harming native wildlife (Domestic Animals Act 1994 and the objectives of Victoria's environmental protection laws). It is an offence to destroy a domestic cat, except in very limited circumstances.

⁴ <http://agriculture.vic.gov.au/agriculture/pests-diseases-and-weeds/pest-animals/a-z-of-pest-animals/cat-feral-or-wild>

⁵ <http://agriculture.vic.gov.au/agriculture/pests-diseases-and-weeds/pest-animals/a-z-of-pest-animals/cat-feral-or-wild>

Biology

Feral cats may live for up to seven years. Female feral cats can reproduce at 10–12 months of age, with males reaching sexual maturity at about one year (Denny and Dickman 2010)⁶. Cats are mostly solitary animals and usually maintain a home range which may be up to 10 sq km for males and less for females. Usually more active at night, with the two periods of greatest activity centred near the times of sunrise and sunset.

Distribution

Feral cats live in a diverse range of habitats including deserts, forests, woodlands and grasslands. Feral cats usually reach their highest densities on small islands or in human-modified habitats such as farms and rubbish tips.

Feral cats are known to have contributed to the extinction of 28 mammal species and are currently listed as the greatest threat to Australia's native mammals (Department of the Environment 2015). Feral cats are distributed throughout all Australian states and territories and many offshore Islands. They have an extremely broad diet consuming a wide range of native wildlife, and as such, are implicated in population declines of a huge number of native fauna species (Dickman et al. 2010; Doherty et al. 2015; Reddiex & Forsyth 2004). Small mammals within the range of 35 grams to 5.5 kilos are at greatest risk of predation by feral cats, birds and reptiles are also common prey (Doherty et al. 2017; Fancourt 2015; Molsher et al. 1999). Within Australia, on average reptiles comprise of 32.7% of feral cat diets, this is a higher proportion than in other countries (Doherty et al. 2015). Rabbits are found to make up a large portion of the diet of feral cats, this is likely due to their high abundance in Australia (Doherty et al. 2017). Feral cats hunt both diurnally and nocturnally and exhibit facultative feeding strategies and will prey switch to other small mammals if rabbit density decreases (Doherty et al. 2017; Molsher et al. 2005; Molsher et al. 1999).

Feral cats usually maintain a home range which may be up to 10 sq km for males and less for females⁷. The wide distribution of feral cats across Australia encompasses every possible habitat type on the continent (Arid Recovery 2019). The success of feral cats in Australia can be attributed to many factors including their opportunistic and generalist prey preferences and generalist habitat preferences, being able to survive without access to water and the presence of a constant domestic source population (Doherty et al. 2017).

Control

In unfenced areas of Crown land where the feral cat declaration applies, it is recommended that control efforts combine both lethal and non-lethal control measures and an adaptive management approach which accounts for localised response of feral cats and native fauna abundance, as well as developing technologies that advance over time. Lethal control options include, baiting with poisoned baits, and, trapping and shooting (Doherty et al. 2017). Non-lethal control options in unfenced areas includes the management of habitat, food supplies and trophic relationships (Doherty 2017).

Baiting is an effective method of controlling feral cats on mainland Australia. Baiting is thought to only be effective when undertaken at a scale in which a large reduction in density is achieved, otherwise rapid immigration will render any efforts futile (Doherty et al. 2017). Recently developed baits found to have enhanced uptake specifically designed for feral cats (Doherty 2017). Of these, Curiosity® has recently been registered by the APVMA and is available by permit issued by Agriculture Victoria to agencies and departments. For optimal results it is suggested that cat baiting programs take place during autumn and early winter when rabbit abundance and reptile activity are at their lowest (Doherty et al. 2017). Baiting

⁶ https://www.pestsmart.org.au/wp-content/uploads/2010/03/CatReport_web.pdf

⁷ <http://agriculture.vic.gov.au/agriculture/pests-diseases-and-weeds/pest-animals/a-z-of-pest-animals/cat-feral-or-wild>

must be postponed in the event of high rainfall events preceding the planned execution of a baiting event. This is because high rainfall can elevate populations of prey species and therefore reduce the chance of bait uptake by cats (Doherty et al. 2017).

An important consideration in the control of feral cats is the predatory control they exert on rabbit numbers in Australia, any cat control must incorporate rabbit control strategies to prevent an increase in rabbits (Molsher et al. 1999).

Methods other than lethal control are especially important considerations for feral cat management given the recurrent inputs required for lethal control of cats (Doherty et al. 2017). Cats are more successful hunters in open landscapes, hunting success rates is affected by the structure of habitat surrounding prey (McGregor et al. 2015). Recent research has shown a 70% success rate for cats hunting in open landscapes, where as in landscapes with dense grass cover or complex rock terrain success fell to 17% (McGregor et al. 2015). Therefore, by maximising grass cover, and complex vegetation stratification and maintaining areas of complex rock terrain across the landscape predation rates and the abundance of feral cats could be reduced locally (McGregor et al. 2015).



A4 European Rabbit

Pest Status VIC

Declared Established pest animal in Victoria. Competition and land degradation by rabbits is listed as key threatening processes under the EPBC Act and FFG Act. Rabbits selectively feed on certain species of plants at critical stages of development such as seeding and seedling establishment. Rabbits can severely impact the regeneration or recruitment of critical vegetation communities⁸. In some instances, the impact created by rabbits on vegetation is often replaced with noxious and/or unpalatable weed species.

In 2009 the national impact of rabbits through lost agricultural production was estimated at \$206 million per annum. In combined data for Tasmania and Victoria rabbits are estimated to have cost approximately \$30 million in lost production for the beef, lamb and wool industries per year⁹.

Biology

Rabbits are adapted to a wide range of habitats, preferring short grassy areas for feeding. Both males and females reach sexual maturity at three to four months of age. Under favourable conditions an adult female can produce seven or eight litters in a year. One doe can produce between 50–60 offspring in a single breeding season. Rabbits live up to ten years.

Breeding season is determined by rainfall and plant growth, and as such can be variable, but generally occurs during spring (DPI 2019). It must be noted though, rabbits can breed at any time during the year

8 <http://agriculture.vic.gov.au/agriculture/pests-diseases-and-weeds/pest-animals/a-z-of-pest-animals/european-rabbit>

9 <http://agriculture.vic.gov.au/agriculture/pests-diseases-and-weeds/pest-animals/a-z-of-pest-animals/european-rabbit>

provided suitable high protein plants are present within their range (DPI 2019). Juveniles rarely disperse more than 200 meters from the warren or squat (DPI 2019; Williams et al. 1995).

Rabbits generally emerge from shelter one to three hours prior to sunset and forage and socialise from evening until early morning before returning to shelter sites throughout the day (DPI 2019; Williams et al. 1995). Nightly activity is reduced under unfavourable conditions including rain and high wind, activity is also reduced during breeding season (DPI 2019).

As rabbits don't frequently dig new warrens, many rabbits live and breed in shallow soil depressions under fallen timber or within tall and dense vegetation, new depressions are dug with each litter and squats develop into more complex burrow systems over family generations (Williams et al. 1995). In Woodland or open shrubland areas, squats are more frequently used than warrens (Williams et al. 1995). Rabbits may also utilise surface shelter including dense scrub, timber logs and rocks and in landscapes where rabbits are found to be sheltering above ground warren ripping will not be a suitable control method (Williams et al. 1995).

Distribution

European rabbits occur throughout Victoria except in alpine and closed forest environments. They are widespread across the Eastern Region. Rabbit density fluctuates in response to rainfall, and during times of drought can decline to around 1% of their potential peak population, rabbit numbers are found to be at their peak during early summer (Williams et al 1995).

Control

Evidence suggests that rabbit management is most successful when multiple control techniques are implemented and when sustained on the same geographic area over several years. Research also indicates successful reduction in pest rabbit impacts are improved when control actions are coordinated across landholders and integrated at state, regional and local scales (ERP workshop 8th October 2019, Williams et al 1995).

Strategic rabbit control entails monitoring and evaluating the efficiency of the onground actions (Williams et al. 1995). Monitoring is a prerequisite for projects.

Control techniques and efforts are determined by current rabbit distribution, abundance and landscape features including topography and soil type (Williams et al. 1995). In public open space with warren activity, local experience in the Eastern Region has reported successful warren control by jamming entranceways with fallen tree material obtained on site, in addition to mechanical destruction methods. Warren jamming is cost effective and has less visual impact and is suited to use in combination with fumigation and biological control.

Under high rabbit densities and if the use of warrens is confirmed within the study area, initial poisoning (primary control) followed by warren ripping or fumigation (sustained maintenance control) is recommended. Dogs have been used successfully to drive rabbits underground into warrens to increase the effectiveness of efforts (Williams et al. 1995). Fumigation is generally thought unsuitable for large areas as it is high cost and labour-intensive but could be implemented across smaller target areas where rabbits are a localised problem, or where a particular threatened species is present. In situations where rabbit density is low the suggested sustained maintenance control techniques should alone be effective in reducing and maintaining low rabbit densities (Williams et al. 1995).

Any rabbit control in Australia must incorporate feral cat and European Fox control in order to reduce prey switching by feral cats and foxes to native critical weight range mammals under reduced rabbit densities (Doherty et al. 2017; Molsher et al. 1999; Williams et al. 1995). Any localised reduction of rabbits will more than likely result in prey switching by feral cats and foxes and increase predation pressure on native fauna (Doherty et al. 2015; Williams et al. 1995).



Sambar deer: [commons.wikimedia.org/wiki/File:Male_Sambar_Deer_\(Stag\)_staring_at_me.jpg](https://commons.wikimedia.org/wiki/File:Male_Sambar_Deer_(Stag)_staring_at_me.jpg) (DammikaD)

A5 Feral Deer

Pest Status VIC

Not declared. Defined as protected wildlife under the Wildlife Act 1975. Defined as game, which means they can be hunted by licensed game hunters. Under the Wildlife (Game) Regulations 2012 (S.R. No. 99/2012). The three target deer species are known to have viable feral populations established in Victoria: Red, Sambar and Fallow.

Impacts from feral deer populations include altered composition and structure of native vegetation communities, weed/disease spread, grazing pressure (competition for native and domestic stock), soil erosion, degraded water quality, traffic accidents, stock spooked/mauled, pathway creation for other feral species incursion into forested areas. Deer are associated with rubbing and ring barking trees which is problematic in areas with high density populations.

Biology

Deer are herd animals. They reach sexual maturity at 16 months, with mating/fawning season varying by species and their population can increase by 30% to 55% per year (Hone et al 2010). Deer are adaptable mixed feeders². They commonly eat leaves, bark and fruit and prefer grassy forests in undulating country.

Distribution

Deer populations are distributed across Victoria. The population of sambar is the most widespread and thought to be in the hundreds of thousands. Their range is spreading to cover most of the forests of the Central Highlands and Gippsland and sambar are now found in Wilsons Promontory National Park, joining the park's large hog deer population. Hog deer populations are concentrated in coastal areas of eastern Victoria. Red deer are in high numbers in the Grampians with smaller outlying populations. Fallow deer are found in large numbers in the Otways and the forests adjacent to South Australia, while Chital and Rusa deer are yet to establish significant populations.

In the Eastern Region, deer are present in Cardinia, Yarra Ranges, Nillumbik, Manningham and are an emerging pest management issue in adjacent areas including Knox, Maroondah and Casey. Deer strike is reported to be increasing in parts of the region, posing a safety concern on roads. A Sambar Deer has already knocked over two school students at a Maroondah school and deer have been seen in kindergarten playgrounds in Maroondah. Deer also present in drinking water catchments with particular concerns for Upper Yarra, Sugarloaf and Cardinia Reservoir areas.

Deer are herbivores and primarily forage on grasses, herbs, and leaves (from shrubs and trees), as well as bark and some fruits (DSEWPC 2011). Deer can be found in herds of up to 30 individuals but are also known to live as individuals without a herd (DSEWPC 2011). Mating occurs in Autumn and gestation is usually eight to nine months, most frequently single young is born (DSEWPC 2011). Males are known to rub against trees and saplings in order to mark out territories (DSEWPC 2011). The known habitat preferences for the three deer species are presented in Table 1.

Deer Species	Grasslands	Woodlands	Forest	Rainforest
Red deer <i>Cervus elephus</i>			Preference for open grassy glades within forest	
Sambar deer <i>Cervus unicolor</i>			Coastal to alpine	
Fallow deer <i>Dama dama</i>	Preference for woodland opening onto grassland	Preference for woodland opening onto grassland		




Table 1: Habitat preferences for three of Australia's Feral Deer species present in the Eastern Region (Gynther & Baker 2013)

Where they are abundant deer have negative effects on overall ecosystem biodiversity and to plant abundance and diversity. Deer suppress seedling recruitment and sapling growth through foraging and rubbing against saplings to mark out territories. Deer compete with native animals through grazing competition and contribute to soil erosion and water degradation in creeks and rivers by trampling these areas with their hard hooves (DPI 2019; DSEWPC 2011). Deer are also known to spread weeds and carry disease which can be spread to other animals (DSEWPC 2011). Combined, these effects alter the structure and composition of native ecological communities (McLeod 2009).

Control

The negative impacts associated with feral deer in Australia have only recently been acknowledged by Government departments in Australia. With the first documentation of potential damage by feral deer being noted in 1989 by Groves and Bishop (McLeod 2009). More recently however, government opinions on environmental damage as a result of feral deer populations have changed, and in 2001 the Australia State of the Environment Report discuss deer as having had, or having potential to, cause severe environmental damage in Australia (McLeod 2009). The main control method is shooting undertaken by professional contract shooters and accredited volunteer hunters. Aerial shooting has also started recently being used in Victoria where it can be effective in areas with low bush cover.



A6 Common (Indian) Myna

Pest Status VIC

Not a declared pest animal in Victoria. The impacts of Common (Indian) Myna include damage to horticultural crops; disease spread; displacement or predation of native fauna; dispersal of invasive plants; reduced biodiversity; damage to public amenities via fouling or nesting; and public disturbance caused by fouling, noise, communal roosting and scavenging. Exotic pest birds are currently estimated to cause \$8.5 million in annual loss to Australian primary industries. Crops affected include, wheat, oats, barley, grapes, cherries, blueberries, apples, stone fruits and olives. The Myna adversely impacts regent parrot, little tern, hooded plover, flesh footed shearwater, white tern and sooty tern via competition for nest hollows, predation of eggs or direct attack

Biology

Closely associated with human habitation. In the evening, large groups of Common Mynas gather in communal roosts, mainly in the non-breeding season, in roof voids, bridges, and large trees, and numbers can reach up to several thousands. Common Mynas mate for life. During the breeding season there is usually considerable competition for nesting sites. Favoured locations are in the walls and ceilings of buildings, making these birds a nuisance to humans. Nests are also placed in tree hollows, which are used by native birds. Nests are quite messy and consist of a variety of materials. Leaves, grasses, feathers and assorted items of rubbish are common materials.

Distribution

Myna's are distributed across the Eastern Region, predominately near towns and cities.

Expert opinion suggests where not constrained by low temperature (Martin 1996), this omnivorous species will continue to spread into rural and urban areas across Victoria. While commonly regarded as commensal with humans, the species is nevertheless found in reserves and less disturbed environments in Australia and other parts of the world (Pell and Tidemann 1997, Peacock et al 2007)

The Common (Indian) Myna also known as Common Myna was introduced across Eastern Australia in the 1800's for the biological control of crop insects. The Common (Indian) Myna is now a common and wide spread pest species (Pest Smart 2014). Across their current range in Eastern Australia (Figure 2) Common (Indian) Mynas cause severe damage to vegetation as well as compete aggressively with native species for habitat and resources (Pest Smart 2014).

Common (Indian) Mynas are highly adaptable in their foraging and food preferences, they can exploit seasonal food abundance and are generalist, opportunistic omnivores (DAF 2016). Common (Indian) Mynas forage singly, in pairs or in flocks either on the ground or within flowering trees and smaller bushes (DAF 2016). Their current range in Australia is restricted by temperature and they are not established in areas where the average minimum temperature of the coldest month is less than -0.4 degrees Celsius (DAF 2016). Common (Indian) Mynas evolved in open woodland habitats, and in Australia prefer open habitats (DAF 2016). This species thrives in disturbed areas and human modified landscapes such as urban areas. Across their range in Australia Common (Indian) Mynas are not found in dense or closed habitats such as rainforests (DAF 2016)

Control

Current control techniques include shooting as well as trapping and humane euthanasia. Trapping efforts have been found to be more successful at smaller localised scales within broader target areas as opposed to programs which focus on larger broad scale control efforts (Centre for Invasive Species Solutions 2014). Common (Indian) Myna birds can develop trap shy behaviour and are known to avoid areas in which shooting control has been undertaken (Centre for Invasive Species Solutions 2014). Trap success can be improved by utilising decoy birds, nest box trapping and roost trapping (Centre for Invasive Species Solutions 2014). The Centre for Invasive Species Solutions (2014) suggests culls of at least 25 individuals per km² each year prior to and during breeding season which extends from August to March. Common (Indian) Myna populations can recover rapidly from control programs, therefore repeating control efforts each year is highly recommended for the most effective and sustained control efforts. This species can spread and establish large populations rapidly and once it is established in an area total eradication is unlikely. Therefore, the best management approach would be to respond to distribution spread rapidly to prevent population growth in new areas (Centre for Invasive Species Solutions 2014).

References

- Australian Department of the Environment. (2015). Tackling feral cats. Available: <https://www.environment.gov.au/biodiversity/threatened/publications/factsheet-tackling-feral-cats>
- Birddata (2007). Atlas Distribution Maps—Common Myna. www.birddata.com.au/maps.vm#
- Centre for Invasive Species Solutions (2014). PestSmart Case study: Common myna impacts. Available: <https://www.pestsmart.org.au/common-myna-impacts/>
- Department of Agriculture and Fisheries (DAF), Biosecurity Queensland (2016). Invasive animal risk assessment, Indian Myna *Acridotheres tristis*. Available: https://www.daf.qld.gov.au/_data/assets/pdf_file/0009/74925/IPA-Indian-Myna-Risk-Assessment.pdf
- Department of Environment, Land, Water and Planning Flora and Fauna Guarantee Act 1988 Processes List December 2016. Available from https://www.environment.vic.gov.au/_data/assets/pdf_file/0012/50241/201612-FFG-Processes-list.pdf
- Department of Parks and Wildlife 2014–15 Annual Report, Department of Parks and Wildlife, 2015. Available: https://www.dpaw.wa.gov.au/images/documents/about/annual-report/2015/ParksandWildlife_AnnualReport2014-15_Full.pdf
- Department of Sustainability, Environment, Water, Population and Communities (2011). Feral Deer. Available: <https://www.environment.gov.au/system/files/resources/c6679b32-5f03-4839-aa57-9c5723153b0f/files/fs-feral-deer.pdf>
- Department of the Environment and Energy 1999. What is protected under the EPBC Act? Matters of national environmental significance. Available: <https://www.environment.gov.au/epbc/what-is-protected>
- Denny and Dickman (2010) Review of cat ecology and management strategies in Australia. A report for the Invasive Animals Cooperative Research Centre. University of Sydney.
- Dickman, C. R., Glen, A. S., & Letnic, M. (2009). Reintroducing the dingo: can Australia's conservation wastelands be restored. *Reintroduction of top-order predators*, 238, 269.
- Doherty, T. S., & Ritchie, E. G. (2017). Stop jumping the gun: a call for evidence-based invasive predator management. *Conservation Letters*, 10(1), 15-22.
- Doherty, T. S., Dickman, C. R., Johnson, C. N., Legge, S. M., Ritchie, E. G., & Woinarski, J. C. (2017). Impacts and management of feral cats *Felis catus* in Australia. *Mammal Review*, 47(2), 83-97.
- Fairbridge, D., & Fisher, P. (2001, May). Keeping predator control programmes on target: field assessment of bait uptake by target and non target species in Victoria. In 21 in: *Proceedings: 12th Australasian Vertebrate Pest Control Conference*, Melbourne. Department of Natural Resources and Environment, Victoria (p. 17).
- Fancourt, B. A. (2015). Making a killing: photographic evidence of predation of a Tasmanian pademelon (*Thylogale billardierii*) by a feral cat (*Felis catus*). *Australian Mammalogy*, 37(1), 120-124.
- Feral Scan (2009). Guide for best practice in Indian Myna control. Available: <https://www.feralscan.org.au/docs/Guide%20for%20Best%20Practice%20Indian%20Myna%20Control%202007%20CIMAG.pdf>

Gynther, I., & Baker, A. (2013). *Field companion to the mammals of Australia*. New Holland Publishers.

Hone, J., Duncan RP., and Forsyth, DM. (2010) Estimates of maximum annual population growth rates (rm) of mammals and their application in wildlife management. *Journal of Applied Ecology* 47, 507–514.

Invasive Animals CRC 2014. IMFS1: Common (Indian) Myna.

Available from https://www.pestsmart.org.au/wp-content/uploads/2017/10/IMFS1_myna_web.pdf

Invasive Plants and Animals Committee 2016. *Australian Pest Animal Strategy 2017 to 2027*, Australian Government Department of Agriculture and Water Resources, Canberra.

Johnston MJ and Marks CA 1997, Attitudinal survey on vertebrate pest management in Victoria. Report Series Number 3. Agriculture Victoria, Department of Natural Resources and Environment, Frankston, Victoria.

McGregor, H., Legge, S., Jones, M. E., & Johnson, C. N. (2015). Feral cats are better killers in open habitats, revealed by animal-borne video. *PloS one*, 10(8), e0133915.

McLeod S (2009) 'Proceedings of the National Feral Deer Management Workshop', Canberra, November 2005, Invasive Animals Cooperative Research Centre, Canberra.

McLeod, R., & Norris, A. (2004). *Counting the cost: impact of invasive animals in Australia, 2004* (p. 71). Canberra: Cooperative Research Centre for Pest Animal Control.

Molsher, R., Dickman, C., Newsome, A., & Müller, W. (2005). Home ranges of feral cats (*Felis catus*) in central-western New South Wales, Australia. *Wildlife Research*, 32(7), 587-595.

Molsher, R., Newsome, A., & Dickman, C. (1999). Feeding ecology and population dynamics of the feral cat (*Felis catus*) in relation to the availability of prey in central-eastern New South Wales. *Wildlife Research*, 26(5), 593-607.

Moseby, K. E., & Hill, B. M. (2011). The use of poison baits to control feral cats and European Foxes in arid South Australia I. Aerial baiting trials. *Wildlife Research*, 38(4), 338-349.

Pest Smart (2014). Common (Indian) Myna Fact Sheet.

Available: https://www.pestsmart.org.au/wp-content/uploads/2017/10/IMFS1_myna_web.pdf

Reddiex, B., & Forsyth, D. M. (2004). Review of existing red fox, feral cat, feral rabbit, feral pig and feral goat control in Australia. II. Information gaps. Arthur Rylah Institute for Environmental Research,

Saunders, G. R., Gentle, M. N., & Dickman, C. R. (2010). The impacts and management of foxes *Vulpes vulpes* in Australia. *Mammal Review*, 40(3), 181-211.

Saunders, G., & McLeod, L. (2007). *Improving fox management strategies in Australia*. Canberra: Bureau of Rural Sciences.

Woinarski, J. C., Burbidge, A. A., & Harrison, P. L. (2015). Ongoing unravelling of a continental fauna: decline and extinction of Australian mammals since European settlement. *Proceedings of the National Academy of Sciences*, 112(15), 4531-4540.



Appendix B

Legislative Context

The Australian Government Department of the Environment and Energy identify 21 key threatening processes which are listed in the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). These can be identified as threatening processes which may threaten the survival, abundance or evolution of a native species or ecological community (DEE 1999). Key threatening processes relevant to this control plan include;

- Competition and land degradation by rabbits;
- Predation by European Fox; and,
- Predation by feral cats.

In accordance with section 10 of the Victorian government *Flora and Fauna Guarantee Act 1988*, the following Potentially Threatening Processes relevant to this control plan include;

- Predation of native wildlife by the cat, *felis catus*
- Predation of native wildlife by the introduced European Fox *Vulpes Vulpes*
- Reduction in biodiversity of native vegetation by Sambar *Cervus unicolor*
- Reduction in biomass and biodiversity of native vegetation through grazing by the Rabbit *Oryctolagus cuniculus*

The *Catchment and Land Protection Act 1994* (CaLP Act) is the primary legislation in Victoria defining pest animal management obligations. Under the CaLP Act (1994) all land owners have a legal obligation to manage pest animals on their land. Knox City Council has committed to controlling pest species across the Melbourne eastern region. The five species identified for control are rabbits, European Fox, feral cats, deer and Indian Myna. The principle objective of a feral animal control program should be to reduce the abundance and occupancy of feral animal populations within the landscape, regardless of tenure.

To be successful, a pest control program across the entire Melbourne Eastern Region will require cooperation and coordination between the different land managers to ensure that control actions can be completed without interruptions and uniformly across the broader area. A coordinated approach will prevent patches of feral species being left uncontrolled which can lead to rapid recolonization and population recovery of target pest species.

European rabbit: commons.wikimedia.org/wiki/File:Oryctolagus_cuniculus_Helsinki.jpg



Planning Document	Summary of Obligations
National Obligations	
Australian Pest Animal Strategy (2017-2027)	<p>Presents three national goals:</p> <ul style="list-style-type: none"> • Prevent the establishment of new pest animal species • Minimise the impact of established pest animals • Improve leadership and coordination for the management of pest animals
Invasive Animals Cooperative Research Centre	<p>Deliver ethical invasive species solutions in Australia. Current projects and areas of research include;</p> <ul style="list-style-type: none"> • Rabbit biological control agents • Genetic technologies for pest animal control • Assessment of effects of exclusion fencing (WA & QLD) • Preparing for reset Landscape-scale Predator Management • Management of wild dog and deer in peri-urban landscapes: strategies for safe communities • The role of wild deer in the transition of diseases of livestock • Cost effective management of wild deer • Tools for developing cost effective decisions for managing invasive pest eradications • Real time EDNA tools to improve early detection and response approaches for high risk pest animals • Development of integrated passive and active surveillance tools and networks • Understanding and intervening in illegal trade in non-native species • Development of a national incursion management framework for invasive species – stage 1 • Wild dog alert • Intellitraps • PAPP-Based Lethal trap device (LTD) • Blue healer glovebox antidote • Feral deer aggregator • Hoggone Australia • Mt Hope Malleefowl recovery • Gonacon product registration • Carbon monoxide rabbit warren fumigator
Australian Animal welfare Strategy (2004)	<p>Vision: All Australians value animals and are committed to improving their welfare.</p> <p>Mission: To deliver sustainable improvements in the welfare of all animals.</p>

Victorian Obligations

Invasive Plants and Animals Policy Framework

Presents the overarching Victorian Government approach to the management of existing and potential invasive species within the context of the Whole of Government Biosecurity Strategy for Victoria. Operationally, the approach is based on four key elements or intermediate outcomes: prevention, eradication, containment and asset-based protection.

Protecting Victoria's Environment – Biodiversity 2037. Department of Environment, Land, Water and Planning (2017)

The Biodiversity 2037 vision is that Victoria's biodiversity is healthy, valued and actively cared for. A range of systems and tools collect, store and display biodiversity information to support our decision making and measure our contributions to Biodiversity 2037 include:

Victorian Biodiversity Atlas (VBA) – for contributing species observations

Activity data - recording on-ground biodiversity actions

NatureKit - for accessing species and habitat information and decision support tools

NaturePrint - for information about decision support tools including modelled biodiversity assets, threats, benefits of actions, and Strategic Management Prospects (SMP).

Catchment and Land Protection Act (Victorian Government, 1994)

The main legislation covering noxious weed and pest animal management in Victoria is the Catchment and Land Protection Act 1994 (CALP Act). Under this Act species of plants and animals can be declared as noxious weeds and pest animals.

One of the main objectives of the CaLP Act is to protect primary production, Crown land, the environment and community health from the effects of noxious weeds and pest animals. The CaLP Act defines roles and responsibilities and regulates the management of noxious weeds and pest animals. The Act prohibits the movement and sale of noxious weeds of all categories anywhere in the State and covers weed seeds occurring as contaminants in seed lots, plant products or on vehicles, machinery or animals. The CaLP Act also regulates the importation, keeping, selling and releasing of declared pest animals.

Under the CaLP Act all land owners have legal obligations regarding the management of declared noxious weeds and pest animals on their land. Specifically, land owners must take all reasonable steps to eradicate regionally prohibited weeds, prevent the growth and spread of regionally controlled weeds, and prevent the spread of - and as far as possible eradicate - established pest animals on their land.

<p>Flora and Fauna Guarantee Act (Victorian Government, 1988)</p>	<p>The flora and fauna conservation and management objectives, as outlined under the Flora and Fauna Guarantee Act 1988, are:</p> <ul style="list-style-type: none"> • to guarantee that all taxa of Victoria’s flora and fauna can survive, flourish and retain their potential for evolutionary development in the wild • to conserve Victoria’s communities of flora and fauna • to manage potentially threatening processes • to ensure that any use of flora or fauna by humans is sustainable • to ensure that the genetic diversity of flora and fauna is maintained • to provide programs of community education in the conservation of flora and fauna • to encourage co-operative management of flora and fauna through, amongst other things, the entering into of land management co-operative agreements under the Conservation, Forests and Lands Act 1987 • of assisting and giving incentives to people, including landholders, to enable flora and fauna to be conserved • to encourage the conserving of flora and fauna through co-operative community endeavours.
<p>Wildlife Act 1975</p>	<p>Deer are protected under Wildlife Act 1975</p>
<p>Domestic Animals Act 1994</p>	<p>Provides for registration and identification schemes, promotion of responsible pet ownership, and development of local laws.</p>
<p>Prevention of Cruelty to Animals Act (Victorian Government, 1986) and POCTA Regulations 2019</p>	<p>The Minister for Agriculture is responsible for this legislation. It is administered by staff in the Biosecurity Division of the department. The Prevention of Cruelty to Animals Act 1986 (POCTA) has five parts:</p> <p>Part 1 outlines its purpose, scope, application and code making powers.</p> <p>Part 2 broadly defines cruelty offences, penalties, rodeo requirements and appointment of inspectors.</p> <p>Part 2A sets out the enforcement powers and responsibilities of inspectors.</p> <p>Part 3 provides provisions concerning use of animals in scientific procedures.</p> <p>Part 3A provides provisions relating to the infringement notices.</p> <p>Part 4 provides for miscellaneous requirements and offences as well as setting out regulation making powers.</p> <p>Part 5 sets out transitional arrangements that are in place.</p> <p>Regulations prescribe kinds of traps, their features, places where they may be used and conditions of use</p>

Meat Industry Act 1993	Harvesting of deer meat is regulated by the Meat Industry Act 1993
Port Phillip and Western Port Invasive Plant and Animal Strategy (2011) (IPA)	<p>Addresses invasive plant and animal management in the Port Phillip and Western Port region. The IPA sets 5 main objectives as well as actions for region-wide IPA management as well as monitoring and reporting systems. The objectives are;</p> <ul style="list-style-type: none"> • Implement coordinated, cooperative and effective management of invasive plants and animals across the region. • Prevent the introduction and establishment of new high-risk invasive plants and animals. • Eradicate, contain or prevent further spread of established infestations of high-risk invasive plants and animals. • Address the risks of impacts of invasive plants and animals on the priority environmental and agricultural assets. • Improve management of invasive plants and animals through effective monitoring, evaluation and reporting.
Regional Catchment Strategy for the Port Phillip & Western Port region (2016)	Aims to protect the environmental assets of the Port Phillip and Western Port region, and to enhance collaboration between organisations involved in environmental management in the area. This strategy sets targets for environmental assets in the Port Phillip and Western Port region including – native vegetation, native animals, waterways and wetlands, hinterland, coasts and the bays.
Local council plans	<p>Refer to Appendix C</p> <p>e.g. Nillumbik Council Invasive Species Action Plan</p>
Integrated NRM Plans – e.g. park management plans	<p>Port Phillip and Westernport CMA, Invasive Plants and Animals Strategy addresses invasive plant and animal management in the Port Phillip and Westernport region. The objectives are;</p> <ul style="list-style-type: none"> • Implement coordinated, cooperative and effective management of invasive plants and animals across the region. • Prevent the introduction and establishment of new high-risk invasive plants and animals. • Eradicate, contain or prevent further spread of established infestations of high-risk invasive plants and animals. • Address the risks of impacts of invasive plants and animals on the priority environmental and agricultural assets. • Improve management of invasive plants and animals through effective monitoring, evaluation and reporting.

Table 2. Summary table of pest animal legislation and land manager/tenure obligations



Appendix C

Summary of Network Pest Control Actions

The following pages outlines the eastern region management response to pest animals each local council/public land manager will take.

Banyule

Fox	Trapping, warren destruction at waterway parks and reserves, conservation reserves.
Feral Cat	N/A
Rabbit	Trapping, warren destruction at waterway reserves and conservation reserves (remnant grassland sites).
Deer	N/A
Common (Indian) Myna	Community based Common (Indian) Myna Action group across the Banyule residential areas with 50 current registered volunteers, cages and approved training in euthanasia. Ongoing trial program of provision of single entry, no return nest boxes to attract Mynas for control, based at Darebin Parklands with Local Rangers undertaking control works.

Boroondara

Fox	No specific programs listed.
Feral Cat	Cage traps available from the council for hire.
Rabbit	No specific programs listed.
Deer	No specific programs listed.
Common (Indian) Myna	No specific programs listed.

Cardinia

Reserve specific control program at RJ Chambers Reserve.

Biosphere Predator Control Strategy identifies priority control areas.

Fox	List foxes as a pest species. Reserve control at RJ Chambers Reserve. Utilise Westernport Biosphere Predator Control Strategy (Ecology Australia 2014) ¹⁰ .
Feral Cat	Cat traps available for hire.
Rabbit	N/A
Deer	Landcare community led Deer Shooting Control Program supported by Council. Running for 6 years in the Cannibal Creek Catchment on private land, (programs often also include the shooting of fox and rabbit) and the Cardinia Creek Catchment.
Common (Indian) Myna	Common (Indian) Myna trapping in high visitation sites such as Emerald Lake Park. Traps available to purchase.

¹⁰ Ecology Australia (2014). Predator Control Strategy for the Western Port Biosphere Reserve, Victoria. Prepared for the Western Port Biosphere Reserve Foundation. Available at https://www.biosphere.org.au/sites/default/files/wpbr_predator_control_strategy_final.pdf

Casey

Fox	Predator control (trapping, den destruction) at Western Port (Tooradin, Blind Bight, Warneet, Cannons Creek and Quail Island), Cardinia Creek, Koo wee Rup swamp and Royal Botanic Gardens Cranbourne.
Feral Cat	Predator control (trapping, den destruction) at Western Port (Tooradin, Blind Bight, Warneet, Cannons Creek and Quail Island), Cardinia Creek, Koo wee Rup swamp and Royal Botanic Gardens Cranbourne.
Rabbit	Ongoing sporadic control (warren destruction) throughout municipality.
Deer	N/A
Common (Indian) Myna	Lists Common (Indian) Myna prevention measures and offers euthanasia advice. Traps available for hire.

Frankston

Fox	No specific programs listed.
Feral Cat	No specific programs listed.
Rabbit	No specific programs listed.
Deer	No specific programs listed.
Common (Indian) Myna	No specific programs listed.

Greater Dandenong

Fox	No specific programs listed.
Feral Cat	No specific programs listed.
Rabbit	No specific programs listed.
Deer	No specific programs listed.
Common (Indian) Myna	No specific programs listed.

Knox

Fox

Fox trapping has been sporadic, contained to fenced areas and is often undertaken in response to public complaints and fox sightings near golf courses, kindergartens and childcare centers. Fox baiting is prohibited due to the potential poisoning of domestic animals.

Locations include: Old Joes Ck Boronia, Quarry Reserve Upper Ferntree Gully, Lakewood Reserve, Knoxfield, Blind Creek Wantirna South, Dandenong Valley parklands.

Feral Cat

No feral cat control in Knox, though there are some processes in place to manage domestic cats. On January 1, 2020, Council will be introducing a 12-month pilot cat curfew.

Rabbit

Selectively and not on a regular basis. Rabbit baiting as main control mechanism, occasional shooting. Also, trialling fencing exclusion zones. Control usually undertaken to minimise impact on revegetation.

Locations include: Orville Court, Heaney Park, Rowville, Reservoir Crescent Reserves, Rowville.

Deer

There is currently no deer control.

Common (Indian) Myna

Common (Indian) Myna Trapping program that launched in January 2018. People can trap Common (Indian) Mynas on their private property using a custom designed trap followed by approved euthanasia measures. As of June 2019, 107 traps had been sold, 89 properties were involved in trapping and 252 Common (Indian) Mynas had been caught.

Trial in 2018 of Council led trapping at: Lakewood Reserve; Morris Reserve; Norton's Lane Reserve; and the Knox regional sports precinct. Proved to be time consuming, resource intensive and was largely ineffective (42 birds caught over 5 week period).

Manningham

Fox	<p>Fox control grants offered to residents of up to \$250 for each participant.</p> <p>Respond to landholder requests.</p>
Feral Cat	<p>Education programs and random resident trapping on private land.</p>
Rabbit	<p>Ongoing harbour removal across the green wedge area on both public and private land.</p>
Deer	<p>Shooting program at Brushy creek and Jumping creek catchments.</p> <p>Offer subsidy to private landholders.</p>
Common (Indian) Myna	<p>Random resident control across the municipality.</p>

Maroondah

Fox	<p>Soft jaw trapping and active den fumigation in bushland reserves</p>
Feral Cat	<p>Asks public to keep cats contained from dusk until dawn.</p>
Rabbit	<p>Minor control. Will destroy warrens, complete ferreting or trap around sporting grounds and golf courses if numbers get high. Have installed rabbit proof netting in bushland reserves but ceased due to animal welfare concerns.</p>
Deer	<p>N/A</p>
Common (Indian) Myna	<p>N/A</p>

Melbourne Water

Fox	Surveys, den counts, spot lighting and trapping.
Feral Cat	Surveys, den counts, spot lighting and trapping.
Rabbit	Surveys, spotlighting, use of calicivirus, ripping.
Deer	Currently no shooting permitted on Melbourne Water lands. Monitoring at water reservoirs.
Common (Indian) Myna	N/A

Monash

Fox	Baiting of foxes in bushland reserves.
Feral Cat	Cat curfew to stop domestic cats becoming feral.
Rabbit	N/A
Deer	N/A
Common (Indian) Myna	Planting out areas to discourage Common (Indian) Mynas.

Nillumbik

Fox	Three-year project that has been funded by the State Government to trial the control of foxes in the vicinity of Bend of Islands, Watsons Creek and Christmas Hills using soft-jaw trapping.
Feral Cat	N/A
Rabbit	Rabbit action plan which includes control Target control efforts (trapping, ferreting, baiting) at priority bushland reserves and waterways (Diamond Creek); private properties with priority agricultural assets and bushland.
Deer	Three-year project to trial the control of deer near Bend of Islands, Watsons Creek and Christmas Hills using targeted shooting. Landowners that live within the project boundary are eligible to apply for free deer control.
Common (Indian) Myna	Targeted trapping in urban areas and farmland.

Parks Victoria

Fox	Trapping and baiting Bunyip Sate Park, Kurth Kiln Regional Park, Gembrook, Dandenong Ranges National Park, Yellingbo, Yarra Ranges, Yellingbo.
Feral Cat	Trapping and baiting Bunyip Sate Park, Kurth Kiln Regional Park, Gembrook, Dandenong Ranges National Park, Yellingbo, Yarra Ranges, Yellingbo.
Rabbit	Trapping and baiting: Lower Yarra, Warrandyte, Patterson River.
Deer	Shooting program at Cardinia creek, Bunyip Sate Park, Kurth Kiln Regional Park, Gembrook, Yarra Ranges/Yellingbo.
Common (Indian) Myna	N/A

Whitehorse

Fox	Reactive – respond to residential requests for fox control.
Feral Cat	N/A
Rabbit	N/A
Deer	N/A
Common (Indian) Myna	Trapping at Transfer station.

Yarra Ranges

Fox	Support private landholders to control foxes. No specific council programs.
Feral Cat	No specific council programs.
Rabbit	Support private landholders to control rabbits. No specific council programs.
Deer	Small state government grant to control deer (shooting) in the Yellingbo corridor.
Common (Indian) Myna	No specific council programs.





Appendix D

Operating Procedures

D1 Response Steps

1. Identify (the problem)

Network member to register incident report. Information standard: species name, date (of record), time (of record), recorder name, location (easting northing), location (address), description (number of individuals detected, detection method, terrain, general observations).

Quantify (the problem). Is this an outlier or repeat issue?

Identify the urgency. Is it a new incursion (increases chances of control before population established)? Is it in a sensitive area (biodiversity/social/economic) or area recently subject to bushfire? Can control options be included in existing works plan?

Map out initial response options. Consider suitable control options, integrated pest control options, safety, animal welfare, incident protocols, and communication plan.

Identify who are relevant stakeholders. Include immediate landowner, adjacent landowner, (permit) authorities, active local group (crown land).

Internal network reporting. Note issue arising in monthly round up email.



2. Educate

Communications

Internal: Inform asset manager (crown land), depot team (if relevant) of biosecurity duty and control response options. Request report back for control actions undertaken.

External: Inform landholder of CaLP duties (private land) and provide species profile (or similar) with recommended standard operating procedure/s. Request report back for control actions undertaken.

Regional Pest Animal Network: Report pest presence, act as coordination point for cross boundary or delegated matters.

Other stakeholders: Where relevant inform active local care group and adjacent landholders.



3. Control

Refer to species protocols (E2 – E6)

Identify most suitable suite of control tactics based on SOP requirements.

Plan integrated pest control program (location/s, season, actions, parties, follow up actions, monitoring plan). Include safety plan, animal welfare and incident plan.

Identify funding source or target grant application (single/regional/sub regional application).

Identify and obtain permits required to undertake control measures (or source external parties with permits required).

Field implementation.

Record action/ immediate outcome/follow up tasks required.



4. Monitor

Identify party/ies responsible.

Identify funding source or in-kind support (if separate/supplementary to control funding).

Debrief (calibrate) standard field methods to be implemented. Include safety briefing, animal welfare and incident plan.

Collate data received.

Report data to network at agreed intervals.



5. Direct

Identify delegated powers CaLP, or notify responsible party.

Encouragement and collaboration is preferred.

Repeat obstruction to be reported for Enforcement.



6. Enforce

Formal written request to comply.

Prosecution by exception.





Image: David Croft (Department of Planning, Industry and Environment)

D2 European Fox Protocols

Recommended Control Measures

Species mobility requires multiple, coordinated and sustained control methods.

Baiting

When to use

Late winter and spring when cubs are small.

When there is a problem or to pre-empt one, for example, prior to lambing.

Cost

Most cost-effective method.

Least labour-intensive.

Advantages

Large areas covered quickly.

Foxes very susceptible to well-made 1080 baits.

Native animals tolerant of 1080 but may be affected if baits are misused.

Disadvantages

Pets at risk.

Baits should be hidden or lightly covered to camouflage them with surrounding groundcover wherever non-target animals are active.

Uneaten baits should be retrieved.

SOP Hyperlink

FOX001: Ground baiting of foxes with sodium fluoroacetate (1080).

<https://www.pestsmart.org.au/ground-baiting-of-foxes-with-1080>

FOX007: Baiting of foxes with para-aminopropiophenone (PAPP).

<https://www.pestsmart.org.au/fox007-baiting-foxes-para-aminopropiophenone-papp>

Harbour Management (where applicable.)

When to use

Anytime except from August-September.

Cost

Expensive as requires trained machinery operator.

Advantages

Can be used to target specific individuals.

Disadvantages

May damage sensitive plant communities.

Foxes may simply move to other areas.

Trapping

When to use	Cost	Advantages	Disadvantages
Use sparingly for problem foxes.	Very labour- intensive.	Large areas covered Can be used to target specific individuals. Correct use will safeguard pets.	Foxes can become 'trap shy' if traps are not well set. Trap use is regulated under the Prevention of Cruelty to Animals Regulations 2008.

SOP Hyperlink

FOX005: Trapping of foxes using padded-jaw traps.
<https://www.pestsmart.org.au/trapping-of-foxes-using-padded-jaw-traps>

FOX006: Trapping of foxes using cage traps.
<https://www.pestsmart.org.au/trapping-of-foxes-using-cage-traps>

GEN003: Trapping using soft net traps
<https://www.pestsmart.org.au/trapping-using-soft-net-traps>

Fumigation

When to use	Cost	Advantages	Disadvantages
August-October DEN-CO-FUME is the only fumigate product registered for use on foxes in Australia.	Time consuming and labour-intensive.	Suited to localised fox problems such as active dens within lambing paddocks or near poultry.	Not suitable as a larger scale control method

SOP Hyperlink

FOX004: Fumigation of fox dens using carbon monoxide.
<https://www.pestsmart.org.au/fumigation-of-fox-dens-using-carbon-monoxide>

Shooting

When to use	Cost	Advantages	Disadvantages
As an adjunct to other methods. For problem foxes.	Very labour-intensive.	Target specific.	Selective for young foxes. Not suitable in built-up areas.

SOP Hyperlink

FOX003: Ground shooting of foxes. <https://www.pestsmart.org.au/ground-shooting-of-foxes>

Exclusion Fencing

When to use

To protect lambing areas.

To protect poultry.

Cost

Can be expensive.

Advantages

No danger to pets.

Threat of predation still exists elsewhere.

Needs ongoing maintenance.

Animal Husbandry

When to use

At all times.

Important at lambing time.

Cost

Inexpensive.

Can be integrated into routine farming practices.

Advantages

Increased attention benefits stock.

No danger to pets.

Threat of predation still exists.

Foxes may move to other paddocks.

Property Hygiene

When to use

At all times.

Cost

Inexpensive.

Can be integrated into routine farming practices.

Advantages

Increased attention benefits stock.

No danger to pets.

Disadvantages

Threat of predation still exists.

Foxes may move to other areas.

Use of Canid Pest Ejectors (devices with attractant and spring-loaded toxin).

When to use

At all times

Cost

Expensive

Advantages

Greater target specificity than traditional baiting.

Can be used repeatedly.

Baits can be left for extended periods.

Disadvantages

Training required.

Animal Welfare Considerations

To minimise the animal welfare implications of orphaning dependent cubs, where possible, it is preferable not to undertake baiting programs when vixens are lactating (i.e. August and September). This is also the time when vixens are moving around least within their territory thus reducing the likelihood of finding baits. To maximise the effect of fox control prior to spring lambing for example, baiting should be conducted during June and July when foxes are mating and more mobile.

Poisoning of non-target species can occur when other animals eat baits.

Risk of secondary poisoning (i.e. poisoning that occurs through the scavenging of tissues or entrails from a poisoned animal).

Emerging Issues

Australian Pesticide and Veterinary Medicine Authority (APVMA) approved use of 1080 poison capsules in Canid Pest Ejectors CPE in 2010

PAPP (para-aminopropiophenone) new pest animal toxin tool in fox management. APVMA currently considering approval of the new active constituent, 4-aminopropiophenone and registration of Foxecute Fox Bait.

Bounty systems found ineffective. Require set limit of participants, duration and area.

Barriers to effective fox control: insufficient priority for stakeholders, lack of impact definition, poor landscape scale coordination, lack of community engagement, funding, concern over perverse outcomes from poisoning non-target species (and domestic pets).



D3 Feral Cat Protocols

Recommended Control Measures

Species mobility requires multiple, coordinated and sustained control methods.

Baiting (Eradicat)

When to use

Late winter and spring when live prey availability is low.

Cost

Most cost-effective method.
Least labour-intensive.

Advantages

Large areas covered quickly.
Cats very susceptible to well-made 1080 baits.
Native animals tolerant of 1080 but may be affected

Disadvantages

Pets at risk.
Baits should be hidden or lightly covered to camouflage them with surrounding groundcover where ever non-target animals are active.
Uneaten baits should be retrieved.

Harbour Management e.g. dense plantings (where applicable.)

When to use

Anytime.

Cost

Expensive.

Advantages

Can provide habitat for a range of species.

Disadvantages

Cats may simply move to other areas.

Trapping

When to use

Use sparingly for problem cats.

Cost

Very labour- intensive.

Advantages

Can be used to target specific individuals.

Correct use will safeguard pets.

Disadvantages

Cats can become 'trap shy' if traps are not well set. Trap use is regulated under the Prevention of Cruelty to Animals Regulations 2008.

SOP Hyperlink

CAT002: Trapping of feral cats using cage traps.

<https://www.pestsmart.org.au/trapping-of-feral-cats-using-cage-traps>

CAT003: Trapping of feral cats using padded-jaw traps.

<https://www.pestsmart.org.au/trapping-of-feral-cats-using-padded-jaw-traps>

Shooting

When to use

As an adjunct to other methods.

For problem cats.

Cost

Very labour- intensive.

Advantages

Target specific.

Disadvantages

Not suitable in built-up areas.

SOP Hyperlink

CAT001: Ground shooting of feral cats.

<https://www.pestsmart.org.au/ground-shooting-of-feral-cats>

Exclusion Fencing

When to use

To protect poultry.

Cost

Can be expensive.

Advantages

No danger to pets.

Disadvantages

Threat of predation still exists elsewhere.

Needs ongoing maintenance

Animal Husbandry

When to use

At all times.

Cost

Inexpensive.
Can be integrated into routine farming practices.

Advantages

Increased attention benefits stock.
No danger to pets.

Disadvantages

Threat of predation still exists.
Cats may move to other areas.

Property Hygiene

When to use

At all times.

Cost

Inexpensive.
Can be integrated into routine farming practices.

Advantages

Increased attention benefits stock.
No danger to pets.

Disadvantages

Threat of predation still exists.
Cats may move to other areas.

Use of Pest Ejectors (devices with attractant and spring-loaded toxin)

When to use

At all times.

Cost

Expensive.

Advantages

Greater target specificity than traditional baiting.
Can be used repeatedly.
Baits can be left for extended periods.

Disadvantages

Training required

Animal Welfare Considerations

Feral cats are likely to suffer distress from being confined in a cage trap and they can sometimes be injured while trying to escape. Facial injuries are common. To minimise the animal welfare implications of leaving dependant kittens to die a slow death from starvation, it is preferable not to undertake trapping when females are lactating e.g. September to March in non-urban habitats. There is a high probability that any female cat over six months old that is caught during this time will be pregnant or lactating

Traps are not target specific, therefore other species such as birds and reptiles may be caught. Poisoning of non-target species can occur when other animals eat baits.

Risk of secondary poisoning (i.e. poisoning that occurs through the scavenging of tissues or entrails from a poisoned animal).

Key Stakeholders

Local Councils, Landholders & Producer Groups, Community groups (e.g. Landcare) Invasive Animals CRC, DELWP, DJPR, Invasive Plants and Animals Committee.

Emerging Issues

- 'Genetic drive' technology is an emerging research area with potential for vertebrate pest population control where modified genetic traits can copy themselves onto both copies of the chromosomes. Science still in its infancy.
- New cat baiting technology and techniques currently being trialled: Eradicat®, Curiosity®, History
- Three factors are critical to successful baiting programs 1) bait density and bait encounter; 2) the abundance of prey items; and 3) weather conditions at the time of baiting.
- Trapping is also a useful follow-up technique post-baiting for the collection of biological information, and to enable radio-collaring of individuals to monitor various key parameters.
- Community attitude to pet cats and cat containment is a barrier to invasive species management of feral cats.



D4 European Rabbit Protocols

Recommended Control Measures

Species mobility requires multiple, coordinated and sustained control methods.

Where a land owner is served with a control notice, such as a Directions Notice or Land Management Notice, in accordance with the Catchment and Land Protection Act 1994, the land owner must comply with the specific requirements of that notice including undertaking the required measures listed in that notice during the stipulated time frame.

1080 Baiting

When to use

Late summer.
Before seeding, planting or regeneration efforts.

Cost

Most cost-effective method.

Advantages

Large areas covered quickly.
Most native animals tolerant of 1080 but can be affected if baits misused.
Foxes killed by eating poisoned rabbits.

Disadvantages

No effective antidote.
Livestock and pets can be at risk.
Uneaten baits should be buried or weathered by exposure to rain.
Dry weather required.

SOP Hyperlink

RAB002: Ground baiting of rabbits with 1080.
<https://www.pestsmart.org.au/ground-baiting-of-rabbits-with-1080>

Shooting and Trapping

When to use	Cost	Advantages	Disadvantages
Best late summer.	Very labour- intensive.	Must be used with other methods, to be useful.	Only appropriate for low rabbit numbers. Trapping and shooting not suitable in built-up areas.

SOP Hyperlink

RAB008: Trapping of rabbits using padded-jaw traps.
<https://www.pestsmart.org.au/trapping-of-rabbits-using-padded-jaw-traps>

RAB009: Ground shooting of rabbits.
<https://www.pestsmart.org.au/ground-shooting-of-rabbits>

Exclusion Fencing

When to use	Cost	Advantages	Disadvantages
Before planting or seeding.	Very labour-intensive. High initial cost.	Long-term effect stops reinvasion.	Needs regular checking.

Myxamatosis and RHD

When to use	Cost	Advantages	Disadvantages
Naturally spread.	No cost.	Effective in reducing numbers before other controls are used.	Timing and effectiveness unpredictable.

SOP Hyperlink

RAB011: Bait delivery of Rabbit Haemorrhagic Disease Virus (RHDV1) K5 strain.
<https://www.pestsmart.org.au/bait-delivery-of-rhdv>

Animal Welfare Considerations

To minimise the animal welfare implications of leaving dependent young to die a slow death from starvation it is preferable not to undertake baiting programs when rabbits are known to be breeding. This is also the time when young rabbits do not travel far from their burrows and bucks vigorously defend their territorial boundaries, making it less likely that all rabbits will have access to bait. In many areas of Australia there is a peak in breeding from late winter to early summer when pastures have greened up after rain.

Poisoning of non-target species can occur either directly by eating the carrot, oat or pellet baits intended for rabbits (primary poisoning) or through the tissues from a dead or dying poisoned animal (secondary poisoning).

Key Stakeholders

Local Councils, Landholders & Producer Groups, Community groups (e.g. Landcare) Invasive Animals CRC, DELWP, DJPR, Invasive Plants and Animals Committee.

Emerging Issues

Given how widely established rabbits are in Australia, management tends to focus limited resources on abating their impacts rather than eradication. However, eradication may be achievable in isolated areas such as small reserves, enclosures, and offshore islands.

Low-density rabbit populations can cause significant damage to native plants and pastures, suggesting there might be no 'safe' level of rabbit density.

Rabbit control requires repeat control efforts and monitoring within clear performance targets.

Propane gas fumigation units to control rabbits in sensitive areas, such as Aboriginal heritage sites, and around threatened plant communities and infrastructure, may be used.

Further Reading

Integrated rabbit control for rural and natural landscapes. <http://agriculture.vic.gov.au/agriculture/pests-diseases-and-weeds/pest-animals/invasive-animal-management/established-invasive-animals/integrated-rabbit-control-for-rural-and-natural-landscapes>

Integrated rabbit control in urban and semi-urban areas. <http://agriculture.vic.gov.au/agriculture/pests-diseases-and-weeds/pest-animals/invasive-animal-management/established-invasive-animals/integrated-rabbit-control-in-urban-and-semi-urban-areas>

Model code of practice for the humane control of rabbits. <https://www.pestsmart.org.au/model-code-of-practice-for-the-humane-control-of-rabbits>



D5 Feral Deer Protocols

Recommended Control Measures

Ground shooting by qualified marksmen working under Standard Operating Procedures for humane deer shooting (Sharpe, Invasive CRC 2012) is considered the most effective method of control in accessible terrain. Protocols recommend against shooting in fawning season to prevent inhumane death of orphaned fawn. Trapping (followed by shooting or transportation), recreational shooting and exclusion fencing (to contain or omit specific populations) are alternative management mechanisms with variable long-term effect.

Shooting

When to use

All year.

Cost

Most cost-effective method.

Advantages

Most effective technique currently available for reducing deer populations.

Target specific.

Disadvantages

Requires experienced, skilled shooters with appropriate licences and accreditation.

Not suitable in urban areas or in inaccessible or rough terrain where sighting of target animals and accurate shooting is difficult or when wounded animals cannot easily be followed up and killed.

SOP Hyperlink

DEE001: Ground shooting of feral deer.

<https://www.pestsmart.org.au/ground-shooting-of-wild-deer>

Exclusion Fencing

When to use

Any time.

Cost

Very labour-intensive.
High initial cost

Advantages

Long-term effect stops reinvasion.

Disadvantages

Needs regular checking.

Animal Welfare Considerations

The humaneness of shooting as a control technique depends almost entirely on the skill and judgement of the shooter. If properly carried out, it is one of the most humane methods of killing feral deer. On the other hand, if inexpertly carried out, shooting can result in wounding which may cause considerable pain and suffering.

Shooting is relatively target specific and does not usually impact on other species. However, there is always a risk of injuring or killing non-target animals, including livestock, if shots are taken only at movement, colour, shape, or sound. Only shoot at the target animal once it has been positively identified and never shoot over the top of hills or ridges.

Key Stakeholders

Local Councils, Landholders & Producer Groups, Community groups (e.g. Landcare) Invasive Animals CRC, DELWP, DJPR, Invasive Plants and Animals Committee.

Emerging Issues

Feral deer are increasingly encroaching into peri-urban areas posing a significant threat to agriculture, conservation reserves and human safety.

Feral deer control is limited by the listing of all deer as 'wildlife' for the purposes of the Wildlife Act 1975 (the Act). 'Wildlife' are further considered to be 'protected wildlife' and may not be destroyed without authorisation, except where they are listed under the Catchment and Land Protection Act 1994 (CALP Act) or where they are declared to be 'unprotected' under the Act. Six deer species are listed as game for hunting. These include the most established and widespread deer in Victoria listed as game.



D6 Common (Indian) Myna Protocols

Recommended Control Measures

Harbour Manipulation. e.g. dense plantings (where applicable.)

When to use	Cost	Advantages	Disadvantages
Anytime.	Expensive.	Can provide habitat for a range of species.	Common (Indian) Myna may simply move to other areas.

Trapping

When to use	Cost	Advantages	Disadvantages
Pre and post breeding season. Breeding season in Southern Australia – October – March.	Very labour-intensive.	Can be used to target specific individuals/populations.	<p>Common (Indian) Myna can become 'trap shy' if traps are not well set. Trap use is regulated under the Prevention of Cruelty to Animals Regulations 2008.</p> <p>Can capture non-target species.</p> <p>Euthanasia via carbon monoxide inhalation or cervical dislocation can prove difficult to implement in practice.</p>

SOP Hyperlink

BIR002: Trapping of Pest Birds. <https://www.pestsmart.org.au/trapping-of-pest-birds>

Shooting

When to use	Cost	Advantages	Disadvantages
Pre and post breeding season. Breeding season in Southern Australia – October – March.	Very labour-intensive.	Target specific.	Not suitable in built-up areas.

SOP Hyperlink

BIR001: Shooting of Pest Birds. <https://www.pestsmart.org.au/shooting-of-pest-birds>

Property Hygiene

When to use	Cost	Advantages	Disadvantages
At all times.	Inexpensive. Can be integrated into routine farming practices.	Increased attention benefits stock. No danger to pets.	Threat of predation still exists. Cats may move to other areas.

Animal Welfare Considerations

Trapped birds are likely to suffer from distress when confined and they can sometimes be injured while trying to escape from the trap or during capture or restraint prior to euthanasia. To minimise the animal welfare implications of leaving dependent nestlings and chicks to die from starvation it is preferable not to undertake trapping during the nesting season. If trapping must occur during nesting, reasonable efforts should be made to find nest hollows containing young birds, so they can be killed quickly and humanely.

Traps are not target specific; therefore, other species, usually birds, may be caught. To reduce the impact on non-target species, traps should be placed in areas that are frequented by the target species. Free-feeding can assist in identifying the likelihood of capturing non-target species, and appropriate areas for capture.

Key Stakeholders

Local Councils, Landholders & Producer Groups, Community groups (e.g. Landcare) Invasive Animals CRC, DELWP, DJPR, Invasive Plants and Animals Committee.

Emerging Issues

Increasing landscape modification and fragmentation of native vegetation for industry and urban settlement will help the Common (Indian) Myna to increase its range in Victoria.



Appendix E Action Plan Template

Objectives and Actions	Outcome	Target pest/s and asset/s	Responsible Parties	Resources	Priority and Timeframe	Key performance indicator	Context and comments

A large, abstract graphic in the top half of the page. It consists of a solid olive-green shape that tapers to a point at the bottom right corner. A lighter, semi-transparent version of the same shape is layered behind it, creating a subtle gradient effect.

Appendix F Pest Animal Management Resources

F1 Federal Control Resources

Australian Pest Animal Strategy 2017-2027. Invasive Plants and Animals Committee
<http://www.agriculture.gov.au/SiteCollectionDocuments/pests-diseases-weeds/consultation/apas-final.pdf>

Invasive Animals Cooperative Research Centre
National Rabbit Biocontrol Optimisation: <https://invasives.com.au/research/national-rabbit-biocontrol-optimisation/>

Landscape-scale Predator Management: <https://invasives.com.au/research/preparing-reset-landscape-scale-predator-management/>

Management of wild dog and deer in peri-urban landscapes: strategies for safe communities: <https://invasives.com.au/research/management-wild-dog-deer-peri-urban-landscapes-strategies-safe-communities/>

Cost effective management of wild deer: <https://invasives.com.au/research/cost-effective-management-wild-deer/>

Tools for developing cost-effective decisions for managing invasive pest eradications: <https://invasives.com.au/research/tools-developing-cost-effective-decisions-managing-invasive-pest-eradications/>

Viewing invasive species removal in a whole-ecosystem context. Zavaleta, Hobbs & Mooney (2001): https://www.esf.edu/efb/parry/invasivesseminar_readings/Zavaleta_etal_2001.pdf

Intellitraps: <https://invasives.com.au/research/intellitraps/>

Feral deer aggregator: <https://invasives.com.au/research/feral-deer-aggregator/>

Carbon Monoxide Rabbit Warren Fumigator: <https://invasives.com.au/research/carbon-monoxide-fumigator/>

Australian Animal Welfare Strategy (AAWS) and National Implementation Plan 2010-14 <http://www.agriculture.gov.au/animal/welfare/aaws/australian-animal-welfare-strategy-aaws-and-national-implementation-plan-2010-14>

Feral Deer Fact Sheet
<https://www.environment.gov.au/system/files/resources/c6679b32-5f03-4839-aa57-9c5723153b0f/files/fs-feral-deer.pdf>

Griffiths, R. (2011). Targeting multiple species—a more efficient approach to pest eradication. *Island Invasives: Eradication and Management*. International Union for Conservation of Nature, 172-176.

Proceedings of the National Feral Deer Management Workshop. Canberra, November 2005
http://www.pestsmart.org.au/wp-content/uploads/2010/03/Deer-Workshop_final.pdf#page=120

F2 State Control Resources

Victorian Pest management: A Framework for Action

<https://www.pestsmart.org.au/victorian-pest-management-a-framework-for-action/>

Biodiversity 2037

NaturePrint and strategic Management Prospects (SMP): <https://www.environment.vic.gov.au/biodiversity/natureprint>

Agriculture Victoria: Pest Animals, Invasive animal management

<http://agriculture.vic.gov.au/agriculture/pests-diseases-and-weeds/pest-animals/invasive-animal-management>

Draft Victorian Deer Management Strategy

<https://engage.vic.gov.au/draft-victorian-deer-management-strategy>



F3 Local Control Guidelines

Boroondara Council, Waste & Environment, Animals – Foxes in Boroondara webpage
<https://www.boroondara.vic.gov.au/waste-environment/animals/foxes-boroondara>

Boroondara Council, Waste & Environment, Animals – Cats-Hire a cat cage webpage
<https://www.boroondara.vic.gov.au/waste-environment/animals/cats>

Cardinia Council, managing animal pests webpage (Foxes only)
https://www.cardinia.vic.gov.au/info/20003/pets_and_animals/45/managing_animal_pests

City of Casey council, Pests and Animals, Problems with animals' webpage
<https://www.casey.vic.gov.au/cats-dogs>

<https://www.casey.vic.gov.au/nuisance-birds>

Nillumbik Council's Sugarloaf link project (feral deer and fox control program).
<https://www.nillumbik.vic.gov.au/Environment/Natural-environment/Pest-animals>

Nillumbik Council Rabbit Action Plan.
<https://www.nillumbik.vic.gov.au/Environment/Natural-environment/Pest-animal>

Nillumbik Council Invasive Species Action Plan, Rabbit Control brochure, Fox control information sheet, Deer control on private property guideline, Controlling pest animals fact sheet (all available as links at the bottom of the page).

<https://www.nillumbik.vic.gov.au/Environment/Natural-environment/Pest-animals>

Port Phillip and Westernport CMA Invasive Plants & Animals Strategy.
Available <https://www.ppwcm.vic.gov.au/Resources/PublicationDocuments/77/PPWCMA%20IPA%20Strategy%20FINAL.pdf>



Image: commons.wikimedia.org/wikipedia/commons/3/3d/Feral_cat_with_galah.jpg (Mark Marathon)

