

Eyre Peninsula NRM Board  
PEST SPECIES REGIONAL MANAGEMENT  
PLAN

*Felis catus* Feral cat/Domestic cat



This plan has a five year life period and will be reviewed in 2023.



Natural Resources  
Eyre Peninsula



Government of South Australia  
Eyre Peninsula Natural Resources  
Management Board

# INTRODUCTION

## Biology

Cats are solitary and predominantly nocturnal, being most active around sunset and sunrise [2]. During the day they shelter in burrows, logs, hollows, caves and rock piles [1]. Adult feral cats weigh four kilograms on average, but can weigh up to nine kilograms. [1].

Relative abundance of cats varies between seasons with summer highs and winter or spring lows; mean summer and winter densities of 2.4 and 0.74 cats per km<sup>2</sup> respectively [2] have been recorded. Summer maxima were composed of adults, adolescents and juveniles; winter minima were usually composed only of adults.

The feral cat population is self-sustaining and may breed at any time of the year under favourable conditions [4]. In south-eastern Australia feral cat litters were recorded in all months except April, but most births occurred between September and March [3]. From October to January inclusive, all adult females collected were either pregnant or lactating [3]. On average, females dropped two litters per year, the first in spring and the second in summer or early autumn; mean prenatal litter size was 4.4. Few kittens survive.

For females, sexual maturity was reached at an estimated age of 10-12 months and a minimum weight of 2500 grams. For males the onset of sexual maturity, commenced at a mean weight of 3200 g, and was completed at a mean weight of 3800 g at an estimated age of 12-14 months.

Home range size of feral cats varies with habitat [5]: tall mixed forest in eastern Victoria (280 hectares ± 89); temperate environments in Australia and New Zealand estimates ranged between 105 ha (females) to 455 ha (males). Minimum daily (non-linear) movement in an arid environment averages 1519 m [6]. Feral cats are very mobile, especially during periods of food shortage [7], and can disperse widely.

Cats are carnivorous and can survive with limited access to drinking water acquiring adequate moisture from prey. Cats predate on a broad range of prey, but predominantly small mammals and birds [8]. A review of feral cat diet from localities across mainland Australia, found that introduced rabbits (*Oryctolagus cuniculus*) and house mice (*Mus musculus*) are major dietary items in semi-arid and arid habitats, whereas marsupials predominate diets in temperate forest habitats [9]. In both forest and suburban habitats, the common ringtail possum (*Pseudocheirus peregrinus*) is

depredated frequently. On islands of the Australia-Pacific region, birds often predominate in cat diets [9, 10] although invertebrates are also prominent in their diet [10, 11]. More recent studies also support cats taking a broad range of prey [12-14], including carrion, under certain conditions [15, 16].

Similarly domestic cats also take a diverse range of prey. A study of Sydney's suburban habitats found a domestic cats diet was derived mostly from human-provided food sources, with native vertebrates (small scincid lizards, birds, and the common brushtail possum *Trichosurus vulpecula*) constituting 8-17% of the diet by volume [17]. In contrast, at suburban North Head, Sydney and in fringing temperate forests, mammals predominated diets, with 37-60% of the total volume being derived from native species. Dietary differences among habitats probably reflect differences in prey availability [17].

Cats select prey based on size [18], species [19] and individual specialist hunting skills [20-24].

## Origin

The domestic cat (*Felis catus*) was bred from populations of the wildcat (*F. silvestris*). Genetic analysis indicates that wildcat is comprised of five subspecies: *F. s. silvestris* (European wildcat), *F. s. lybica* (African wildcat), *F. s. ornata* (Central Asian wildcat), *F. s. cafra* (Southern African wildcat), and *F. s. bieti* (Chinese desert cat) [28].

The subspecies *F. s. lybica* is considered the most likely ancestor of *F. catus* [29], based largely on behavioural characteristics [20] and circumstantial evidence that domestication began 8000 years ago [30], or earlier, in the eastern Mediterranean region where *F. s. lybica* is extant [31]. When compared to their wild ancestors only minor changes in domestic cat morphology are evident [32, 33].

## Distribution

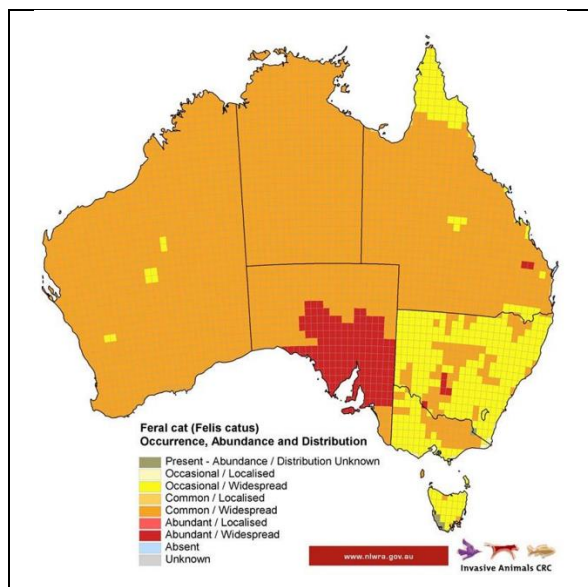
From domestication, as long as 9500 BP [31], the domestic cat spread slowly across Europe, becoming widespread, if not common, throughout Europe and Asia by the 10th century [29]. In the last 2000 years they were actively transported to most parts of the world [34], now occurring on every continent except Antarctica. Australia and Antarctica are the only continents without a native member of the cat family, Felidae.

Feral cats are distributed nationwide in Australia (Figure 1), including Tasmania and many offshore islands, with densities varying markedly between habitats [35]. They are known to exploit a diverse



range of habitats including open plains, tropical rainforests, sub-Antarctic islands, alpine and sub-alpine regions, the central deserts, and rural and urban landscapes [36].

The feral cat is abundant and widespread on the Eyre Peninsula.

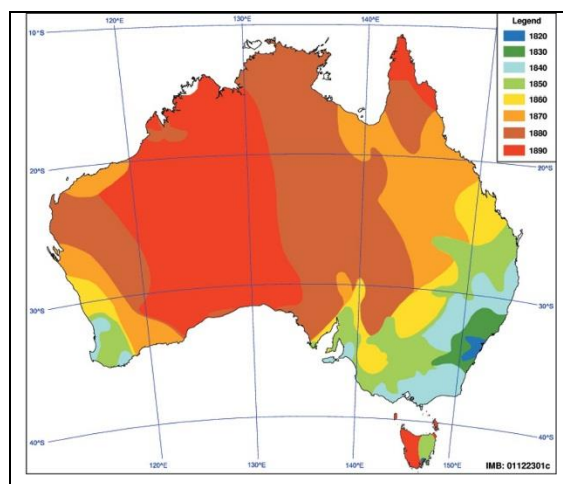


**Figure 1: Feral cat occurrence, abundance and distribution in Australia 2008. Source:**

It is believed cats were brought to Australia as pets by the first European settlers in the last decades of the 18th century [35]. Cats accompanied the First Fleet in 1788 and were part of Edward Henty's livestock brought to Portland Bay in 1834. It has been argued that they appeared in Australia even before European settlers and were traded by Malays to coastal Aboriginal people in the north of the continent [37]. However, two extensive reviews of early records concluded that cats arrived with European settlement and spread from a number of introductions along the coastline (Figure 2) between 1824 and 1886 [38, 39].

It is claimed that cats first became feral around Sydney by 1820, around Perth and in south-east Australia by 1840, in north-west Australia by 1870, and over 90% of the continent by 1890 [40].

Settlers brought domestic cats to rural settlements as pets [41]. Domestic cats were also purposely established on rural properties in an attempt to control rabbits and mice [37, 40]. At times of mouse plagues, and later rabbit plagues, governments encouraged and even assisted with the introduction of cats to remote areas [42].



**Figure 2: Conceptual model of the colonization of Australia by the cat. Cats are present before, or by, the year shown. Source: [40].**

They are still regarded as pest control agents, particularly around rural homesteads [43].

## RISK ASSESSMENT

### Pest risk

Cats are categorised as domestic, feral or stray to separate various populations [44]:

- Domestic cats live with humans, with their ecological requirements intentionally provided by humans.
- Feral cats live with little or no reliance on humans; surviving and reproducing in self-perpetuating populations.
- Stray cats rely only partly on humans for their ecological requirements; living in urban fringe situations. These include highly modified habitats that provide resource rich 'islands of opportunity'. Such sites include rubbish tips, large and small townships, homesteads, mining sites and tourist resorts [45].

The feral cat population is continually boosted as domestic cats are recruited [46], with evidence that domestic and stray cats often disperse into the natural environment and help to sustain feral populations [45, 47]. In 2003 there were an estimated three million domestic cats and 18 million feral cats in Australia [48].

Predation by feral cats is listed as a key threatening process (KTP) under Section 188 of Australia's national environment law, the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*. When a KTP is accepted a threat abatement plan (TAP) can be

developed. The first feral cat TAP was prepared in 1999 and updated in 2008 [49].

Cats are perceived to be beneficial as controllers of vermin on farms and rural properties [70], and possibly having positive effects on some native species by suppressing populations of introduced *Rattus* spp. [71].

Feral cats have a significant negative impact on the diversity and abundance of native Australian fauna, particularly mammals, birds and reptiles [50-53], especially on islands.

Predation by feral cats has caused the decline and extinction of native animals on islands [72-74]. In addition, evidence of bird population responses to the eradication or control of feral cats shows that most bird populations subsequently increase [75]. Modelling shows an association between cat presence and native mammal extinctions on Australian islands [74].

In contrast to native predators, domestic cats are not reliant on prey availability to meet their daily energy demands and can attain densities far higher than the natural carrying capacity of their environment because their owners provide them with food [54]. This, combined with their impulsive predatory instinct, poses a sizeable threat to prey populations [55-59].

Domestic cats in South Australia kill an estimated average 26 million animals per year, many of them native birds [60, 61]. Subsequent works has both supported [62] and contradicted [63] these findings, with one paper arguing that introduced vertebrates may form the major part of the domestic cat diet [19].

Predation from domestic and stray cats is likely a major contributor to declining populations of some threatened native species e.g. eastern barred bandicoot *Perameles gunnii* [65]; rufous hare-wallaby *Lagorchestes hirsutus* [21]; and superb lyrebird *Menura novaehollandiae* [66]. Losses of such species have led to attempts to eradicate cats from local (<10 000 ha) or even regional (>10 000 ha) areas [67-69].

Characteristics of native fauna species at risk from cat predation include [76]:

- very localised or fragmented distributions;
- low population densities;
- low reproductive rates and slow growth rates;
- vulnerable behavioural characteristics (e.g. inappropriate avoidance behaviour);
- colonial or colonial breeders;
- species in areas where cat numbers are high; and
- species in habitats largely destroyed or modified by humans.

In Australia, successful reintroductions of mammals such as the greater bilby (*Macrotis lagotis*), bettong, (*Bettongia* spp.) and greater stick-nest rat, (*Leporillus conditor*), have occurred when species are reintroduced into fenced reserves or islands where cats and red foxes (*Vulpes vulpes*), are absent [77-79]. In comparison, there is a litany of failed mammal reintroduction attempts, including bandicoots (*Isodon* spp.), mala (*Lagorchestes hirsutus*) and long-haired rats (*Rattus villosissimus*) [80-82] into areas where even low abundance of introduced predators are present.

Native fauna at a high risk of impact from feral cats on Eyre Peninsula include: most small mammals and small to medium sized bird species that nest on or close to the ground for example; chestnut-rumped heathwren, hooded plover, fairy tern, malleefowl and grasswrens.

Individual cats vary in their predation risk to wildlife populations e.g. large male cats (3.5 kg or heavier) have been shown to bias predation events, and are implicated in the failure of protection and reintroduction programs for mammals greater than 1.0 kg [83]. Because of this individual variation, control programs for feral cats in enclosures and on islands that do not target particular predator profiles, may inadvertently avoid removing high risk individuals [83].

Feral cats carry infectious diseases that can be transmitted to native animals, domestic livestock and humans [1] (Figure 3). Members of the family Felidae (including domestic and feral cats) are the definitive hosts of *Toxoplasma gondii* [84]. Acute infections in pregnant women may cause serious health problems when the organism is transmitted to the fetus (congenital toxoplasmosis), including mental retardation, seizures, blindness, and death [84].

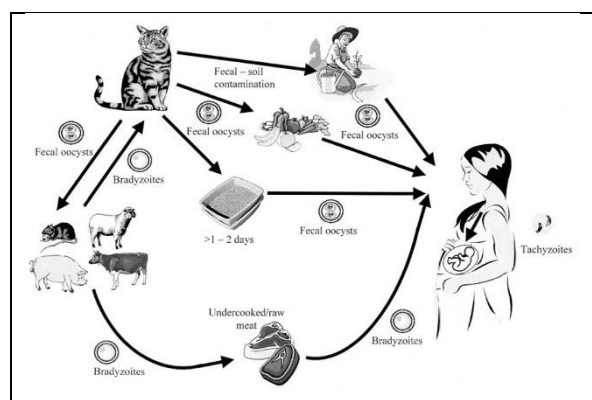


Figure 3: Life cycle of *Toxoplasma gondii*.

## Feasibility of control

The absence of a nationwide cat management plan, despite the existence of a National Threat Abatement



Plan, to some extent reflects the dearth of effective measures to manage cats in the Australian context.

With the exception of instances where eradication has been achieved on islands [86, 87] or within fenced reserves [79], the efficacy of feral animal control programs implemented to protect wildlife varies widely, with many failing to achieve a satisfactory reduction in predation pressure [85].

Strategic culling [89, 90] of feral cats is often recognised as a sound conceptual approach to mitigate their impacts [91], but this requires long-term effort using multi-faceted control methods [92]. Such effort is likely to be particularly intensive for feral cats, owing to their cryptic and wary behaviour.

In addition, there are limited options for effectively monitoring either the relative or absolute numbers of feral cats, the relationship between abundance and impact, and therefore the level of control necessary to successfully reduce their impact [43, 93, 94].

These difficulties might partly explain why feral cats are the least-frequently controlled vertebrate pest species in Australia [95], despite their recognition as a key threat to the country's biodiversity.

In 2003 the total area on which feral cat control was undertaken in Australia was  $\sim 0.4 \times 10^4$  km<sup>2</sup>, with an estimated cost of control of  $\$0.4 \times 10^6$  [95]. Between 1998 and 2003 the main techniques used for feral cat control were trapping (59%), meat baiting (21%) and shooting (18%) [95]. Most cat control programs were aimed at conservation of threatened species inside exclusion fencing of an average 35 km<sup>2</sup> area [95].

Control of feral cats is challenging as they are found in very low densities over large home ranges and are shy, making them difficult to locate. Hence, the control methods of shooting and trapping feral cats are expensive, time consuming and require skilled staff. Many attempts have been made to design cat-specific traps, lures, or toxins [96, 97].

The most effective form of feral cat control over large areas is poison baiting. Poison baits intended for feral cats must be laid on the ground (as cats, unlike other feral species such as foxes, will not dig for a buried bait).

Recent advances in feral cat research and control [4] include: the use of remote sensing cameras and GPS tracking collars to improve ease of monitoring; and in the near future, the availability of two new baits will add to the tools available to control feral cats.

The Western Australian Government has developed the Eradicat® bait for broad-scale control of feral cats.

Eradicat® is a small sausage made from kangaroo and chicken meat injected with a synthetic toxin known as sodium flouracetate (1080). 1080 replicates a naturally-occurring poison, found within some native plant species in south-west Western Australia. Many native animals in this region have evolved a tolerance to flouracetate toxin.

1080 is cautiously used in regional areas of Australia, to effectively and humanely manage populations of declared vertebrate pest species including rabbits, foxes, wild dogs and feral pigs.

However, in regions of Australia where native fauna has low to zero tolerance to flouracetate, 1080 poison baits can present a significant hazard to off-target species.

The Australian Governments, Department of Environment and Energy has developed another bait suitable for broad-scale feral cat control called Curiosity®. Curiosity® is designed to minimise or remove the off-target hazard.

The Curiosity® bait is a small meat-based sausage containing a dissolvable plastic capsule containing a toxin called para-aminopropiophenone (PAPP). Cats do not chew their food so they will reliably swallow the sausage and pellet. The pellet is designed to dissolve in the cat's stomach to deliver the toxin, causing a rapid death. The pellet mode of delivery removes the risk of poisoning to other animals. Most Australian small and medium sized native mammals nibble and chew their food so would reject the pellet.

Curiosity® is currently with the Australian Pesticides and Veterinary Medicine Authority (AVPMA) for assessment and registration. The Australian Government is looking to commercialise the product pending AVPMA registration.

Efficacy trials on both Eradicat® and Curiosity® baits in Western Australia and South Australia show highly variability results, from no significant reduction in feral cat populations, to statistically significant reductions in occupancy estimates within trial sites after baiting. [Cat baiting using Eradicat and Curiosity... is it working? :: Terrestrial Ecosystems](#), [105].

A bait called Hisstory® (a variant of Eradicat®) is also currently in development. It is also a sausage type product, but contains a lethal dose of 1080 poison in a capsule. Hisstory® is currently being trialled for broad-scale feral cat control. The bait is not yet available for commercial field use.

The Invasive Animals Cooperative Research Centre has developed the PestSmart Toolkit as an information hub for feral animal management. The feral cat toolkit provides information and guidance on best-practice



feral cat management ([www.pestsmart.org.au/pest-animal-species/feral-cat/](http://www.pestsmart.org.au/pest-animal-species/feral-cat/)). The feral cat toolkit includes standard operating procedures for:

- Soft net traps: Soft net traps rely on entanglement to secure and hold the targeted animal, potentially reducing the risk of injury. Soft net traps consist of a flexible metal frame and netting and/or bag which collapses over the animal when triggered. Although not considered an effective tool for control of large populations, these traps may be useful in urban/residential areas where individual animals need to be targeted;
- Methods of euthanasia: euthanasia should be regarded as an act of humane killing with the minimum of pain, fear and distress;
- Ground shooting: Shooting is one of the main methods currently used for feral cat control, however, it is labour intensive and not considered an effective broad-scale control method. It may be of use in reducing the local number of feral cats or targeting problem animals;
- Cage traps: Although cage trapping is considered an ineffective tool for large areas, it may be useful in urban/residential areas where domestic cats are present, or where individual cats need to be targeted. In urban/residential areas cage traps are preferred over leg hold traps as fewer injuries are sustained, non-target animals can be released unharmed and trapped feral cats can be euthanized; and
- Padded-jaw traps: Padded jaw leg-hold traps should only be used at sites where the animal can be destroyed by shooting whilst still held in the trap. Leg-hold traps may be more effective than cage traps for hard to-catch-cats that have had minimal exposure to humans.
- Monitoring and management programs for cats and other predators in arid Australia should focus on roads and resource points where predator activity is highest [98]. Olfactory and auditory lures can elicit behavioural responses that render cats more susceptible to passive monitoring and control techniques [98]. Lures are recognised as a means of increasing the effectiveness of various trapping methods.

Dingoes and foxes prey on feral cats and compete for food, as do native predators such as wedge-tailed eagles. Other programs such as apex-predator conservation and release, maintaining and restoring habitat complexity and ecological refuges, exclusion fences and assisted behavioural and evolutionary ecology may be viable feral cat management alternatives [104].

In response to community perceptions about unmanaged domestic cats, city councils and governments in all Australian states and territories are deliberating or now have by-laws to encourage responsible cat ownership [100, 101]. Many municipalities also provide information packs to increase the awareness of owners about cat-wildlife interactions. By-laws vary greatly from council to council, but most include provisions for registration of pet cats, incentives for sterilization, night time curfews, and stipulations for a maximum number of cats per property; some also allow for removal of unowned cats from parks and other areas of sensitive habitat.

Community surveys generally indicate strong support for legislation that promotes informed cat ownership, but weaker support for proposals that restrict ownership or create cat free zones [102].

McDonald *et al.* [103] found that cat owners are generally aware of their pets predatory activity but failed to appreciate the magnitude of their impacts on wildlife, and were not influenced by ecological information. Cat owners generally disagree with the statement that cats are harmful to wildlife, and disfavour all mitigation options apart from neutering [103]. They found that imposed management options to mitigate cat predation are unlikely to work if they focus on "predation awareness" campaigns or freedom restrictions.

Serious problems can occur if cats are allowed to roam outdoors, particularly at night (around 80% of accidents involving cats happen at night). Roaming cats are susceptible to being hit by cars, injured in fights, catch fatal diseases (e.g. feline AIDS) or become lost. Roaming cats can annoy neighbours by spraying, fighting, yowling and digging in gardens. Legally, cat owners are responsible for ensuring their pet cat/s do not trespass on other properties. If a pet cat is found wandering and cannot be identifiable, the cat can be seized and impounded. Cat owners may have to pay a fee when reclaiming from the Council pound.

Contrary to popular belief, cats don't have to roam. Cats can be kept indoors at night e.g. inside a house, flat, garage or shed, provided they have a warm dry sleeping area, a litter tray and plenty of water. Other options include cat enclosures, or installing "cat proof fencing". Cat owners can search a phone directory or online for companies that sell enclosures, netting and products to modify fences. For instance, a 'roller' type product is available, for installation along the top of existing fences (the roller prevents cats from getting a grip on the fence).



## Status

In South Australia the *Dog and Cat Management Act 1995*, refers to the status and control of cats. Under this Act cats are classified as either 'owned' or 'unowned', with 'owned' cats identified by a collar or a tattoo on the ear indicating the presence of a microchip.

The objects of this Act are to:

- encourage responsible dog and cat ownership;
- reduce public and environmental nuisance caused by dogs and cats; and
- promote the effective management of dogs and cats (including through encouragement of the de-sexing of dogs and cats).

Councils in South Australia are responsible for the administration and enforcement of provisions under this Act.

The South Australian Government has been working with key stakeholders to reform the state's *Dog and Cat Management Act 1995*. The *Dog and Cat Management (Miscellaneous) Amendment Bill 2015* was passed by Parliament in July 2016.

Changes proposed in the *Dog and Cat Management (Miscellaneous) Amendment Bill 2016* include:

- mandatory microchipping of dogs and cats;
- mandatory desexing
- a requirement for anyone who breeds dogs and cats for sale to be registered; and
- extended powers for council Authorised Persons to manage cats.

The proposed amendments aim to improve cat management and improve the legislative consistency across South Australian Local Governments. It is expected the amendments to the Act and Regulations will be effective from 1 July 2018.

The new provisions should have two-fold benefits. Owner registration should reduce the numbers of dumped and stray cats entering the feral population, and will encourage responsible cat ownership which may reduce their impacts on local wildlife [17].

The Natural Resources Eyre Peninsula risk management assessment (Table 1) rates feral cats as '**manage pest**' across all four land use systems on Eyre Peninsula.

**Table 1: Regional assessment**

Land use	Pest risk	Feasibility of control	Management action
Cropping systems	100 High	453 Negligible	Manage pest
Native vegetation	350 Very High	491 Negligible	Manage pest
Pasture grazing	350 Very High	491 Negligible	Manage pest
Urban residential	384 Very High	467 Negligible	Manage pest

## REGIONAL RESPONSE

### Special considerations/Board position

The *Natural Resources Management Act 2004* provides for the prevention or control of impacts caused by pest species of animals and plants that may have an adverse effect on the environment, primary production, or the community. Under this Act it is illegal to release a feral animal in the wild. The Act covers cats in remote or fragile areas.

A warden under the *National Parks and Wildlife Act 1972* may lawfully 'seize, detain, destroy or otherwise dispose of any cat found within a reserve within the meaning of that Act'. Also, in wilderness protection areas or zones constituted under that Act: 'A person may lawfully seize, detain, destroy or otherwise dispose of any cat found in a place that is more than one kilometre from any place genuinely used as a place of residence.'

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides a national framework for environmental management (including the recognition of nationally threatened species and ecological communities), thereby directing resources towards the delivery of improved environmental protection.

### Aims

To promote and encourage best practice domestic cat management and regulation, and support research and technological innovation in the development of feral cat management options.

### Objectives

1. Reduce predatory impacts of feral and domestic cats on susceptible native fauna populations.
2. Improve understanding of the impacts of diseases transferred from cats to domestic stock.

## Priority area/s to be protected

Venus Bay Conservation Park (predator exclusion section), and off-shore (island) parks and reserves.

Sites containing populations of susceptible EPBC listed threatened species.

## Actions

1. Communicate the NRM benefits of the proposed legislative changes to local governments and encourage responsible domestic cat management;
2. Raise awareness of the new Act and Regulations and the NRM benefits with the broader EP community;
3. Support and keep abreast of research and innovation leading to more effective control of feral cats;
4. Ensure priority offshore islands are kept cat free;
5. Continue feral cat management regime in Venus Bay CP, developing and trialling alternative population control systems; and
6. Respond to funding opportunities to expand the feral cat control regime and/or trials.

## Evaluation

Evaluation will be based on:

- Number of Councils adopting domestic cat regulation and by-laws.
- No new populations on existing cat free islands.

## Declarations

Feral and stray cats are currently not legally declared a pest species.

## References

1. Department of the Environment and Heritage. The feral cat (*Felis catus*). 2004.
2. Jones, E. and B.J. Coman, 1982. Ecology of the feral cat, *Felis catus* (L.), in South-Eastern Australia III." Home Ranges and Population Ecology in Semiarid North-West Victoria. Australian Wildlife Research, 9: p. 409-420.
3. Jones, E. and B.J. Coman, 1982. Ecology of the feral cat, *Felis catus* (L.), in south-eastern Australia. II. Reproduction. Australian Wildlife Research, 9(1): p. 111-119.
4. DEWHA, 2008, Background document for the Threat Abatement Plan for predation by feral cats. Department of the Environment, Water, Heritage and the Arts: Canberra.
5. Buckmaster, A., 2011, Ecology of the feral cat (*Felis catus*) in the tall forests of far East Gippsland, PhD. Thesis. University of Sydney: Sydney, Australia.
6. Molsher, R., J. Short, and H. Crisp, 2009. Movement patterns of feral predators in an arid environment – implications for control through poison baiting. *Wildlife Research* 36: p. 422-435.
7. Newsome, A.E., 1991, Feral cats: an overview, in *The impact of cats on native wildlife*, C. Potter, Editor. Australian National Parks and Wildlife Service: Canberra.
8. Fitzgerald, B.M., 1988, Diet of domestic cats and their impact on prey populations, in *The domestic cat: the biology of its behaviour*, D.C. Turner and P. Bateson, Editors. Cambridge University Press: Cambridge, UK. p. 123-147.
9. Dickman, C.R., 1996, Overview of the Impacts of Feral Cats on Australian Native Fauna. Australian Nature Conservation Agency: Canberra, ACT.
10. Fitzgerald, B.M. and C.R. Veitch, 1985. The cats of Herekopare Island, New Zealand: their history, ecology and effects on birdlife. *New Zealand Journal of Zoology*, 12: p. 319-330.
11. Hayde, K.A., 1992, Ecology of the feral cat *Felis catus* on Great Dog Island, BSc (Hons) Thesis. University of Tasmania: Hobart, Australia.
12. Barratt, D.G., 1997. Predation by house cats, *Felis catus* (L.) in Canberra, Australia. II. Factors affecting the amount of prey caught and estimates of the impact on wildlife. *Wildlife Research*, 25: p. 475-487.
13. Meek, P.D., 1998. Food items brought home by domestic cats *Felis catus* living in Booderee National Park, Jervis Bay. *Proceedings of the Linnean Society of New South Wales*, 120: p. 43-47.
14. Murphy, E.C., et al., 2004. Diet of mammalian predators in braided river beds in the central South Island, New Zealand. *Wildlife Research*, 31: p. 631-638.
15. Paltridge, R., D. Gibson, and G. Edwards, 1997. Diet of the feral cat (*Felis catus*) in central Australia. *Wildlife Research*, 24: p. 67-76.
16. Molsher, R., A. Newsome, and C.R. Dickman, 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: p. 593-607.
17. Dickman, C.R., 2009. House cats as predators in the Australian environment: impacts and management. *Human-Wildlife Conflicts*, 3(1): p. 41-48.
18. Childs, J.E., 1986. Size-dependent predation on rats (*Rattus norvegicus*) by house cats (*Felis catus*) in an urban setting. *Journal of Mammalogy*, 67: p. 196-199.
19. Barratt, D.G., 1998. Predation by house cats, *Felis catus* (L.) in Canberra, Australia. I. Prey composition and preference. *Wildlife Research*, 24: p. 263-277.
20. Bradshaw, J.W.S., 1992, *The Behaviour of the Domestic Cat*. Oxford: C. A. B. International.



21. Gibson, D.F., et al., 1994. Predation by feral cats, *Felis catus*, on the rufous hare-wallaby, *Lagorchestes hirsutus*, in the Tanami Desert. *Australian Mammalogy*, 17: p. 103-107.
22. Churcher, P.B. and J.H. Lawton, 1989. Beware of well-fed felines. *Natural History*, 7: p. 40-47.
23. Hochstrasser, G., 1970. Hauskatze frisst heuschrecken zur Sättigung. *Säugetierkunde Mitteilungen*, 18: p. 278.
24. Turner, D.C. and O. Meister, 1988, Hunting behaviour of the domestic cat, in *The domestic cat: the biology of its behaviour*, D.C. Turner and P. Bateson, Editors. Cambridge University Press: Cambridge, UK. p. 111-121.
25. Wallis, R.L., H. Brunner, and J.H. Seebeck, 1996. Diet of red foxes and cats: their impact on fauna living in parks near Melbourne. *Victorian Naturalist*, 113: p. 300-305.
26. Goldschmidt-Rothschild, B. and P. Lüps, 1976. Investigations concerning the nutritional ecology of domestic cats (*Felis catus*) which have "reverted to the wild state" in the canton of Berne (Switzerland). *Revue Suisse Zoologie*, 83: p. 723-735.
27. Borkenhagen, P., 1979. Zur Nahrungsökologie streunender Hauskatzen (*Felis sylvestris f. catus* Linné, 1758) aus dem Stradtbereich Kiel. *Zeitschrift für Säugetierkunde*, 44: p. 375-383.
28. Driscoll, C.A., et al., 2007. The near eastern origin of cat domestication. *Science*, 317: p. 519-523.
29. Serpell, J.A., 1994, The domestication and history of the cat, in *The Domestic Cat: the Biology of its Behaviour*, D.C. Turner and P. Bateson, Editors. Cambridge University Press: Cambridge. p. 151-158.
30. le Brun, A., et al., 1987. Le néolithique précéramique de Chypre. *L'Anthropologie*, 91: p. 283-316.
31. Vigne, J.-D., et al., 2004. Early taming of the cat in Cyprus. *Science*, 304: p. 259.
32. Yamaguchi, N., et al., 2004. Craniological differentiation between European wildcats (*Felis silvestris silvestris*), African wildcats (*F. s. lybica*) and Asian wildcats (*F. s. ornata*): implications for their evolution and conservation. *Biological Journal of the Linnean Society*, 83: p. 47-63.
33. Yamaguchi, N., et al., 2004. Craniological differentiation amongst wild-living cats in Britain and southern Africa: natural variation or the effects of hybridisation? *Animal Conservation*, 7: p. 339-351.
34. Lever, C., 1994, *Naturalized Animals: the Ecology of Successfully Introduced Species*. London: Poyser.
35. Dickman, C.R., 1996, *Overview of the Impacts of Feral Cats on Australian Native Fauna*. Australian Nature Conservation Agency: Canberra.
36. Jones, E., 1983, *The Feral Cat*, in *The Australian Museum Complete Book of Australian Mammals.*, R. Strahan, Editor. Australian Museum: Sydney. p. 486.
37. Rolls, E.C., 1969, *They all ran wild*. Sydney: Angus and Robertson.
38. Gaynor, A., 2000. Report on the history of the arrival of the feral cat population in Western Australia. *CALMScience*, 3: p. 140-179.
39. Abbott, I., 2002. Origin and spread of the cat, *Felis catus*, on mainland Australia, with a discussion of the magnitude of its early impact on native fauna. *Wildlife Research*, 29: p. 51-74.
40. Abbott, I., 2008. The spread of the cat, *Felis catus*, in Australia: re-examination of the current conceptual model with additional information. *Conservation Science Western Australia*, 7: p. 1-17.
41. Rolls, E.C., 1984, *They All Ran Wild: the animals and plants that plague Australia*. Sydney: Angus and Robertson.
42. Seebeck, J., L. Greenwood, and D. Ward, 1991, *Cats in Victoria*, in *The impact of cats on native wildlife.*, C. Potter, Editor. Australian National Parks and Wildlife Service: Canberra. p. 18-29.
43. Denny, E.A. and C.R. Dickman, 2010, *Review of cat ecology and management strategies in Australia*. Invasive Animals Cooperative Research Centre: Canberra.
44. Moodie, E., 1995, *The potential for biological control of feral cats in Australia*. Australian Nature Conservation Agency: Canberra.
45. Denny, E.A., et al., 2002. Social and genetic analysis of a population of free-living cats (*Felis catus* L.) exploiting a resource-rich habitat. *Wildlife Research*, 29: p. 405-413.
46. State of the Environment South Australia, 2003, *The state of our environment, State of the Environment Report for South Australia 2003*. Environment Protection Authority. Adelaide. State of the Environment reporting | EPA
47. Hutchings, S., 2003. The diet of feral house cats (*Felis catus*) at a regional rubbish tip, Victoria. *Wildlife Research*, 30: p. 103-110.
48. McLeod, R., 2004, *Counting the cost: impact of invasive animals in Australia, 2004*. Cooperative Research Centre for Pest Animal Control, Canberra. .
49. DEWHA, 2008, *Threat abatement plan for predation by feral cats*. Department of the Environment, Water, Heritage and the Arts: Canberra.
50. Jones, E. and B.J. Coman, 1981. Ecology of the feral cat, *Felis catus* (L.), in south-eastern Australia. I. Diet. *Australian Wildlife Research*, 8: p. 537-547.
51. Dickman, C.R., 1993. Raiders of the last Ark: cats in island Australia. *Australian Natural History*, 24: p. 44-52.
52. Anderson, I., 1994. Should the cat take the rap? *New Scientist* 142: p. 13-14.
53. Collis, B., 1999. Felix the destroyer. *Ecos*, 98: p. 30-36.



54. Beckerman, A., M. Boots, and K. Gaston, 2007. Urban bird declines and the fear of cats. *Animal Conservation*, 10: p. 320-325.
55. May, R.M., 1988. Control of feline delinquency. *Nature*, 332: p. 392-393.
56. Woods, M., R.A. McDonald, and S. Harris, 2003. Predation of wildlife by domestic cats *Felis catus* in Great Britain. *Mammal Review*, 33: p. 174-188.
57. Baker, P.J., et al., 2008. Cats about town: is predation by free-ranging pet cats *Felis catus* likely to affect urban bird populations? *The Ibis*, 150: p. 86-99.
58. van Heezik, Y., et al., 2010. Do domestic cats impose an unsustainable harvest on urban bird populations? *Biological Conservation*, 143: p. 121-130.
59. Loss, S.R., T. Will, and P.P. Marra, 2013. The impact of freeranging domestic cats on wildlife of the United States. *Nature Communication*, 4: p. 1396.
60. Paton, D.C., 1990. Domestic cats and wildlife. *The Bird Observer*, 696: p. 34-35.
61. Paton, D.C., 1991, Loss of wildlife to domestic cats, in *The impact of cats on native wildlife*, C. Potter, Editor. Australian National Parks and Wildlife Service: Canberra, Australia. p. 64-69.
62. Trueman, P., 1991, The impact of domestic cats on the wildlife of Hobart, BSc(Hons) thesis. University of Tasmania.
63. Reark Research Pty Ltd, 1994, The metropolitan domestic cat. A survey of the characteristics and hunting behaviour of the domestic cat in Australia. *Petcare Information and Advisory Service*: Melbourne.
64. Dowling, B., J.H. Seebeck, and K.W. Lowe, 1994, Cats and wildlife: results of a survey of wildlife admitted to shelters and animal welfare agencies in Victoria. *Arthur Rylah Institute for Environmental Research Technical Report Series 134*. Department of Conservation and Natural Resources; Melbourne.
65. Dufty, A.C., 1994. Population demography of the eastern barred bandicoot (*Perameles gunnii*) at Hamilton, Victoria. *Wildlife Research*, 21: p. 445-457.
66. Bradley, H. and I. Bradley, 1990, *The lyrebird*. Melbourne, Australia.: *Wildlife Watch*.
67. Algar, D., A.A. Burbidge, and G.J. Angus, 2002, Cat eradication on the Montebello Islands, in *Turning the tide: the eradication of invasive species*, C.R. Veitch and M.N. Clout, Editors. *Invasive Species Specialist Group of the World Conservation Union (IUCN)*: Auckland, New Zealand. p. 14-18.
68. Short, J., B. Turner, and D.A. Risbey, 2002. Control of feral cats for nature conservation. *Trapping*. *Wildlife Research*, 29: p. 475-487.
69. Short, J. and B. Turner, 2005. Control of feral cats for nature conservation. *Population dynamics and morphological attributes of feral cats at Shark Bay, Western Australia*. *Wildlife Research*, 32: p. 489-501.
70. Ward, S., 1994, Aspects of the ecology of semi-dependent farm cats, *Felis catus*. , BSc (Hons)Thesis. Deakin University: Geelong, Australia.
71. Tidemann, C.R., H.D. Yorkston, and A.J. Russack, 1994. The diet of cats, *Felis catus*, on Christmas Island, Indian Ocean. *Wildlife Research*, 21: p. 279-286.
72. van Rensburg, P.J. and M.N. Bester, 1988. The effect of cat *Felis catus* predation on three breeding Procellariidae species on Marion Island. *South African Journal of Zoology*, 23: p. 301-305.
73. Copley, P., 1991, Feral and domestic cats in South Australia, in *The impact of cats on native wildlife*, C. Potter, Editor. Australian National Parks and Wildlife Service: Canberra.
74. Burbidge, A. and B. Manly, 2002. Mammal extinctions on Australian islands: causes and conservation implications. *Journal of Biogeography*, 29(4): p. 465.
75. Department of the Environment Water Heritage and the Arts, 2008, Background document for the threat abatement plan for predation by feral cats. DEWHA: Canberra.
76. Van de Kuyt, N. 2001. Cat management manual, Action Statement 80. Victorian Department of Primary Industries, Melbourne.
77. Copley, P., 1999. Natural histories of Australia's stick-nest rats, genus *Leporillus* (Rodentia:Muridae). *Wildlife Research*, 26: p. 513-539.
78. Moseby, K.E., et al., 2011. Predation determines the outcome of 10 reintroduction attempts in arid Australia. *Biol. Conserv.* 144,2863-2872. *Biological Conservation*, 144: p. 2863-2872.
79. Hayward, M.W., K. Moseby, and J.L. Read, 2014, The role of predator exclosures in the conservation of Australian fauna, in *Carnivores of Australia: Past, Present and Future*, A.S. Glen and C.R. Dickman, Editors. CSIRO Publishing: Collingwood. p. 355-372.
80. Christensen, P. and N. Burrows, 1995, Project desert dreaming: experimental reintroduction of mammals to the Gibson Desert, Western Australia, in *Reintroduction Biology of Australian and New Zealand Fauna*, M. Serena, Editor. Surrey Beatty & Sons: Sydney. p. 199-207.
81. Gibson, D.F., et al., 1995, The Rufous Hare-wallaby, *Lagorchestes hirsutus*: a history of experimental reintroduction in the Tanami Desert, Northern Territory, in *Reintroduction Biology of Australian and New Zealand Fauna*. Surrey Beatty & Sons: Sydney. p. 171-176.
82. Frank, A.S.K., et al., 2014. Experimental evidence that feral cats cause local extirpation of small mammals in Australia's tropical savannas. *Journal of Applied Ecology*, 51: p. 1486-1493.
83. Moseby, K.E., D.E. Peacock, and J.L. Read, 2015. Catastrophic cat predation: A call for predator



- profiling in wildlife protection programs. *Biological Conservation*, 191: p. 331-340.
84. Jones, J.L., et al., 2001. Congenital Toxoplasmosis: A Review. *Obstetrical and Gynecological Survey*, 58(5): p. 296-305.
  85. Priddel, D. and R. Wheeler, 2004. An experimental translocation of brush-tailed bettongs (*Bettongia penicillata*) to western New South Wales. *Wildlife Research*, 31: p. 421-432.
  86. Nogales, M., et al., 2004. A review of feral cat eradication on islands. *Conservation Biology*, 18: p. 310-319.
  87. Parkes, J., et al., 2014. Eradication of feral cats from large islands: an assessment of the effort required for success. *New Zealand Journal of Ecology*, 38: p. 307-314.
  88. May, R.M., 1977. Thresholds and breakpoints in ecosystems with a multiplicity of stable states. *Nature*, 269: p. 471-477.
  89. Braysher, M., 1993, *Managing Vertebrate Pests: Principles and Strategies*. Canberra: Bureau of Resource Sciences.
  90. Olsen, P., 1998, *Australia's Pest Animals. New Solutions to Old Problems*. East Roseville.: Bureau of Resource Sciences, Kangaroo Press.
  91. Hone, J., 2007, *Wildlife Damage Control*. Melbourne: CSIRO Publishing.
  92. Dickman, C.R., E.A. Denny, and T. Buckmaster, 2010, *Identification of sites of high conservation priority impacted by feral cats*. Department of the Environment, Water, Heritage and the Arts: Canberra.
  93. Fisher, P., D. Algar, and M. Johnston. 2001. Current and future feral cat control management for conservation outcomes. in *Veterinary Conservation Biology; Wildlife Health and Management in Australasia: Proceedings of an International Joint Conference*. Taronga Zoo, Sydney, Australia: Australian Veterinary Association, Canberra
  94. Reddiex, B., et al., 2004, Review of existing red fox, wild dog, feral cat, feral rabbit, feral pig, and feral goat control in Australia. I. Audit. Department of the Environment and Heritage: Canberra.
  95. Reddiex, B., et al., 2006. Control of pest mammals for biodiversity protection in Australia. I. Patterns of control and monitoring. *Wildlife Research*, 33: p. 691-709.
  96. Algar, D. and N.D. Burrows, 2004. Feral cat control research: Western Shield Review (February 2003). *Conservation Science Western Australia*, 5: p. 131-163.
  97. Wark, C., 2004, *Auditory and visual lure systems: are they effective in attracting arid-zone feral cats?*, BSc (Hon) Thesis. University of Sydney: Sydney.
  98. Read, J.L., et al., 2015. How to snap your cat: optimum lures and their placement for attracting mammalian predators in arid Australia. *Wildlife Research*, 42(1): p. 1-12
  99. Robley, A., et al., 2012, *Assessing the design of camera surveys for feral cats and red foxes in the Grampians National Park*. Arthur Rylah Institute for Environmental Research Technical Report Series No. 238. Department of Sustainability and Environment: Heidelberg, Victoria.
  100. Department of Local Government, 1994, *Proposals for the development of cat control legislation in Western Australia*. Department of Local Government: Perth, Australia.
  101. Seebeck, J. and P. Clunie, 1998, *Predation of native wildlife by the cat (Felis catus)*. Action Statement 80. . Department of Natural Resources and Environment: Melbourne, Australia.
  102. Grayson, J., M. Calver, and I. Styles, 2002. Attitudes of suburban Western Australians to proposed cat control legislation. *Australian Veterinary Journal of Mammalogy*, 80: p. 536-543.
  103. McDonald, J.L., et al., 2015. Reconciling actual and perceived rates of predation by domestic cats *Ecology and Evolution*, 5(14): p. 2745-2753.
  104. Doherty, T. S., and E. G. Ritchie. 2016. Stop jumping the gun: A call for evidence-based invasive predator management. *Conservation Letters*.
  105. Johnston, M., Bould, L., O'Donoghue, M., Holdsworth, M., Marmion, P., Bilney, R., Reside, A.E., Caldwell, D., Gaborov, R. and Gentles, T. (2014) *Field efficacy of the Curiosity® bait for management of a feral cat population at Roxby Downs, South Australia*. Arthur Rylah Institute for Environmental Research Technical Report Series No. 253. Department of Environment and Primary Industries, Heidelberg, Victoria. [Field efficacy of the Curiosity® bait for management of a feral cat population at Roxby Downs, South Australia | Department of the Environment and Energy](#)

