THREAT ABATEMENT PLAN
for predation by feral cats

2008

Department of the Environment, Water, Heritage
and the Arts

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Content

1 Introduction

This threat abatement plan (TAP) establishes a national framework to guide and coordinate Australia's response to the impacts of feral cats on biodiversity. It identifies the research, management and other actions needed to ensure the long-term survival of native species and ecological communities affected by predation by feral cats. It replaces the threat abatement plan for predation by feral cats published in 1999 (EA 1999a).

1.1 Threat abatement plans

Under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), the Australian Government develops TAPs and facilitates their implementation. To progress the main strategic development actions, the Department of the Environment, Water, Heritage and the Arts (DEWHA) assesses the potential for partnerships and co-investments with other government agencies, industry and other stakeholders. An important part of implementation of the TAP is ensuring that knowledge of improved abatement methods is disseminated to potential users.

Mitigating the threat of invasive species is not simply a matter of providing better technical solutions such as improved baits for pest animal control. It also involves understanding and addressing social and economic factors; for example, through supporting the efforts of private landholders and leaseholders to manage invasive species on their lands for biodiversity conservation and primary production. In addition, research and development programs for controlling vertebrate pest species need to integrate interests relating to both primary production and environmental conservation.

Regional natural resource management plans and site-based plans provide the best scale and context for developing operational plans to control invasive species. They allow primary production and environmental considerations to be jointly addressed, and control to be integrated across the local priority vertebrate pests within the scope of other natural resource management priorities.

The national coordination of pest animal control activities occurs under the Australian Pest Animal Strategy, released in 2007 by the Natural Resource Management and Primary Industries Ministerial councils. The Vertebrate Pests Committee, comprising representatives from all Australian, state and territory governments, has responsibility for implementation of the strategy. This TAP provides guidance for the management of feral cats within that broader context.

1.2 Threat abatement plan for feral cats

1.2.1 The threat

The first recorded instance of cats being brought to Australia was by English settlers in the 18th century, although cats may have arrived much earlier with other human visitors (Baldwin 1980). Cats were deliberately released into the wild during the 19th century to control rabbits and mice (Rolls 1969). Today there are about 18 million feral cats in Australia (McLeod 2004), distributed through all habitats (except some of the wettest rainforests) in mainland Australia and Tasmania and on many offshore islands.

Feral cats are a serious vertebrate pest in Australia, and have severe effects on native fauna. Predation by

feral cats is listed as a key threatening process under the EPBC Act. Feral cats are a threat to a large number of native species (see Appendix A), although impacts from feral cat predation are not restricted to these species.

This TAP has been put into place as a feasible, effective and efficient way to abate the threat of predation by feral cats.

1.2.2 The impacts

Various characteristics help to explain the invasiveness and impact of cats. They can colonise a wide range of habitats. As carnivores, they eat a wide range of prey and can survive with limited access to drinking water. The survival rate of kittens is not high, but cats can breed in any season, allowing rapid increases in numbers.

Cats have direct impacts on native fauna through predation. They can kill vertebrates weighing as much as 3 kg (Dickman 1996), but preferentially kill mammals weighing less than 220 g and birds less than 200 g. They also kill and eat reptiles, amphibians and invertebrates (Dickman 1996). Cats can also have indirect effects on native fauna by carrying and transmitting infectious diseases (DEH 2004). They are thought to have contributed to the extinction of many small to medium-sized mammals and ground-nesting birds in the arid zone, and to have seriously affected populations of bilby, mala and numbat (DEH 2004).

1.2.3 Managing the threat

As cats are so widely established in Australia, the focus of management is generally on abatement of the impacts of established populations, rather than prevention and preparedness. Control of cats is difficult as they are found in very low densities over large home ranges, making them difficult to locate. Control methods include trapping, shooting and exclosures.

Interactions between pest species mean that control of cats can have effects on other invasive animals, such as rabbits and rats. For example, eradication of cats from some islands (e.g. Macquarie Island) has led to an increase in the rabbit population, resulting in extreme environmental damage, including increased destruction of nesting sites and landslips. An understanding of these interactions is important when designing and recommending pest animal control programs. In many situations, concurrent multi-species programs will be required. Integrating control techniques will maximise the success of control programs.

Although total mainland eradication may be the ideal goal of a cat TAP, it is not feasible with current resources and techniques. Cat populations must instead be suppressed and managed to mitigate impacts in targeted areas where they pose the greatest threat to biodiversity. Eradication may be achievable in isolated areas, such as small reserves and offshore islands. Progress in control programs must be monitored to ensure that objectives are met and to allow management options to be adapted to changing circumstances. Best-practice management of cats must involve reduction of the threat not only to targeted threatened species, but also to native species that may be affected by cat predation.

1.2.4 The review of the 1999 TAP

In accordance with the requirements of the EPBC Act, the original TAP for predation by feral cats (EA 1999a) was reviewed in 2004–05 by the Bureau of Rural Sciences (BRS) (Hart 2005) as part of a broader review encompassing the original TAPs for foxes (EA1999b), goats (EA1999c) and rabbits (EA1999d).

The BRS review found that it was difficult to accurately determine the extent to which the cat TAP had reduced the impacts of cats on biodiversity. This reflects the current paucity of nationally consistent data on the ranges and densities of cats and their impacts, and the difficulties of linking outcomes in cat population changes to the outputs of the TAP. The invasive species indicator data to be produced under the National Monitoring and Evaluation Framework (NRMMC 2003) should improve the availability of continental overview data over the next year or so.

The BRS surveyed a broad range of stakeholders and assessed a range of projects commissioned by the Department of the Environment and Heritage (now the Department of the Environment, Water, Heritage and the Arts) that were developed under the auspices of the existing TAPs. This has helped to identify actions that will need to be initiated or continued into the future. The review concluded, however, that the cat-related projects that were assessed had positively contributed to reducing the impacts of cats. Furthermore, projects have addressed specific cat control needs in high-priority locations, and have supported the development of a cat toxin. Of the 29 actions in the 1999 TAP for cats, many were targeted by at least one project, and almost a third of the cat actions had been fully completed through one or more projects.

The BRS review proposed a number of changes to the actions found in the original TAP, but recommended that the objectives remain substantially unchanged. The review suggested that the implementation of the revised cat TAP should give priority to improved national engagement, integrated pest animal control, flexibility in implementation, setting priorities for research, follow-through with research and development, and establishment of a new advisory panel for vertebrate TAPs. The review also recommended that the revised plan include measures to enhance existing processes through, for example, regional processes; control and monitoring techniques that support on-ground management; and monitoring of key projects according to national protocols.

This document replaces the 1999 TAP. It incorporates the knowledge gained in the intervening years and has been modified in line with recommendations from the review. The TAP aims to guide the responsible use of public resources and the best outcome for native species and ecological communities threatened by predation by feral cats. The plan seeks to achieve these outcomes by recognising the opportunities and limitations that exist, and ensuring that field experience and research are used to further improve management of feral cats. The activities and priorities under the TAP will need to adapt to changes as they occur.

1.2.5 Involvement of stakeholders

The successful implementation of this TAP will depend on a high level of cooperation between landholders, community groups, local government, state and territory conservation and pest management agencies, and the Australian Government and its agencies. Success will depend on all participants assessing cat impact and allocating adequate resources to achieve effective on-ground control of feral cats at critical sites, improve the effectiveness of control programs, and measure and assess outcomes. Various programs in natural resource management, at national, state and regional levels, can make significant contributions to implementing the plan.

2 Objectives and actions

The goal of this TAP is to minimise the impact of feral cats on biodiversity in Australia and its territories by:

- protecting affected native species and ecological communities, and
- preventing further species and ecological communities from becoming threatened.

To achieve this goal, the plan has five main objectives, developed through the review of the previous TAP (Hart 2005) and consultation with experts. These objectives are to:

1. prevent feral cats occupying new areas in Australia and eradicate feral cats from high- conservation-value 'islands'
2. promote the maintenance and recovery of native species and ecological communities that are affected by feral cat predation
3. improve knowledge and understanding of feral cat impacts and interactions with other species and other ecological processes
4. improve effectiveness, target specificity, humaneness and integration of control options for feral cats, and
5. increase awareness of all stakeholders of the objectives and actions of the TAP, and of the need to control and manage feral cats.

Each objective is accompanied by a set of actions, which, when implemented, will help to achieve the goal of the plan. Performance indicators have been established for each objective. Progress will be assessed by determining the extent to which the performance indicators have been met.

The sections below provide background on each objective, followed by a table listing the actions required to meet the objective. Twenty-one actions have been developed to meet the five objectives.

Priorities for each action are given in the tables below, categorised as 'very high', 'high' or 'medium'. Each action has also been assigned a timeframe within which the outcome could be achieved once the action has commenced. Timeframes are categorised as short term (i.e. within three years), medium term (i.e. within three to five years) or long term (i.e. five years or beyond).

☐ Objective 1

Prevent feral cats occupying new areas in Australia and eradicate feral cats from high- conservation-value 'islands'

Key actions for Objective 1 include identifying 'islands' of high conservation value, ranking the risk to such areas posed by feral cats, and developing and implementing management plans to protect such areas from feral cats. The actions are designed to prevent feral cats from extending their range in Australia, and to remove them from high-conservation-value 'islands' where this is feasible. The actions focus on offshore islands and on mainland 'islands' that are isolated or currently do not have cats. These actions are of medium to very high priority and many could be achieved within the next three to five years. Offshore islands are particularly significant as areas that can be maintained as cat free. DEWHA is establishing a national database of introduced animals across Australian offshore islands that will complement this work.

Action 1.1 focuses on collating data on conservation values of 'islands', the likelihood of significant impacts from cats, and the risk that predation by feral cats will become a threat in these areas.

Action 1.2 recognises the importance of targeting landholders and managers within and adjacent to cat-free

areas of high conservation value with information that raises awareness of the threat posed by cats, to encourage community support for maintaining the cat-free status of these areas.

Action 1.3 develops contingency plans for preventing, monitoring and, if an incursion occurs, containing and eradicating feral cats in areas with high conservation values. Assessment of invasion risk by cats should use population genetic approaches for identifying past invasion routes. Action 1.4 implements these plans. Action 1.5 involves eradicating established populations of feral cats from those 'islands' considered of high conservation value, depending on feasibility and cost-effectiveness of eradication. These actions cannot be completed until Action 3.1 is complete. All planning and implementation work needs to recognise that cats are but one of many pests facing land managers and therefore should be undertaken within the context of integrated management activities.

It is important to determine whether eradication of feral cats leads to recovery of native species and ecological communities. Therefore, Action 1.6 involves monitoring numbers of native prey species in areas from which feral cats have been eradicated. Such monitoring should be carried out in line with national monitoring protocols, as soon as these are available (see Action 3.1).

Performance indicators

- No further establishments of feral cats in cat-free areas, particularly on offshore islands.
- Local communities recognise the importance for high conservation areas to be kept cat free.
- Successful eradication of isolated populations of feral cats where this is attempted.
- Increased populations of affected native species in areas from which cats, and other invasive species, have been eradicated.

Action	Priority and timeframe
1.1 Collate data on islands and on isolated mainland 'islands', assess their conservation value, the likelihood of significant biodiversity impacts from cats, and if there are no cats present, rank the level of risk of cats being introduced and having impacts in these areas.	High priority, short term
1.2 Work with communities, landholders and managers in and adjacent to cat-free areas of high conservation value to minimise the chance of an incursion.	High priority, medium term
1.3 Develop management plans to prevent, monitor and, if incursions occur, contain and eradicate any incursion by feral cats for 'islands' with high conservation values.	Medium priority, medium term
1.4 Implement management plans for high-conservation-value 'islands', including prevention and monitoring actions, and containment or eradication actions if incursions occur.	Very high priority, medium term
1.5 Eradicate established populations of feral cats from areas with high conservation values where this is considered feasible and cost-effective and is a high conservation priority.	Very high priority, long term
1.6 Monitor (using national monitoring protocols) native prey species in areas from which feral cats have been eradicated.	Medium priority, long term

☐ Objective 2

Promote the maintenance and recovery of native species and ecological communities that are affected by feral cat predation

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Key actions for Objective 2 include identifying priority areas for feral cat control, implementing and supporting regional control programs, and applying incentives for promoting and maintaining control programs adjacent to the priority areas. Actions 2.1–2.3 focus programs in feral cat control on the maintenance and recovery of native species and ecological communities affected by feral cat predation. These actions are of high or very high priority and all will require a medium-term commitment.

Control of feral cats in Australia at a continental scale is not feasible using the methods currently available. Therefore, it is necessary to identify priority areas for control based on scientific evidence of the significance of the population of native species or of the ecological community affected and the degree of impact posed by feral cats, relative to other impacts. In addition, the cost-effectiveness of a control program must be considered. These activities are covered by Action 2.1. Identification of priority areas could involve mapping the distribution of susceptible species, high-risk habitats and feral cats, to produce a national overview of priority regions (e.g. using the approach outlined in Dickman [1996] and NSW NPWS [2001]).

Once priority areas have been identified, the next step is to implement regional control, as described in Action 2.2. Organisations implementing control programs will be encouraged to focus on areas where feral cat control will help to reduce the threat to native species. The success of control programs should be monitored, applying national monitoring protocols as soon as these are available (see Action 3.1).

It is important to promote cat control in priority areas and in adjacent areas, to prevent reinvasion. Action 2.3 focuses on applying incentives for such actions on private and leasehold lands within and adjacent to priority areas.

Performance indicators

- Priority areas, where cat control is required to protect affected fauna, have been identified and are a focus for cat control programs.
- All feral cat control work involves pre and post-control monitoring of feral cat populations and key native species, according to national protocols, to measure the outcomes of control operations.
- Reliable native species population indicators are used to measure the outcome of reduced pest populations.

Action	Priority and timeframe
2.1 Identify priority areas for feral cat control based on: • the significance of the ecological community or the regional population of the native species threatened by feral cats • the degree of threat posed by feral cats to species or ecological communities relative to other threats • the cost-effectiveness of maintaining feral cat populations below an identified 'threat threshold' in the region, and • the feasibility of effective remedial action.	Very high priority, medium term
2.2 Conduct and monitor regional feral cat control through new or existing programs, in priority areas identified in Action 2.1.	High priority, medium term
2.3 Apply existing and new incentives to promote and maintain on-ground feral cat control on private or leasehold lands within or adjacent to priority sites identified in Action 2.1.	High priority, medium term

☐ Objective 3

Improve knowledge and understanding of feral cat impacts and interactions with other species and other ecological processes

Key actions for Objective 3 include developing simple, cost-effective methods for monitoring impacts; improving knowledge of interactions between feral cats and native carnivores; improving knowledge of interactions between feral cats, foxes and wild dogs; identifying the potential impacts of cat-borne diseases; and identifying the unintended effects of feral cat control in isolation from other activities. Actions 3.1–3.5 focus on ensuring that feral cat programs do not lead to unintended effects and that control activities are targeted strategically, through better understanding of the impacts of feral cats and their interactions with other species. These actions are of medium to high priority and some could be achieved within the next three to five years, although others will require a long-term commitment. A range of available genetic marker analyses may be useful in improving our knowledge of cat ecology and how best to manage cats. Genetic markers can, for example, help improve understanding of invasion routes and population dynamics.

To determine the effectiveness of feral cat control programs, Action 3.1 is to develop simple, cost-effective methods for monitoring the impact of this invasive species on affected species and ecological processes relative to other sources of impact. Monitoring methods need to be reliable for different densities of both feral cats and the native species they prey on, and once developed should be adopted as national standards. Areas for investigation include the feasibility and practicality of individual identification of cats by genotyping scats or hairs, to help estimate cat abundance, particularly at low densities.

Interactions between feral cats and other species need to be considered when undertaking control programs. Action 3.2 is to investigate interactions between feral cats and native carnivores to improve understanding of the impact of feral cats on these species in terms of competition and predation. Similarly, Action 3.3 is to investigate interactions between feral cats, foxes and wild dogs (competition, predation or both) so that control activities for these three species can be more effectively integrated. For example, certain fences used to exclude feral cats can also exclude foxes and wild dogs.

Action 3.4 is to investigate the impact and potential impact on native species posed by cat-borne diseases

such as toxoplasmosis.

Action 3.5 is to identify any unintended effects that feral cat control may have if it is not integrated with other management activities. This action depends on the results of Actions 3.2–3.4.

Performance indicators

- Reliable feral cat monitoring techniques have been developed.
- Feral cat control activities are targeted more strategically and better integrated with control of other invasive species.
- The unintended effects of feral cat control are avoided.

Action	Priority and timeframe
3.1 Develop simple, cost-effective methods for monitoring the impacts of feral cats, including reliable methods for monitoring feral cats and key native species at different densities.	High priority, short term
3.2 Investigate interactions between feral cats and native carnivores to identify the relative significance of competition and predation by feral cats.	Medium priority, long term
3.3 Determine the nature of interactions between feral cats, foxes and wild dogs to effectively integrate control activities for all three species.	High priority, medium term
3.4 Determine impacts of cat-borne diseases, such as toxoplasmosis, on native species.	Medium priority, long term
3.5 Identify any unintended effects that feral cat control may cause if conducted in isolation from other management activities.	High priority, medium term

☐ **Objective 4**

Improve the effectiveness, target specificity, humaneness and integration of control options for feral cats

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Key actions for Objective 4 include developing a toxin–bait that would allow broadscale management, determining baiting strategies for different regions and holistic control programs, increasing strategic use of exclusion fencing, and increasing the adoption of standard control methods. Actions 4.1–4.5 focus on improving feral cat control through better use of existing techniques and the development of new techniques, including those for monitoring success of control in the field. Many of these actions require a medium-term commitment.

A major obstacle to control of feral cats is the lack of a toxin–bait that is attractive to cats. In response to this situation, Action 4.1 is to expedite existing work on such a product. Consideration should be given to a critical review of feral cat bait research. Effective feral cat control requires a high density of surface-laid baits; therefore, a toxin–bait needs to have a soft core (so it is palatable to cats) yet be unattractive or inaccessible to non-target species (e.g. birds, goannas, snakes) that are potentially at risk from current poisons such as para-aminopropiophenone (PAPP). This action is very high priority, and needs to be achieved as soon as possible, so that broadscale control of feral cats becomes feasible.

Once an appropriate bait has been developed, the next step (Action 4.2) will be to determine appropriate baiting strategies for various regions. This needs to include investigation of timing, frequency, bait density

and placement, based on scientific evidence of prey availability, feral cat movements and areas that the animals use as refuges (e.g. during drought).

Where feral cats are eradicated from an area, rehabilitation may be needed to promote the recovery of native species and ecological communities. Interactions between species also need to be considered; for example, feral cats may be keeping another invasive species (e.g. rabbits) in check. Therefore, Action 4.3 is to take an integrated approach to control of feral cats, covering habitat rehabilitation and management of potential prey, competitors and predators. Such integrated control methods link with the identification of unintended effects, which are dealt with in Action 3.5 above.

Action 4.4 is to test and disseminate information on exclusion fencing, which has been successful in some areas. For example, in Queensland, eradication campaigns within exclusion areas have protected bilby colonies from feral cats and other predators. Fencing can be more cost-effective than baiting (which is ongoing) for particular habitats or topography.

To ensure feral cat control follows best practice, Action 4.5 is to promote the adoption and adaptation of the model codes of practice and standard operating procedures for the humane capture, handling and destruction of feral animals in Australia. This includes their recognition as a reference under the National Competency Standards for Vertebrate Pest Management (NTIS 2007).

Performance indicators

- Widespread use of improved cat baiting tools and methods.
- Increased use of exclusion fencing in situations where fencing is considered to be more cost-effective than ongoing baiting and to protect critically endangered species.
- Increased adoption and adaptation of the model codes of practice and standard operating procedures for humane management of feral cats, including their recognition as a reference under the National Competency Standards for Vertebrate Pest Management.

Action	Priority and timeframe
4.1 Develop an effective toxin–bait for cats.	Very high priority, medium term
4.2 Determine appropriate baiting strategies for various regions.	High priority, medium term
4.3 Ensure that habitat rehabilitation and management of potential prey, competitors and predators of feral cats are considered in feral cat control programs.	Medium priority, medium term
4.4 Test and disseminate information on exclusion fence designs regarding their cost-effectiveness for particular habitats or topography.	Medium priority, long term
4.5 Continue to promote the adoption and adaptation of model codes of practice and standard operating procedures for the humane management of feral cats.	Medium priority, medium term

☐ Objective 5

Increase awareness of all stakeholders of the objectives and actions of the TAP, and of the need to

control and manage feral cats

Key actions for Objective 5 include preparation and distribution of extension material, and linking of all broadscale control programs to specific communication campaigns. Actions 5.1–5.2 focus on ensuring that the actions taken under the TAP, the impact of feral cats, and the need for control actions are better communicated to stakeholders. These actions are high priority and could be achieved within the next three years.

Action 5.1 involves preparation and distribution of extension materials. Extension materials will help to promote support for the 19 actions listed in Objectives 1–4 of the TAP, and promote understanding of, and use of, effective feral cat control techniques.

Since cats are kept as pets, there are public sensitivities to broadscale programs for feral cat control. Action 5.2 is therefore to develop a specific communication campaign to accompany such broadscale control programs when they occur.

Performance indicators

- Widespread use of current best-practice techniques in feral cat control.
- Increased awareness of the impacts of feral cats.
- Increased awareness of the TAP actions and objectives.
- Community support for the use of lethal control methods.

Action	Priority and timeframe
5.1 Promote: • broad understanding of the threat to biodiversity posed by feral cats and support for their control • support for the specific actions to be undertaken under this plan • the use of humane and cost-effective feral cat control methods • best-practice effective cat control in all tenures, and • understanding of predation by feral cats as a key threatening process.	High priority, short term
5.2 Develop specific communication campaigns to accompany the release of new broadscale cat control techniques, in order to address public sensitivities about cat control.	Very high priority, short term

3 Duration, cost, implementation and evaluation of the plan

3.1 Duration and cost of the plan

This plan reflects the fact that the threat abatement process is likely to be ongoing, as there is no likelihood of nationally eradicating all feral cats in the foreseeable future.

Investment in many of the TAP actions will be determined by the level of resources that stakeholders commit to management of the problem. The total cost of implementation cannot be quantified at the time of writing. In most cases, the ongoing costs of cat control will be high. Current options for control in mainland areas are trapping, shooting and construction of exclosures. All are expensive, time consuming and not suitable for broadscale implementation. Recent studies estimated the annual expenditure on feral cat control as $1.0 million (Bomford and Hart 2002) and $1.1 million (Reddiex et al. 2006). This relatively low current control cost is due to the lack of a suitable broadscale control technique. Once such a technique becomes available, national control costs are likely to increase dramatically.

This TAP provides a framework for undertaking targeted priority actions. Budgetary and other constraints may affect the achievement of the objectives of this plan, and as knowledge changes, proposed actions may be modified over the life of the plan. Australian Government funds may be available to implement key national environmental priorities, such as relevant actions listed in this plan and actions identified in regional natural resource management plans.

3.2 Implementing the plan

DEWHA will work with other Australian Government agencies, state and territory governments and national and regional industry and community groups, to facilitate the implementation of the plan. There are many different stakeholder interests and perspectives to take into account in managing cats. For example, Indigenous communities' views need to be fully considered. It will be important to consult and involve the range of stakeholders in implementing the actions in this plan.

The Australian Government will implement the plan as it applies to Commonwealth land.

DEWHA will support a TAP implementation team to assist and advise on the implementation of the plan. The team will draw on expertise in vertebrate pest management from state and territory agencies, and non-government organisations.

This TAP will operate under the overarching framework of the Australian Biosecurity System for Primary Production and the Environment (AusBIOSEC) and in the context of the Australian Pest Animal Strategy, both of which aim to reduce the impacts of invasive species on native species and ecosystems.

3.3 Evaluating implementation of the plan

It will be difficult to assess directly the effectiveness of the plan in abating the impacts of feral cats on Australia's biodiversity. However, the National Natural Resource Management Monitoring and Evaluation Framework (NRMMC 2003) established a program to provide national information about resource condition on a range of biophysical matters, including threats from vertebrate species such as cats. As part of this work, a range of indicators will provide information on the extent of the impact of priority vertebrate species on biodiversity, as well as national trends on their distribution and abundance.

The species in the table below may be adversely affected by predation by feral cats (that is, there is scientific proof, anecdotal evidence or the potential for impact). The threatened species included are listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The list is indicative and not comprehensive.

Information for species listed under the EPBC Act is available from the Species Profile and Threats Database: http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl.

Appendix A: Species affected by feral cats

Table A1: Threatened species and critical habitat that may be adversely affected by feral cats

Type/category	Scientific name	Common name	Current status
Listed threatened species that may be adversely affected by feral cats			
Birds	*Cereopsis novaehollandiae grisea*	Cape Barren goose (southwestern), Recherche Cape Barren goose	Vulnerable
	Chalcophaps indica natalis	Emerald dove (Christmas Island)	Endangered
	Cinclosoma punctatum anachoreta	Spotted quail-thrush (Mt Lofty Ranges)	Critically endangered
	Cyanoramphus cookii (listed as *Cyanoramphus novaezelandiae cookii*)	Norfolk Island green parrot	Endangered
	Dasyornis brachypterus	Eastern bristlebird	Endangered
	Diomedea exulans	Wandering albatross	Vulnerable
	Fregetta grallaria grallaria	White-bellied storm-petrel (Tasman Sea), white-bellied storm-petrel (Australasian)	Vulnerable
	Gallirallus philippensis andrewsi	Buff-banded rail (Cocos [Keeling] Islands)	Endangered
	Halobaena caerulea	Blue petrel	Vulnerable
	Lathamus discolor	Swift parrot	Endangered
	Leipoa ocellata	Malleefowl	Vulnerable
	Leucocarbo atriceps purpurascens (listed as *Phalacrocorax purpurascens*)	Imperial shag (Macquarie Island)	Vulnerable
	Lichenostomus melanops cassidix	Helmeted honeyeater	Endangered

Type/category	Scientific name	Common name	Current status
Listed threatened species that may be adversely affected by feral cats			
Birds (continued)	*Macronectes giganteus*	Southern giant-petrel	Endangered
	Malurus coronatus coronatus	Purple-crowned fairy-wren (western)	Vulnerable
	Malurus leucopterus leucopterus	White-winged fairy-wren (Dirk Hartog Island), Dirk Hartog black-and-white fairy-wren	Vulnerable
	Melanodryas cucullata melvillensis	Hooded robin (Tiwi Islands)	Endangered
	Neophema chrysogaster	Orange-bellied parrot	Critically endangered
	Pachycephala pectoralis xanthoprocta	Golden whistler (Norfolk Island)	Vulnerable
	Pachyptila turtur subantarctica	Fairy prion (southern)	Vulnerable
	Pardalotus quadragintus	Forty-spotted pardalote	Endangered
	Pedionomus torquatus	Plains-wanderer	Vulnerable
	Petroica multicolor multicolor	Scarlet robin (Norfolk Island)	Vulnerable
	Pezoporus occidentalis	Night parrot	Endangered
	Pezoporus wallicus flaviventris	Western ground parrot	Endangered
	Pterodroma heraldica	Herald petrel	Critically endangered
	Pterodroma leucoptera leucoptera	Gould's petrel	Endangered
	Pterodroma mollis	Soft-plumaged petrel	Vulnerable

Type/category	Scientific name	Common name	Current status
Listed threatened species that may be adversely affected by feral cats			
	Pterodroma neglecta neglecta	Kermadec petrel (western)	Vulnerable
	Sterna vittata bethunei	Antarctic tern (New Zealand)	Endangered
	Sterna vittata vittata	Antarctic tern (Indian Ocean)	Vulnerable
	Stipiturus malachurus intermedius	Southern emu-wren (Fleurieu Peninsula), Mount Lofty southern emu-wren	Endangered
	Thalassarche chrysostoma	Grey-headed albatross	Vulnerable
	Thalassarche melanophris	Black-browed albatross	Vulnerable
Mammals	*Turnix melanogaster*	Black-breasted button-quail	Vulnerable
	Bettongia lesueur lesueur	Boodie, burrowing bettong (Shark Bay)	Vulnerable
	Bettongia lesueur unnamed subsp.	Boodie, burrowing bettong (Barrow and Boodie Islands)	Vulnerable
	Burramys parvus	Mountain pygmy-possum	Endangered
	Dasycercus byrnei	Kowari	Vulnerable
	Dasycercus cristicauda	Mulgara	Vulnerable
	Dasycercus hillieri	Ampurta	Endangered
	Hipposideros semoni	Semon's leaf-nosed bat, greater wart-nosed horseshoe-bat	Endangered
	Isoodon auratus auratus	Golden bandicoot (mainland)	Vulnerable
	Isoodon obesulus obesulus	Southern brown bandicoot	Endangered

Type/category	Scientific name	Common name	Current status
Listed threatened species that may be adversely affected by feral cats			
	Lagorchestes hirsutus bernieri	Rufous hare-wallaby (Bernier Island)	Vulnerable
	Lagorchestes hirsutus dorreae	Rufous hare-wallaby (Dorre Island)	Vulnerable
	Lagorchestes hirsutus unnamed subsp.	Mala, rufous hare-wallaby (central mainland form)	Endangered
	Lagostrophus fasciatus fasciatus	Banded hare-wallaby, marnine, munning	Vulnerable
	Leporillus conditor	Wopilkara, greater stick-nest rat	Vulnerable
	Macrotis lagotis	Greater bilby	Vulnerable
	Myrmecobius fasciatus	Numbat	Vulnerable
	Notoryctes caurinus	Karkarratul, northern marsupial mole	Endangered
	Notoryctes typhlops	Yitjarritjarri, southern marsupial mole	Endangered
	Onychogalea fraenata	Bridled nail-tail wallaby	Endangered
	Parantechinus apicalis	Dibbler	Endangered
	Perameles bougainville bougainville	Western barred bandicoot (Shark Bay)	Endangered
	Perameles gunnii gunnii	Eastern barred bandicoot (Tasmania)	Vulnerable
	Perameles gunnii unnamed subsp.	Eastern barred bandicoot (mainland)	Endangered
	Petaurus gracilis	Mahogany glider	Endangered
	Petrogale lateralis MacDonnell Ranges race	Warru, black-footed rock-wallaby	Vulnerable

Type/category	Scientific name	Common name	Current status
Listed threatened species that may be adversely affected by feral cats			
	Petrogale penicillata	Brush-tailed rock-wallaby	Vulnerable
	Petrogale persephone	Proserpine rock-wallaby	Endangered
Mammals (continued)	*Phascogale calura*	Red-tailed phascogale	Endangered
	Potorous gilbertii	Gilbert's potoroo	Critically endangered
	Potorous longipes	Long-footed potoroo	Endangered
	Pseudomys fieldi	Djoongari, Alice Springs mouse, Shark Bay mouse	Vulnerable
	Pseudomys fumeus	Konoom, smoky mouse	Endangered
	Pseudomys oralis	Hastings River mouse	Endangered
	Sminthopsis aitkeni	Kangaroo Island dunnart	Endangered
	Sminthopsis douglasi	Julia Creek dunnart	Endangered
	Zyzomys pedunculatus	Central rock-rat	Endangered
Reptiles	*Delma impar*	Striped legless lizard	Vulnerable
	Egernia kintorei	Great desert skink, tjakura, warrarna, mulyamiji	Vulnerable
	Egernia obiri	Arnhem Land egernia	Endangered
	Eulamprus leuraensis	Blue Mountains water skink	Endangered
	Eulamprus tympanum marnieae	Corangamite water skink	Endangered
	Hoplocephalus bungaroides	Broad-headed snake	Vulnerable

Type/category	Scientific name	Common name	Current status
Listed threatened species that may be adversely affected by feral cats			
	Lepidodactylus listeri	Lister's gecko, Christmas Island gecko	Vulnerable
Amphibians	*Heleioporus australiacus*	Giant burrowing frog	Vulnerable
	Litoria aurea	Green and golden bell frog	Vulnerable
	Philoria frosti	Baw Baw frog	Endangered
Type/category	**Scientific name**	**Common name**	**Current status**
Unlisted species or taxa that could be adversely affected by feral cats			
Birds	*Amytornis textilis textilis*	Thick-billed grasswren (western)	
	Phaethon rubricauda westralis	Red-tailed tropicbird	
	Puffinus assimilis	Little shearwater	
	Zosterops tenuirostris	Norfolk Island white-eye, slender-billed white-eye	
Reptile	*Cryptoblepharus egeriae*	Blue-tailed skink	
	Emoia nativitatis	Forest skink	
Listed critical habitat			
Diomedea exulans (Wandering albatross) — Macquarie Island			
Thalassarche chrysostoma (Grey-headed albatross) — Macquarie Island			

Glossary

Critically endangered	Under the EPBC Act, a native species is eligible to be included in the critically endangered category at a particular time if, at that time, it is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
Endangered	Under the EPBC Act, a native species is eligible to be included in the endangered category at a particular time if, at that time, (a) it is not critically endangered; and (b) it is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.
Feral	An introduced animal, formerly in domestication, with an established, self-supporting population in the wild.
Genotyping	The process of determining the genotype (i.e. the genetic makeup) of an individual with a biological assay.
Invasive species	A species occurring as a result of human activities beyond its accepted normal distribution and which threatens valued environmental, agricultural or personal resources by the damage it causes (Beeton et al. 2006).
Key threatening process	Under the EPBC Act, a process that threatens or may threaten the survival, abundance or evolutionary development of a native species or ecological community.
Performance indicator	A criterion or measure that provides information on the extent to which a policy, program or initiative is achieving its outcomes.
Pest animal or species	Any non-human species of animal that causes trouble locally or over a wide area, to one or more persons, either by being a health hazard or a general nuisance, or by causing damage to agriculture, wild ecosystems or natural resources.
Threat abatement plan	Under the EPBC Act, a plan providing for the research, management and any other actions necessary to reduce the impact of a listed key threatening process on affected species and ecological communities.
Threatened species	A species under the EPBC Act listed as critically endangered, endangered, vulnerable or conservation dependent.
Vulnerable	Under the EPBC Act, a native species is eligible to be included in the vulnerable category at a particular time if, at that time, (a) it is not critically endangered or endangered; and (b) it is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.

Acronyms and abbreviations

BRS	Bureau of Rural Sciences
DEWHA	Australian Government Department of the Environment, Water, Heritage and the Arts
EPBC Act	the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*
TAP	threat abatement plan

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