

Feral cats – impact and control

Cats – impact on native fauna

Islands

Introduced feral cats have been implicated in the extinction and decline of a wide range of species on islands. These include the loss of



birds from sub-Antarctic Marion Island and Macquarie Island. Loss of mammal species from Australian islands typically attributed to cats include golden bandicoots and spectacled hare-wallabies from the Monte Bello Islands, banded and rufous hare-wallabies, western barred bandicoots and burrowing bettong from Dirk Hartog Island, and brush-tailed bettong from St Francis and Reevesby Islands in South Australia.

In contrast, cats and mammals co-exist on a wide range of islands around Australia, including Tasmania, Rottneest Island in Western Australia, Fraser, Moreton, and North Stradbroke Islands in Queensland, and Melville and Elcho Islands in the Northern Territory.

A recent Australian study has suggested that the impact of cats on islands is mediated by climate, with extinction only occurring on more arid islands or islands without rockpile shelter.

Mainland

The feral cat was introduced to mainland Australia by early European settlers and has now spread to

occupy the entire continent. Its colonisation was likely facilitated by the prior spread of the European rabbit and the house mouse. It hunts a wide range of prey, with mammals typically making up the bulk of their diet. Rabbits and other similar sized mammal species are major prey items but cats will also target the

young of larger species.

The role of feral cats in the mainland decline of mammals has been controversial. In part, this was due to the uncertainty over the timing of their arrival in Australia, and in part, because their current impact appears to be largely masked by the greater impact of foxes. A comparison of prey species in areas from which foxes alone were removed with areas from which both foxes and cats were removed has provided evidence of the major impact of cats on populations of small mammals.

Predation by feral cats on threatened native mammals has been documented for mala (rufous hare-wallaby) in central Australia, isolated populations of rock-wallaby in north Queensland, the bridled nailtail wallaby in south-west Queensland, and burrowing bettong in Western Australia.

Predation by feral cats has been implicated as the primary reason for the failure of reintroductions of

mammals to parts of their former range. These include attempts to reintroduce burrowing bettong and golden bandicoot to the Gibson Desert in Western Australia and brush-tailed bettongs to central NSW.

Major attempts to eliminate feral cats from mainland peninsulas to allow reintroduction of threatened mammals were pioneered by CSIRO, in partnership with the Useless Loop community, at Heirisson Prong at Shark Bay. The shape of the peninsula facilitated cost-effective exclusion of exotic predators, allowing the protection of a large area by a comparatively short barrier fence. Other major projects to follow this lead are projects at Peron Peninsula in Shark Bay and the Venus Bay peninsula in South Australia. In addition, large fenced enclosures (up to 70 km²) from which foxes and cats are eliminated have been constructed at Roxby Downs in South Australia.

Control

Trapping and poisoning

Foot-hold traps have proven to be the most effective method of eliminating feral cats from small areas (1200 ha) and the most potent method for eliminating cats from islands. Modern humane traps are designed to capture and hold cats without injury.

A number of bait types have been developed and tested for feral cats. CSIRO used poisoned mouse carcasses at Heirisson Prong and "sausage" baits are being developed by CALM to be dropped over large areas from an aircraft. Field trials have indicated highly variable success in poisoning, typically varying from 20-100% depending on seasonal conditions and food availability. Bait success depends critically on timing application relative to local food availability.

The role of cat dynamics and ecology

Feral cats at Shark Bay in Western Australia have two to three litters per year and can double their population size in 8.5 months. Densities depend on prey availability but can be as high as 3 per km². Feral cats will quickly reinvade sites after removal of resident cats, particularly in the absence of foxes. These factors, in combination, make control at unfenced sites or non-island sites very difficult. Cats were eliminated from a 12 km² fenced site by harvest of up to 2.6 cats per km² per year.

Eradication

Cats have been eradicated from the sub-Antarctic Marion Island (290 km²), Macquarie Island (120 km²), Faure Island in Shark Bay (60 km²), and Little Barrier Island in New Zealand (28 km²). They have also been eliminated from large fenced areas at Shark Bay (Heirisson Prong) and South Australia (Roxby Downs).

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Key references

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