Western Shield: wildlife recovery through integrating fox and feral cat control at a landscape scale in Western Australia

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The European red fox (*Vulpes vulpes*) and the feral cat (*Felis catus*) have been implicated in the extinction of at least 22 mammal species native to Australia. These predators have also been considered partially responsible for declines in numerous native bird species including malleefowl, western ground parrot and noisy scrub-bird and several reptile species such as western swamp tortoise and marine turtles. Predation of native fauna by feral cats is listed as a threatening process under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* and reducing their impact on native fauna is considered essential to fauna conservation in Australia. In fact, 'tackling feral cats' is one of the key action areas in the Australian Government's Threatened Species Strategy.

Parks and Wildlife's *Western Shield* program has been baiting foxes since 1996 and has had significant success in the control of foxes over 3.8 million hectares of WA's native forests and bushland extending from Esperance to Karratha. The program's success relies heavily on the tolerance of many of WA's native fauna to the naturally occurring poison sodium fluroacetate, which is manufactured as 1080, a characteristic largely unique to this State. This poison is naturally found in native plant species belonging to the *Gastrolobium* genus.

Eradicat ® *baits being prepared for deployment at Matuwa. The sausage bait is only partly dried to make it more palatable for cats, similar to a chorizo. Photo – Steve Toole.*

As much of our native fauna eat these plants or animals that consume these plants, WA's native fauna have developed a high tolerance to the toxin. In contrast, foxes and feral cats have little or no tolerance to 1080 and most foxes will readily take dried meat baits (Probait®) containing the poison enabling the control of fox numbers in large areas of the State. Feral cats in general tend to be more fussy and do not usually take the baits currently used for fox control.

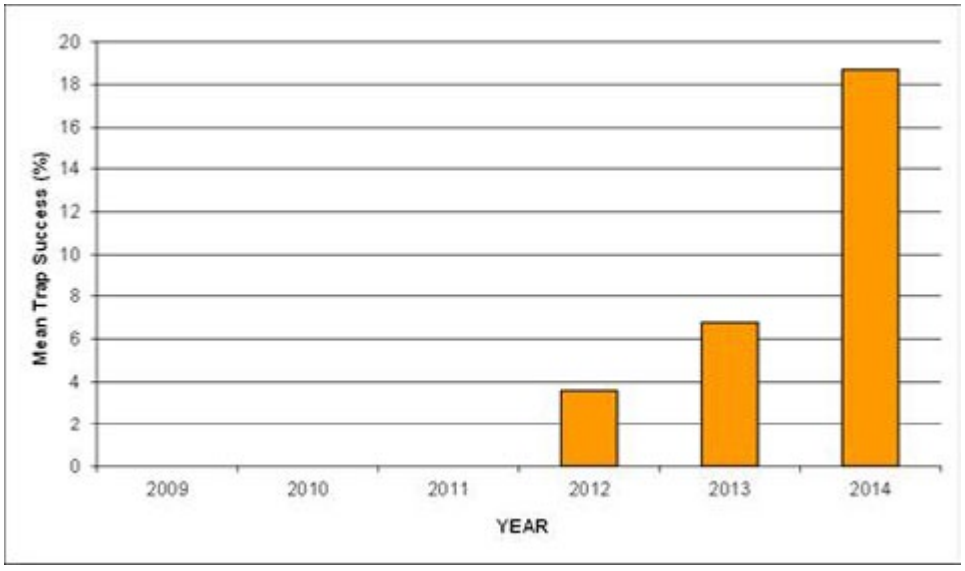

Figure 1: Eradicat® was integrated with fox baiting at Cape Arid National Park in 2011 as part of the South Coast Integrated Fauna Recovery Project. Feral cat activity has reduced during this time and fox activity has been found to be very low. Quenda trap success at Cape Arid National Park has increased significantly since the integration of Eradicat®; prior to this it was undetectable. Graph source – Sarah Comer, Western Shield.

*Heart-leaf poison (*Gastrolobium bilobum*) is one of the WA pea species that naturally contains the poison sodium fluoroacetate, which is a natural version of the chemical compound also used in 1080 poison baits. Our native fauna have developed a high tolerance to this toxin unlike their introduced predators. Photo – Ashley Millar.*

In response to increasing feral cat numbers and recent declines in some native species most likely as a consequence of cat predation (e.g. woylie and numbat), Parks and Wildlife scientists have developed a feral cat specific bait, Eradicat®. Composed of kangaroo meat, chicken fat, flavour enhancers and 1080, the bait unlike Probait®, is only partially dried and far more palatable to cats. The bait has been used successfully as part of eradication of feral cats from Hermite Island in the Montebello Islands and Faure Island, Shark Bay. It is currently being used to eradicate feral cats from Dirk Hartog Island National Park ahead of the reconstruction of a suite of native fauna there.

On the mainland, field trials have revealed significant and sustained feral cat control success using Eradicat® at the landscape scale in arid environments, such as Matuwa (Lorna Glen). Parks and Wildlife researchers found the majority of annual baiting events at Matuwa between 2003–2009 resulted in significant reductions in feral cat activity immediately after baiting (i.e. from 26.4 cats per 100km of transect prior to baiting down to an average of 6.4 once baiting had commenced).

Further baiting research at Matuwa by Parks and Wildlife scientist Neil Burrows and colleagues in 2015 resulted in a 50 to 60 per cent reduction in feral cat activity based on track and camera monitoring. Initial trials on the south coast have also shown promising results with strong recovery of quenda along trapping transects since baiting with Eradicat® commenced there.

The significant threat of predation by feral cats to native wildlife has been recognised this year in the national Threatened Species Strategy *with key actions and targets for feral cat management being set. Here a feral cat is caught on camera in Cape Arid National Park with a quenda (*Isoodon obesulus fusciventer*) as its prey. Photo – Parks and Wildlife, South Coast Region.*

Further 'mop-up' work is still likely to be required to remove feral cats that survive baiting campaigns in specific locations for example at translocation sites and the habitat of critically endangered species.

Management trials set to occur

Further work is required to trial the efficacy of the bait in other regions of the State, particularly the south-west. The moist Eradicat® bait is far less stable than Probait® once in the environment, therefore the baits must be deployed during ideal weather conditions (dry conditions) and when bait uptake by cats is likely to be optimum (when few alternative food sources are available). Bait application needs to be carefully timed to ensure optimum control.

The Australian Government recently provided $1.7 million to Parks and Wildlife to support feral cat control under *Western Shield*. The funds will be used to run trials to determine the most effective application of the bait when integrated with fox baiting. Trial sites include Kalbarri National Park, Dryandra Woodland, the Upper Warren area and south coast sites like Fitzgerald River and Cape Arid national parks. The funding will also be used to monitor the efficacy of the baiting program in different bioregions and to enable the translocation of some key fauna species to areas where they were formally found as well as boosting existing wild populations.

More information

Algar D, Onus M, and Hamilton N (2013) Feral cat control as part of Rangelands Restoration at Lorna Glen (Matuwa), Western Australia: the first seven years. *Conservation Science Western Australia* 8(3) 367–381.

Australian Government (2015) *Threatened Species Strategy*.

Burrows N, Liddelow G, Ward B, Jackson V and Thoomes E (2015) Matuwa Introduced Predator Control Program - 2015 Aerial Baiting Report Department of Parks and Wildlife unpublished report.

Department of the Environment (2015) Threat abatement plan for predation by feral cats.

Western Shield visit website.

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Ellenbrook – Walyunga threatened biodiversity landscape linkage project

Working at six reserves within a priority landscape, WWF will implement weed control, revegetation, riverbank management and germination trials for curved leaf grevillea with partners and the local community aiming to build long term resilience of threatened flora, fauna, communities and other conservation priorities in the Ellenbrook-Walyunga area.

Protecting and enhancing the biodiversity of Booragoon Lake

The South East Regional Centre for Urban Landcare will undertake a three year management program focusing on the brazilian pepper infestation which is threatening the Booragoon Lake, a nationally important wetland.

The lead community groups have developed strong partnerships with friends groups and volunteers, local government authorities and state agencies including the Department of Parks and Wildlife. These partnerships will ensure technical knowledge and considerable additional resources are available to support the successful delivery of these projects. The total value of the Living Landscapes Program is now more than $2.04 million.

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