SEPTEMBER 1996

WesternShield

Bringing wildlife back from the brink of extinction

Foxes and feral cats are making a meal of Western Australia's wildlife. Already, they have contributed to the extinction of 10 native mammals, with dozens more species fighting for survival.

Western Shield is a program designed to bring our wildlife back from extinction by targeting foxes and feral cats.

It is the world's biggest campaign against feral predators and is being driven by WA's Department of Conservation and Land Management.

Western Shield aims to reduce the feral cat and fox population through baiting programs using 1080 poison. This is the manufactured version of a poison that occurs naturally in Western Australia, and does not harm our native wildlife.

Introduced predators have significantly contributed to the decline of many native animals.
Photo – Evan Collis/CALM

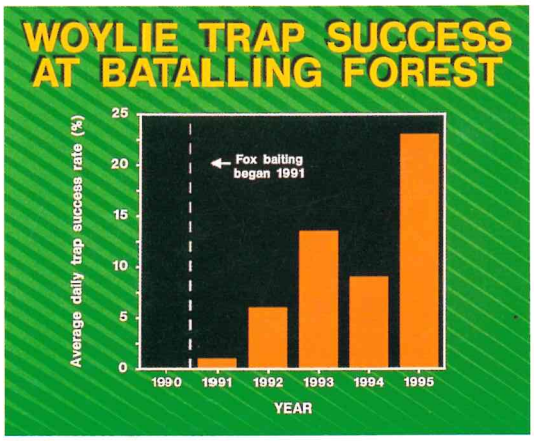
The curse of the fox

Western Australia has an amazingly rich diversity of wildlife. Indeed, many of our plant and animal species occur nowhere else in the world. But of the 141 species of native animals known to occur in WA, 11 are now extinct and several others are perilously close to extinction.

While several factors have contributed to this, the biggest danger today is the European fox. Fortunately, research and operational experience in the last 10 years has shown that even species on the brink of extinction can be brought back, and new colonies established, if effective fox control is in place.

The Woylie (brush-tailed bettong) is one such species. Three years ago, this small, wallaby-like animal was in critical danger of extinction. Today, because of extensive fox baiting operations sponsored by Alcoa Australia in the northern jarrah forest (*Operation Foxglove*), the woylie is enjoying a population boom. It is no longer threatened with extinction, and in April 1996 became the first animal ever removed from the threatened species list as a direct result of recovery action.

Fox baiting operations in the Wheatbelt reserves have had similar success, with native fauna such as numbats, chuditch, possums, pythons, malleefowl, rock wallabies, black glove wallabies, tammars and western swamp tortoises all benefiting.



Far left: *Fox predation is a major threat to native animals in the weight range of 35g to 8kg.*
Photo – Robyn Knox/ Agriculture WA

Left: *Fox baiting at Batalling has resulted in a marked increase in woylie numbers.*
Graph – CALM

Above: *The feral cat — a major predator in arid and semi-arid areas.* Photo - Ray Smith/CALM

Above right: *The red -tailed phascogale — now only found in reserves in the Wheatbelt region.* Photo – Babs & Bert Wells/CALM

The cunning feral cat

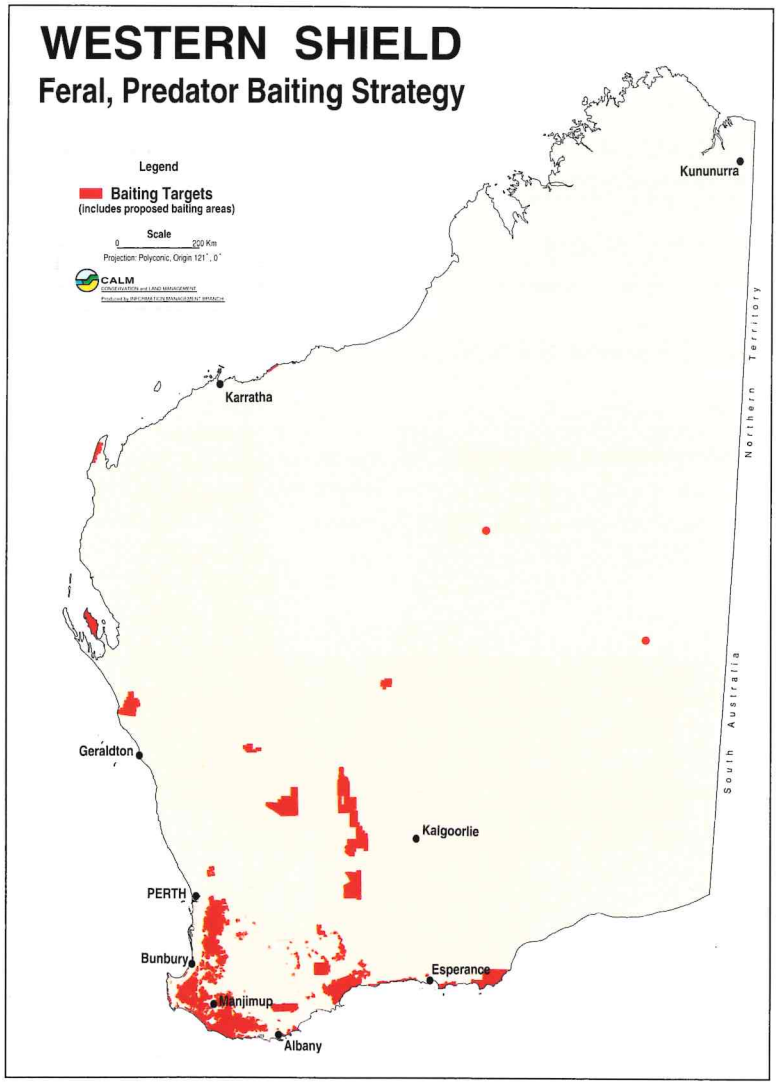
The feral cat is an enigmatic predator. It was introduced to Australia long before foxes and has been implicated in the extinction and decline of many native species, particularly in Australia's arid and semi-arid areas.

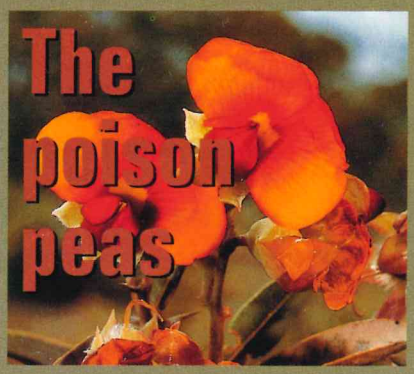
Some of the species to suffer have been the mammals and birds of the Montebello Islands, wallabies and bandicoots on Dirk Hartog Island, mala in the Tanami Desert and rock-wallabies in Queensland.

In south-western WA, cats have not impeded the spectacular recovery of fauna like woylies, numbats, chuditch, possums and carpet pythons as a result of fox control. However, others such as the malleefowl, dibbler and some rodents are still not faring well, and the feral cat is the main suspect.

In more arid areas, there is no doubt about the negative effects of the feral feline. Cats have thwarted reintroductions, and the recovery of small populations, in places like Shark Bay, the Tanami (NT) and the Gibson Desert. Even at Karroun Hill, on the edge of the Wheatbelt, cats have been an obstacle to the successful re-introduction of numbats.

However, recent breakthroughs in prototype cat baits developed by CALM are giving new hope to scientists fighting to save WA's natural heritage. The most notable successes have come from *Project Eden* at Shark Bay, where a recent cat-baiting program achieved a 75 to 80 per cent strike rate.





For its area, the south west of Western Australia has perhaps the greatest number of plant species in the world, and some of these are poisonous. It is the 'poison peas' or *Gastrolobiums*, which contain the poison sodium monofluoroacetate, commonly known as 1080. These were the bane of the early pioneers, who lost grazing sheep and cattle because of them.

Our native animals, however, have evolved with these poisonous peas and developed high levels of tolerance to the poison. Researchers have found that we can use it in the fight against the fox and feral cat. In effect, giving our native species a natural advantage.

Above: *1080 poison naturally found in Gastrolobiums.* Photo - Babs & Bert Wells/CALM

Western Shield - where and how

Top: *Western barred bandicoot — species now only found on islands off Shark Bay.*
Photo – Babs & Bert Wells/CALM

Centre: *Bilby — used to be found in the Wheatbelt region but now only found in remote areas of arid lands.*
Photo – Babs & Bert Wells/CALM

Above: *Malleefowl — young threatened by foxes and cats as they emerge from the nest.*
Photo – Babs & Bert Wells/CALM

Success with fox and cat control in patches throughout WA is the motivating factor behind *Western Shield*.

It is a massive wildlife recovery program, building on CALM's existing predator control programs, that will eventually cover almost 5 million hectares in WA, from Karratha in the north, inland to WA's arid regions, through the south-west forests, and down to Esperance on the south coast.

Western Shield has three key elements: increasing fox baiting on a scale never before attempted; substantially increasing feral cat control research and operations; and eventually returning native animals to former habitats.

On-ground activities will revolve around baiting. Dried meat baits containing 1080 (pronounced ten-eighty) will be laid at the rate of 5 per square kilometre within *Western Shield* operational areas. This works out to about to one bait for every 300 suburban house blocks. In most areas, baiting will occur four times a year - in December, March, June and September. The first baiting is scheduled for September 1996.

Left: *1080 is placed in 45g dried meat baits.*
Photo - Robyn Knox/WA

In most areas, baits will be dropped from the air using aircraft equipped with the latest satellite-based navigation systems for accuracy. Smaller areas will be baited from vehicles. Unbaited buffers will be left around established recreation sites, private property, and towns. The areas to be baited will be extensively sign posted, and notices will be placed in the local media to ensure the public is kept informed.

Wildlife - a barometer to environmental health

Left: *Brush-tailed possum — wildlife is monitored for signs of recovery.*
Photo - Carolyn Thompson/CALM

Top: *Carpet python — its food source is reduced by foxes.*
Photo - Babs & Bert Wells/CALM

Above: *Tammar — now only found in the forest and Wheatbelt reserves where fox control is undertaken.*
Photo - Babs & Bert Wells/CALM

The native animals that foxes and cats are known to prey on throughout WA include the numbat, malleefowl, Gilberts potoroo, dibbler, western ground parrot, western swamp tortoise, python, chuditch, brush-tailed phascogale, red tailed phascogale, bilby, tammar, mardo, quenda, western pygmy possum, brushtail possum, ringtail possum, woylie, western brush wallaby, rock wallaby, quokka, water rat and southern bush rat.

The re-establishment of secure populations of these species will serve as a 'barometer' for natural ecosystems. If native fauna are thriving, then many of the other natural processes that 'drive' ecosystems will be thriving. Feral predator control and the re-establishment of native fauna demonstrate the integrated land management approach that is essential for preservation of the State's biodiversity.

Common questions about feral predator control

Above: *Numbat — responding well to fox control at Dryandra.*

Below: *Chuditch — responded well to fox baiting operations but numbers are still at a low level.*
Photos - Babs & Bert Wells/CALM

What is 1080 poison?

1080 is the name given to the synthetically produced chemical compound sodium monofluoroacetate. In Western Australia, it occurs naturally in plants belonging to the genus *Gastrolobium*, which are known as poison peas.

Does it pose a risk to people?

The amount of 1080 in the baits is minuscule compared with the level of poison that occurs naturally in *Gastrolobiums*. For example, 1 kg of 'heartleaf poison' leaves contains almost 3000 mg of monofluoroacetate; this is more than 100 times the amount contained in baits spread over a square kilometre.

The baits are dried and very unappetising to humans. If a small child handled a bait and then licked their fingers, there would be no ill effects. However, baits should not be eaten.

Will it kill native animals?

Western Australia's native animals have evolved alongside *Gastrolobium* species, and they have developed high levels of tolerance to it. Even the chuditch, a type of native cat which preys on smaller native mammals, has developed a high tolerance.

Does 1080 persist in the environment?

Definitely not. Research by Curtin University and funded by CALM has shown that 1080 is rapidly degraded by soil microbes, and Agriculture WA research has shown that it is leached by heavy rain. There is no possibility that 1080 will persist or accumulate in the environment as a result of feral predator control operations. The compound occurs naturally in *Gastrolobium* species over large areas, yet our water supplies are not contaminated with sodium monofluoroacetate.

How is the poison laid?

Small, dried meat baits are injected with a small quantity of 1080. Five of these baits are dropped from the air over each square kilometre of the baiting area. That is one every 20 hectares, roughly equivalent to one for every 300 suburban house blocks.

Is it lethal to cats and dogs?

Dogs, including dingoes, and cats are very susceptible to 1080. Warning signs are placed prominently around baited areas, so visitors know there are baits around. Domestic dogs and cats should not be allowed to roam in areas that have been baited.

What can I do if my dog or cat picks up a bait?

By law, dogs in public places have to be kept under control. Also, dogs are not allowed in National Parks or other nature conservation areas. Baits for controlling foxes and other vermin are used extensively throughout Western Australia.

Signs will be displayed prominently to warn people that baits have been laid. People who take their dogs into areas that have been baited should keep them on a leash and muzzle them. There is no antidote for 1080 poison.

Can non-poisonous methods be used, such as biological control?

Research over the past 10 years has shown that baiting is currently the most effective and efficient method of reducing fox numbers, especially over large areas. Scientists from the Department of Conservation and Land Management and Agriculture WA are investigating biological control, but successful methods are still many years away.

How will we know if feral predator control has been successful?

Research at areas such as Julimar, Dryandra, Perup and Tutanning has shown the number of sightings of native wildlife increases dramatically when fox numbers are controlled. Special monitoring sites are set up to measure any change in wildlife populations in baited areas. The real success will come when people can visit the forests, parks and reserves and see more wildlife in their native environment.

Will fewer foxes and cats lead to an increase in other pests such as rabbits?

Rabbit populations in large expanses of native vegetation are usually very low. Feral predator control in these areas has not resulted in any significant increase in rabbit populations.

Small areas of remnant vegetation are often used by rabbits as shelter while they feed in surrounding agricultural land. The removal of predators from these situations may require rabbit control on agricultural land.

Will rabbit calicivirus disease (RCD) remove rabbits and result in foxes and cats eating more native wildlife?

The presence of RCD in WA makes it particularly more important for feral predator control operations to be in place. The removal of rabbits will aid in the recovery of vegetation and natural habits but it will also mean our native animals will be at greater risk to predation as foxes extend their search for food.

How much will this program cost?

Western Shield will require about $1.15 million a year. This includes the bait laying operations, fauna monitoring and the progression of feral cat research.

The Department of Conservation and Land Management will underwrite the cost of the program, and sponsors from the corporate sector will be invited to contribute to this unique and internationally significant fauna conservation initiative.

Where can I find out more about Western Shield?

If you have further questions, please contact your nearest CALM office, or the State Operations Headquarters at 50 Hayman Road, Como. Phone (09) 334 0333

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