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AUGUST 1997

Western Shield



Numbat (*Myrmecobius fasciatus*)- a native animal that will be helped by predator control
Babs & Bert Wells/ CALM

Western Shield, the biggest nature conservation project ever undertaken in Australia, achieved a level of success far beyond the most optimistic expectations in its first year of operation.

The Department of Conservation and Land Management (CALM) initiative aims to bring back from the brink of extinction native mammal species whose populations have diminished as a result of introduced predators - the European fox and feral cat.

Since the project was launched in April last year, it has demonstrated that broadscale fox control is possible and made significant advances in developing an effective cat control technique. This has

paved the way for populations of native fauna to be re-established as part of recovery plans for many species.

The main weapon in the introduced predator control armoury is the widespread use of baits containing 1080 which occurs naturally in *Gastrolobium* plants - the 'poison peas'. The baits are now distributed on more than 3.4 million hectares of CALM-managed lands including Peron Peninsula at Shark Bay, vast tracts of the south-west forests and national parks, and nature reserves along the south-coast and in the Wheatbelt.

Native animals have evolved with *Gastrolobium* and have developed a high tolerance to it, while it is deadly in minute amounts to introduced predators.

Baits are distributed by dropping them from the air in carefully designed grids using the latest satellite navigation technology such as the geographical positioning system. Since the project started, one annual rotation of four aerial baiting runs has been completed.

In addition, a significant proportion of the south-west land division was baited by community based, baiting programs encouraged by CALM and Agriculture Western Australia (AgWA). A variety of community groups were involved with Catchments Groups, Land Conservation

District Committees and Bushfire Brigades participating in bi-annual baiting programs to protect agricultural values and wildlife values on farms.

In some areas the participation rate exceeded 90% of farmers. A good example of this cooperative program was the efforts made around Jerramungup involving the Malleefowl Preservation Group, CALM and AgWA. The Malleefowl Preservation Group encouraged farmers to bait areas, including two CALM reserves, to conserve malleefowl populations. *Western Shield*, in conjunction with AgWA is encouraging the willing participation of farmers to undertake baiting in areas that will benefit wildlife on CALM managed lands and adjacent farming properties.



The European fox is a major predator of native mammal species such as the Quenda (*Isodon obesulus*) Robyn Knox/AgWA

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DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT

Major sponsor for native animal conservation

The war against introduced predators in the south-west was recently bolstered by corporate sponsorship from WA mining company Cable Sands. Worth \$60,000 a year for at least the next three years, the sponsorship enabled CALM to begin 'Coastal Storm' - an expansion of *Western Shield's* baiting operations.

The 'Coastal Storm' component covers 200,000 ha including the D'Entrecasteaux and Shannon National Parks and adjoining multiple-use State forests and reserves.

The start of 'Coastal Storm' means that all major CALM managed-lands in the State's south-west are under a comprehensive baiting regime.

Overall, *Western Shield's* baiting operations increased this year by 400,000

ha. In addition to the 'Coastal Storm' component, it now extends into the Sunklands of the Blackwood, the Donnelly Catchment and other areas of the south-west and south coast.

While most of these baiting programs involve using dried meat baits, baiting operations in the more popular conservation estates of the south-west also use egg-baits to reduce the risk of domestic pets eating the dried meat baits.

More than 6400 eggs will be used in almost 23,000 ha of the south-west's conservation estates. Four times a year, 1300 eggs will be used to bait 20,000 ha of Leeuwin Naturaliste National Park while 300 eggs will be used in 2800 hectares of Scott River National Park. All egg-baits are stamped as poisonous eggs.



Cable Sands Managing Director Chris Davies and Environment Minister Cheryl Edwards with a bilby at the announcement of the \$180,000 sponsorship agreement. Ernie McLintock/CALM

Claws out for cats

While great strides have been made in the control of foxes throughout the State's south-west, greater research is required to successfully control feral cats. Cat research is continuing at Peron Peninsula and Kalgoorlie. Even though the window to bait cats this year was relatively narrow, only 2 to 3 weeks, positive results have been realised with the use of innovative cat trapping techniques involving the use of soft catch traps and phonetic chips. This has resulted in the successful trapping of over 170 cats in the last few months.

CALM in collaboration with the Keith Turnbull Research Institute in Victoria, continues to undertake comprehensive research into the development of a bait toxin for cats. While foxes quite readily take the 1080 poisonous dried meat baits,

feral cats do not. It is crucial to develop a toxin that is specific to cats in order to safeguard native animals from risk of poisoning. The development of this baiting technology is vital if we wish to control feral cats which are a major cause of native animal decline in the State's arid zone.

The toxin being developed has been tested on cats to determine the lethal dosage required to kill the cats. It has proved to be very effective and humane on cats without having any effect at all on native animals.

Study sites have been established at Kalgoorlie to further progress the development of the cat bait. These study sites will help determine with confidence the actual population of feral cats in the area as well as refine the effectiveness of

the baits. It will also assist in the studying of when to bait for cats.

Preliminary research findings are extremely promising and it is anticipated that an operationally viable feral cat control technology will be available in the near future.



CALM researchers are making significant inroads in the development of new bait technology for feral cats. Babs & Bert Wells/CALM

Success signs for fauna recovery

The achievement of fox control in a number of areas around the State has resulted in *Western Shield* being stepped up a cog.

This began with a number of species being reintroduced into areas in which they were once found in abundance. Woylies were reintroduced into forest in a number of sites throughout the northern jarrah forest and at Lake Magenta Nature Reserve. They haven't been seen at Lake Magenta for 30 years until 20 were released in the Reserve earlier this year. The woylies were trapped and captured by CALM Katanning and Narrogin District staff at Dryandra where sightings of woylies have increased by around 400 per cent following comprehensive fox baiting during the past two to three years. The success of these populations at Dryandra and elsewhere enabled the species to be removed from the threatened species list.

Numbats were released into bushland at Mt Dale east of Armadale. The reintroduced animals were monitored by radio tracking, which revealed that many of the animals travelled considerable

distances to set up territories. Additional numbats will be re-introduced in the coming year to ensure the population establishes and thrives.

In the past year more than 50 chuditch were reintroduced into Lake Magenta Nature Reserve in the Wheatbelt.

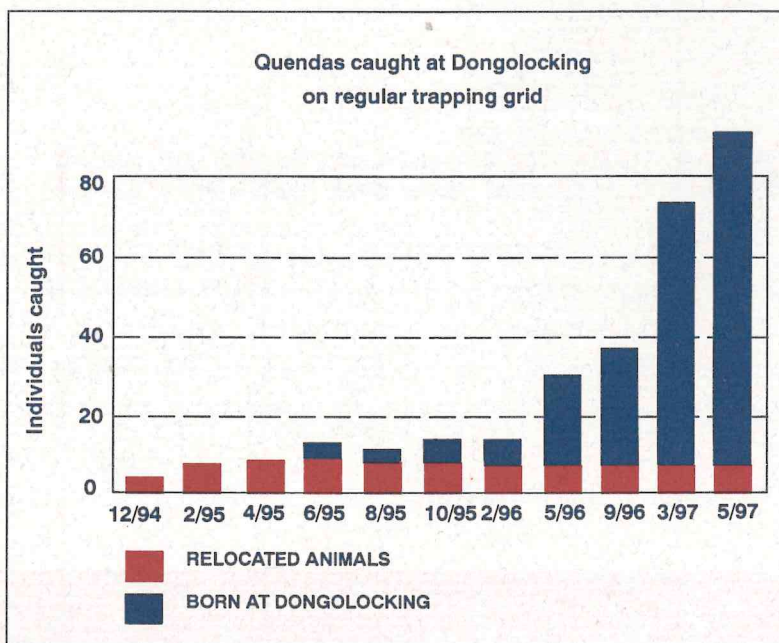


Positive signs indicate the success of fauna recovery plans - the birth of a malleefowl chick from the captive breeding program at Peron Peninsula. Colleen Simms/CALM

A comprehensive post monitoring program, including the use of aircraft and radio tracking equipment, revealed that their range of movement was confined within a 20 km radius from the release point with most animals settling into a fairly well defined home ranges. The chuditch released were part of a captive breeding program set up by the Perth Zoo in collaboration with CALM.

Of the 20 radio collared animals, only five died. Two of these mortalities were caused by predation while the other three died from either illness or starvation. No further deaths have been recorded since February. It is planned to undertake more monitoring in August and November to assess the survival of the remaining animals and the success of breeding.

Since 1994, a total of 28 Quendas (bandicoots) have been translocated into bushland at Dongolocking Nature Reserve near Wagin in the Wheatbelt. The animals were captured and moved from an unbaited road reserve at Mount Dale to



The reintroduction of Quendas (southern brown bandicoots) at Dongolocking Nature Reserve after fox control has resulted in a dramatic increase in the species population size.

the safety of the baited Dongolocking. This has resulted in a massive population increase. The latest trapping run to monitor the quendas' progress in March this year, caught 73 individuals of which five were from the original translocation, 38 were new individuals and 30 were recaptures but born at Dongolocking. A trapping run in June this year showed even better numbers with 92 quendas caught of which 85 were new individuals born at Dongolocking.

Recent survey work conducted in the northern jarrah forest has revealed three additional populations of quokkas. The populations are all north of Jarrahdale

and between Albany and South Western Highways. These populations have existed at such low levels in past years, that they have been undetectable by normal survey techniques. These populations, although still very low, have expanded under fox control to levels that allowed their identification by standard survey techniques. The promise of additional populations being found and the expansion of the known populations encourages our efforts in feral predator control.

Although not a scientific measure, several reports of wildlife sightings have been made by CALM and members of the

public that support the scientific monitoring presently underway. Chuditch and brush wallabies have been seen on roads near Dwellingup where they have not been seen for many years, numbats have been sighted in bush north east of Manjimup and woylies have been sighted in bush near Collie. This suggests that wildlife populations are expanding back towards levels that existed several decades earlier.

People are encouraged to report wildlife sightings to the nearest CALM District office as it is a very useful information to support existing fauna monitoring operations.

Noisy scrub-bird returns to Darling Range after 150 years

One of WA's rarest animals, the noisy scrub bird, was recently reintroduced into forest in the Darling Range near where the species was first discovered 150 years ago.

The species disappeared from the Darling Range soon after European settlement and was thought to be extinct until its rediscovery 35 years ago at Two Peoples Bay near Albany on the State's south-coast.

Since then, comprehensive scientific research and management has gone into ensuring the conservation of this historically important native bird. Steps taken to boost the species' population in the Albany region resulted in numbers increasing from approximately 100 birds in 1961 to around 1200 in 1997. Several individual birds were recently released into bushland in the Darling Range between the Murray Gorge and the Harvey Dam on the outskirts of Alcoa of Australia's Willowdale mine site. This proved to be an ideal location as the stream line provided the dense vegetation vital for the bird's survival and is not affected by bauxite mining.

Extensive research and site surveys, conducted last year to determine the best location for reintroduction, showed this area



The Noisy Scrub Bird (Atrichornis clamosus) has been reintroduced into bushland in the Darling Scarp near where it was first discovered 150 years ago. Babs & Bert Wells/CALM

to be typical of the type of environment where the species was originally discovered last century.

The reintroduced birds are currently the subject of comprehensive monitoring by CALM and Alcoa which has donated \$10,000 for the program. The birds reintroduced were captured and relocated from Two Peoples Bay Nature Reserve.

Captive breeding programs begin to bear fruit

To facilitate the native animal recovery programs, a great deal of planning and research has gone into establishing a number of captive breeding programs for animals whose populations are extremely low in the wild. The bilby, western-barred bandicoot and malleefowl are all subjects of captive breeding programs.

The programs have begun to bear fruit with the birth of four bilbies and 11 western barred bandicoots in the past six months. Likewise, more than 40 malleefowl chicks have hatched from 56 eggs that were incubated in an innovative breeding box at Shark Bay's Peron Peninsula. The 90 per cent hatch rate and 84 per cent chick survival rate are higher than occurs in the wild.

Plans are underway to reintroduce the malleefowl, along with woylies, in the World Heritage Listed Shark Bay area in the near future as part of *Project Eden*, which aims to turn the 1050 square km Peron Peninsula into a safe haven for native animals.

Another prime candidate for release at Peron is the bilby. Six of the small native marsupials were recently taken up to Shark Bay from the captive breeding program CALM has set up in collaboration with Karyana Native Fauna Rehabilitation Centre at Gooseberry Hill on the outskirts of Perth.

The bilby breeding program received a great deal of support and assistance from Coles/Myer, the Australian Conservation Foundation, Broome Shire Council and Shell Australia.

Coles/Myer, through the sale of chocolate Easter bilbies, set up a 'Save the Bilby' fund which is administered by the Australian Conservation Foundation. From this fund \$23,000 was donated last year to assist in the establishment of the bilby breeding program and a further \$14,500 was received this year.



CALM Scientist Tony Friend and Karyana Native Fauna Rehabilitation Centre owner June Butcher with one of the Western Barred Bandicoots (Perameles bougainville) from the captive breeding program. Mitzi Vance/CALM



The bilby (Macrotis lagotis) - focus of a comprehensive captive breeding program helped by the community program 'Save the Bilby' fund. Babs & Bert Wells/CALM

Return to Dryandra' - future haven in the Wheatbelt

Following in the footsteps of *Project Eden* is the new 'Return to Dryandra' project.

An area near Narrogin has been chosen to become a safe haven for breeding a number of endangered native species whose populations have been diminished by the European fox and feral cat.

The \$50,000 plus project involves enclosing 20 hectares with a fox and cat proof fence. The site was selected for its dense scrub and distance from farmland to maximise the width of the baited areas around the enclosure.

Once established, breeding populations of five species of mammals will be set up. They comprise four from Bernier and Dorre Island in the Shark Bay area - the western barred bandicoot, rufous hare-wallaby, banded hare-wallaby, boodie - and one from mainland WA, the bilby.

It is envisaged that the enclosure will be completed by late August with the first



Children viewing a Burrowing bettong (*Bettongia lesueur*) - an important peducational aspect for Western Shield. Ernie McLintock/CALM

animals released in late September. All animals will be radio collared and supplied with supplementary food and nest-boxes. Comprehensive monitoring will be undertaken by staff from CALM's Science and Information Division and Narrogin District including radio tracking and trapping.

Once the animal populations are stable it is planned to open up the Dryandra project to the public and establish an interpretive facility for visitors. People will then be able to visit the area and see native animals that used to thrive in their natural habitat before the onslaught of foxes and cats.

Towards the year 2000 and beyond

After only one year in operation, you can already see that *Western Shield* is gaining momentum in the quest to restore Western Australia's natural balance. Measuring the success of the project plays a crucial part and already we have seen the first signs of success with a number of reintroductions. Yet there is much, much more to be done to help our native wildlife fight its way back to abundance. With the help of sponsors, volunteers, land holders and other members of the community, *Western Shield* is making a significant difference to the recovery of native plants and animals. It is a project that will continue well beyond the year 2000.

For further information please contact your nearest CALM office, or the State Operations Headquarters at 50 Hayman Road, Como.

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