



Left to right: Feral goats, a feral cat, a European fox, and the predator-proof fence that stops goats and predators reinvading Peron Peninsula from the south.



Right: CALM national park ranger, Mark True, with a woma python. These harmless snakes are now regularly seen on Peron Peninsula.

Feral animal control began with the removal of all sheep and cattle by 1994. More than 12,500 goats were also removed, and a shooting program continues today.

The use of meat baits laced with 1080 poison – found naturally in a group of plants known as poison peas – have virtually eradicated the fox population, once as many as 2.5 animals per square kilometre.

Traps and 1080 baits have cut the cat population by 50 to 70 per cent.

Rabbit numbers increase in spring, but the disease myxomatosis and dry summer conditions reduce the population by autumn each year.

A 3.4 kilometre, two-metre high feral barrier fence built in 1995 has helped control the reinvasion of feral animals from the south.

## Feral control

Project Eden is a conservation program that covers the entire 1050 sq km Peron Peninsula, in the Shark Bay World Heritage Area.

In 1801, when French explorers Nicholas Baudin and Francois Peron visited Shark Bay, 23 species of mammals were present. By 1990 fewer than half that number remained. Predation by introduced foxes and cats, habitat destruction and competition for food by the stock and rabbits of the European settlers had driven many native animals to local extinction.

The 1991 World Heritage listing, the creation of Francois Peron National Park and the success of fox baiting research by the Western Shield program of the Department of Conservation and Land Management (CALM) inspired the idea of recreating an Eden on Peron.

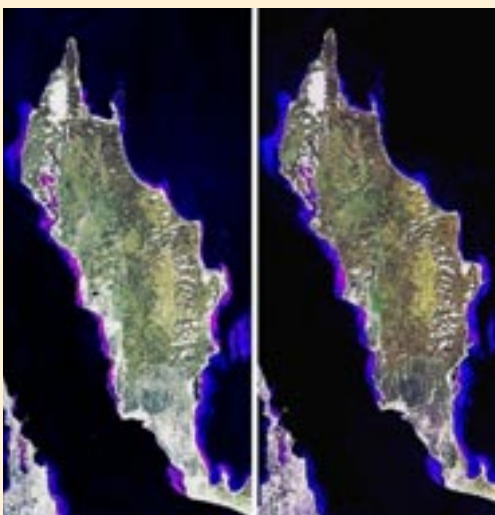
Project Eden was launched as CALM began to remove feral animals from the peninsula to encourage the recovery of the remaining flora and fauna. Once the ecosystem had started to rejuvenate, some lost wildlife could return to Eden.

## A former Eden

## Vegetation recovery

Australia has no native hoofed animals. The cattle, sheep and goats introduced by the European pastoralists tore apart Peron Peninsula's fragile soils and stripped or uprooted vegetation, degrading natural habitat.

Since the removal of more than 30,000 head of stock, much of the vegetation and refuge habitat has recovered. Acacia shrubs in particular have grown much more densely, and seedlings now get the chance to mature, without thousands of hungry mouths ripping them out as soon as they appear.



LANDSAT images show the huge improvement in vegetation growth in the years since stock was removed from Peron Peninsula. On the left is an image taken in 1992, and on the right an image captured after a decade without stock.

## Who to contact

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Photos by Babs and Bert Wells/CALM, Jiri Lochman and Project Eden staff.



Left: Scientist Kathy Himbeck examines the wild-born joey of a captive-bred bilby released by Project Eden.



## Reconstructing an Australian ecosystem

Project Eden's vision is to turn back the tide of extinction and ecological destruction.

By rejuvenating the Peron Peninsula's once vibrant ecosystem and creating a safe haven for threatened native animals, it will enhance the visitors' experience of the spectacular environment of the Shark Bay World Heritage Area.





## Fauna recovery

Since feral animal control began in the early 1990s, mammal and reptile populations have increased.

Before 1995, echidnas were rarely seen on the Peron Peninsula. Now the adults and young are regularly sighted, and you can see their tracks all over the national park.

Many species of lizard have increased both in physical size and number. Look out for lots of racehorse goannas, bobtail skinks, thorny devils and bearded dragons basking on the roads in summer.

The threatened woma python has been breeding well, with many juveniles and adults seen on roads and tracks.

Now that predation pressure has eased, populations of native mice and dunnarts can increase more rapidly after good rains, when there is plenty of food.

Even larger fauna such as euros (a type of kangaroo) and emus are benefiting from reduced predation on their joeys and chicks.

## Reintroductions

By 1997 the ecosystem had rejuvenated to such an extent that CALM could begin to reintroduce some of the locally extinct fauna. So far, five species have been released into Peron Peninsula.

Things have not been easy. The captive-bred mala (rufous hare-wallabies) and banded hare-wallabies survived for 10 months and produced joeys, but disappeared because of cat predation, and starvation during the drought.

However, three other reintroduced species – the woylie, malleefowl and bilby – are now successfully established.

These species are still quite rare but they have been breeding on the peninsula for several years and can now sometimes be seen on the main roads and around the Denham townsite. Please take care when driving, especially at night.

Animals that may be seen on Peron Peninsula include (left to right) the echidna, woma python, hairy-footed dunnart and banded hare-wallaby.

## Captive breeding

The Peron Captive Breeding Centre was established by CALM in 1996 to provide sufficient animals for some of the reintroductions.

The centre has since bred more than 300 animals from five species – the Western barred bandicoot, mala, bilby, banded hare-wallaby and malleefowl.

Captive-bred mala, banded hare-wallabies and bilbies have already made contributions to Project Eden's reintroduction programs and other conservation initiatives.

The centre provides an opportunity to investigate some of the little-known, rarely studied Shark Bay species such as the banded hare-wallaby. Information about reproduction, behaviour, diet and physiology in arid environments increases understanding and contributes to improving our chances of conserving this and other threatened species.



## Cooperative research

Project Eden is committed to cooperative research. In addition to supporting numerous university student investigations, it has collaborated with CALM colleagues from elsewhere in the State, and with other government and non-government agencies in Australia and overseas.

This research has included investigations into feral cat control, the genetics, physiology and parasites of feral cats, and the diseases, diet and behaviour of our reintroduced species.

These cooperative efforts and Project Eden's integrated, whole ecosystem approach to management is helping us gain a better understanding of the complex interactions between climate, vegetation, predators and prey that control this arid environment.

Photos (clockwise, from bottom left): Scientist Marika Maxwell gives a radio-tracking demonstration; a radio-collared mala is released into the wild; a student inspects a radio collar; a banded hare-wallaby's measurements are taken.

## Education

Project Eden provides a great opportunity to spread the conservation message and give the public a chance to experience the fantastic natural heritage of Australia.

Our dedicated staff regularly give presentations about native fauna, feral threats and conservation management techniques to school children, university students and teachers.

School holiday activities such as radio-tracking games and *Meet the Bilby*, as well as news articles, radio and television features, and the *Return to Eden* documentary bring Project Eden's work to a wider audience and promote the natural wonders of the Shark Bay World Heritage Area.

## Future directions

Project Eden is a unique conservation program that has created a protected environment on the Peron Peninsula, allowing many plants, reptiles and small mammal populations to recover from the effects of habitat loss and predation.

Project Eden has reintroduced bilbies, woylies and malleefowl into this rejuvenated region but is working to improve conditions still further so that other locally extinct species, such as bandicoots, red-tailed phascogales, chuditch and Shark Bay mice, can also be reintroduced.

As Project Eden looks to the future, it will continue to initiate and trial management techniques as it strives for better results from its reintroduction and feral control programs. Working with students, universities and other research and conservation groups, Project Eden is committed to helping find the answers to Australia's complex conservation problems.

