

# The Ark

## Welcome to the third edition

Southern Ark is a major conservation initiative that aims to help the recovery of a suite of native mammals, birds and reptiles by significantly reducing foxes across one million hectares of public land in far East Gippsland. It is the largest fox control project to be implemented in south-eastern Australia.

## What's happening on the ground?

The Southern Ark team has commenced ongoing fox control across the large tracts of forest north of Orbost – a milestone achievement, which adds a further 139,000 hectares to the area already being baited.

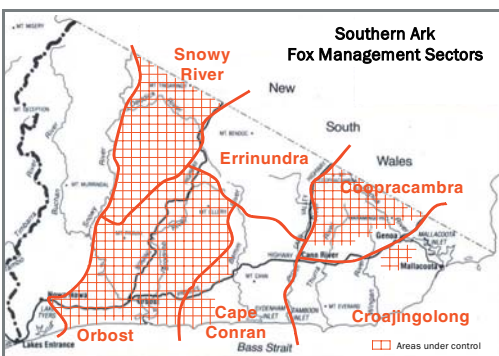
It includes all the forested public land north of Orbost between Yalmy Road and Murrungowar / Greens Road, continuing north to Goongerah and the southwest border of the Errinundra National Park.

This new area adjoins the 58,000 hectares currently baited on the western side of the Snowy River in the coastal country between Orbost and Nowa Nowa, and the 120,000 hectares baited in Snowy River and Tingaringy National Parks. This total area of over 300,000 hectares represents one of the largest fox control programs in the country, and is a significant achievement for the region.

## Errinundra foxes about to feel the heat

While the forests on the magnificent Errinundra Plateau are often thought of as a damp and chilly environment, the resident fox population will soon "feel the heat" as the Southern Ark project team commences its baiting program across a further 123,000 hectares of public land.

This area will consist of the area of forest between the Bonang Highway and the Cann



More information about the Southern Ark project is available at [www.dse.vic.gov.au/southernark](http://www.dse.vic.gov.au/southernark) or by calling the Department of Sustainability and Environment's Customer Service Centre on 136 186. Queries can also be emailed to [southern.ark@dse.vic.gov.au](mailto:southern.ark@dse.vic.gov.au).



## In brief

- **Southern Ark extends a further 139,000 hectares to the north of Orbost**
- **Initiation of free-feeding in Errinundra sector**
- **Fire season impacts on project**
- **PhD studies on feral cats and foxes — data gathering begins**
- **Monitoring indicates a decline in fox numbers**

Valley Highway. It is bordered to the north by the State border and to the south by the edge of the Errinundra Plateau. It includes all of the public land around Bendoc, Buldah, Combiobar and Noorinbee. Warning signs have been established at regular intervals on forest roads within the area of project operation to advise residents, tourists and forest users that baiting is in progress.

The initial work in this area will involve the use of non-poisoned baits in order to "train" the resident foxes to come to the bait stations and extract the baits. After a few weeks of using the non-poisoned baits, poison baiting will commence and there should be a dramatic crash in bait-take. This will indicate that a serious impact has been made on the resident fox population. As the baiting program is ongoing, it ensures that pressure is maintained on any remaining adult foxes, and on any young foxes moving in.

It is hoped that communities such as Combiobar and Buldah, which are surrounded by forest, will benefit from fewer issues concerning fox attacks on domestic animals. They may note changes in the abundance of native animals, too. In some areas where Southern Ark has been baiting for a few years, such as Cape Conran, residents have reported an increase in the number of animals such as potoroos, bandicoots and lyrebirds. They say that they see them out in the open more often than they did in the past.

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## Southern Ark back up and running after fires

The seven-person Southern Ark team, based in Orbost, were all heavily involved this summer in the Great Divide Complex South and Boulder Creek fire-fighting efforts. Approximately 300 days between November and January were reprioritised to fighting fires.

Once back on the job of controlling foxes, the first task was to travel the 240,000 hectares of forest already under established fox control, and ensure each bait station was supplied with a fresh bait.

The next task was to rebuild bait stations destroyed during the road work activity carried out by fire crews to improve fire lines. This meant rebuilding approximately 10% of the 3,500 bait stations that have been constructed across far East Gippsland. Stations are not simply rough-heaped mounds of soil, but an excavated hole one metre in diameter and 30 centimetres deep, which is then filled with river sand. Burying the baits so deeply effectively controls non-target bait-take.

Fortunately for the project, the services of a DSE Summer Crew were provided to help rebuild the damaged bait stations. This was an invaluable aid, as the presence and ongoing use of the bait stations is the only way to ensure fox numbers are reduced to very low levels, thereby ensuring the recovery of a whole range of native animals in our forests.

## On the Ark...Species to benefit

### Diamond Python (*Morelia spilota spilota*)

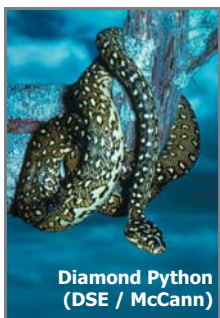
Closely related to Carpet Pythons, Diamond Pythons in Victoria are officially listed as "Endangered" by DSE. Found in coastal forests from northeast Victoria to northern New South Wales, this reptile prefers usually well vegetated habitats such as rainforest margins and woodland, but will also inhabit heathland and rocky outcrops. In Victoria it is restricted to the coastal heaths of far East Gippsland.

The Diamond Python is typically black with a pattern of cream or yellow spots above; underneath it is cream with grey blotches.

Growing up to three meters, this python's diet consists of possums, bandicoots, fruit bats, and birds. Hatchlings feed almost solely on small lizards, with their diet broadening to include small birds and mammals as they grow. Diamond Pythons will often take up residence in the roof spaces of private houses and repay the provision of shelter by controlling rodent populations.

In spring, female Diamond Pythons may attract several males all vying for the opportunity to mate. A summer clutch of 29 eggs on average are laid in a cluster and brooded over by the female; she maintains a steady temperature over the eggs by occasionally twitching and shivering. She abandons the nest shortly before hatching commences. The emerging young are approximately 40 centimetres long and appear quite drab before they begin to adopt their distinctive markings six months to a year later.

The Diamond Python is nocturnal, but will bask during the day. It locates its prey at night by the use of specialised heat-sensory pits on the lips, and overcomes its prey by constriction. Although non-venomous, this python's bite can be very painful. Its teeth (the snake does not have fangs) can break off and remain embedded in the victim.



**Diamond Python  
(DSE / McCann)**

By reducing fox numbers the Southern Ark project will help populations of native predators, including the Diamond Python, Spot-tailed Quoll and large forest owls, recover in what is termed a 'meso-predator release' - the natives will be able to increase their predation on prey previously shared with the fox. A reduction in fox numbers is also likely to benefit the Python by reducing predator pressure on the snakes.

### Further reading

Coveney, A. John and Robertson, Peter. 1991. *The Snakes of Victoria: A Guide to their Identification*. Department of Conservation and Environment, East Melbourne.  
*Carpet and Diamond Python* Morelia spilota 2004. Zoological Parks and Gardens Board of Victoria, viewed 13 February 2007, <<http://www.zoo.org.au/education/factsheets/rep-carpetpython.pdf>>.  
*Diamond Python* 2003. Australian Reptile Park, New South Wales, viewed 13 February 2007, <<http://www.bluemts.com.au/reptilepark/animals.asp?catID=15&ID=99>>.  
*Snakes: Australian Snakes at the Australian Reptile Park*. The Australian Reptile Park, Somersby, viewed 13 February 2007, <<http://members.ozemail.com.au/~ausreprk/repSnake.htm>>.  
**Wild Animals of Victoria 2005**, *An Atlas and Photographic Guide to Victorian Plants on CD-Rom*, by Paul Gullan, Viridans Pty Ltd, Brighton East, Victoria.  
*Wildlife of Sydney Diamond Python Fact File* 2007. Australian Museum, viewed 13 February 2007, <[http://www.faunanet.gov.au/wos/factfile.cfm?Fact\\_ID=288](http://www.faunanet.gov.au/wos/factfile.cfm?Fact_ID=288)>.

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## Protecting the Long-footed Potoroo in the wake of the Boulder Creek fire

The Long-footed Potoroos that survived a fire at Boulder Creek in far East Gippsland received a welcome boost when part of the Southern Ark fox control program was expanded to include the fire-affected areas.



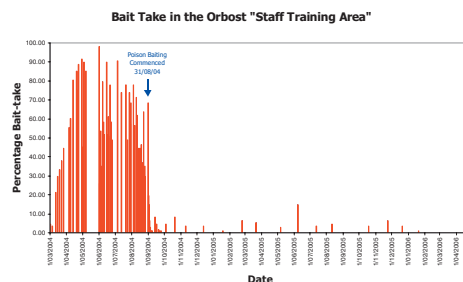
**Long-footed Potoroo © John Seebek**

Long-footed Potoroos are listed as endangered nationally, and confined to Victoria's forests. Unburnt, the dense understorey of the potoroo's habitat provides them with some protection from foxes, but once a fire strips this away, they are much more vulnerable to predation.

Trapping exercises revealed numbers of potoroos lucky enough to survive the fire continue to live in some of the unburnt patches within the fire boundary. Unfortunately however, it appears that foxes increase their foraging activities in burnt areas, scavenging from the corpses of dead animals that died during the fires, or hunting animals that are more exposed because of the reduction in cover.

Andrew Murray, Operations Manager with the Southern Ark project said, "While we were already baiting the Bellbird Creek area specifically for the protection of Long-footed Potoroos, and part of this area was burnt, we decided to extend protection immediately to cover the entire 10,000 hectare area that had been fire-affected. We felt the risk was significant enough that immediate action was necessary."

### Bait-take graph showing fox decline



### Funding

Both Southern Ark and Glenelg Ark are funded through the Victorian Government's \$14 million dollar *Weeds and Pests on Public Land Initiative*. Southern Ark receives additional funding through Parks Victoria's *Natural Values Initiative*.

## Learning more about feral cats and foxes

Two PhD projects in far East Gippsland are set to clear up some mysteries about feral cats and foxes. DSE, in partnership with the Invasive Animals Cooperative Research Centre (IACRC), is supporting two PhD projects taking advantage of the existing infrastructure created by the Southern Ark project.

**The ecology of feral cats (*Felis catus*) and their response to fox control measures in East Gippsland (Tony Buckmaster)** — This project aims to determine home range, movement patterns, diet and habitat relationships of feral cats in forested habitats. It will study interactions with foxes and trial detection and monitoring techniques. The study will examine the time of year feral cats are most likely to take up baits and their parasite loads. Feral cats are being tracked using GPS satellite technology.

**Fox dynamics in response to lethal control: A study of predator reinvasion ecology (Alex Diment)** — This project will investigate fox populations subject to large-scale lethal control. Movements and effects on territory, the minimum unbaited area that supports a breeding population and the components of reinvasion will be studied. The study will also examine the effect on prey populations, including native species and feral cats, by modelling their expected response, investigating behavioural changes and recruitment. Emphasis will be placed on using information generated to develop recommendations which assist with management.

- To date field sites have been established, and some excellent relationships developed with local communities and land managers.
- Five cats have been captured and fitted with GPS tracking collars. These are remotely collecting high-resolution information on the fine-scale movements of feral cats in forests.
- Eight foxes have been captured and fitted with radio-collars. These are being tracked to find home-range sizes, and will also ensure that the baiting program is successful in removing foxes.
- Forensic DNA analysis of hair and scat samples from both cats and foxes is also providing information on individuals and their relatedness to each other.



**Radio collar fitted to a fox**