Bringing back the biodiversity

Across Australia predation by foxes has played a role in the decline of many native wildlife species.

The Southern Ark project aims to benefit the biodiversity of East Gippsland's native species through fox control.

Campers and other visitors to East Gippsland have started to see potoroos and bandicoots more often, as their numbers increase and they start to forage in more open areas.

If you are camping with a dog, it will be best to keep it around the campsite, as roaming dogs will scare away most animals in the nearby bush.

Further Information on **Southern Ark**

- Contact the Department of Sustainability and Environment's Customer Service Centre on 136 186
- Contact the department's Orbost office on (03) 5161 1222
- Visit the department's website: www.dse.vic.gov.au
- Email queries to: southern.ark@dse.vic.gov.au

Cover photos: Long-nosed Potoroo DSE/McCann (left), Long-footed Potoroo DSE/John Seebeck (right)

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Department of Sustainability and Environment

Southern Ark

bringing back the biodiversity…

The Diggers

Parks VICTORIA

A Victorian Government initiative

Victoria The Place To Be

Southern Ark project

Benefiting the biodiversity of East Gippsland through fox control

THE DIGGERS

Prior to the arrival of the fox, the forests of south-eastern Australia were home to a number of mammal species that foraged on the ground, digging in the leaf-litter and soil for invertebrates and the fruiting bodies of underground fungi, known as sporocarps or truffles.

Southern Ark aims to reverse this trend by significantly reducing fox numbers across large areas of forest, giving the ground-dwelling animals a chance to recover.

These potoroos and bandicoots all weighed around 1 – 2 kg and became ideal prey for foxes.

Following a century of fox predation, many large areas of forest now have none of these animals, or they exist only in very small numbers in dense habitat.

Let's look more closely at one particular species of 'digger', the Long-nosed Potoroo.

Southern Brown Bandicoot
DSE/McCann

Long-nosed Bandicoot
DSE/McCann

Long-footed Potoroo
DSE/John Seebeck

THE LONG-NOSED POTOROO

This delightful little rat-kangaroo was once abundant in coastal forests and heathlands, snuffling around at night in its search for the sporocarps ('truffles') of hypogeal (underground) fungi. The sporocarps are the fruiting bodies of a wide range of fungi species that live in close association with the roots of many plants. The fungi assist the plants in the uptake of nutrients, an important help in our nutrient-deficient soils. In return the plant provides the fungus with a moist environment in which to live, within the root itself. These fungi do not produce mushrooms or puffballs above the ground from which their spores are released, but rather produce the sporocarps underground, which is where the potoroos come in.

Potoroos dig within the soil searching for truffles, which have a nutritious protein kernel at its centre

Photo: Andrew Bennett

While each sporocarp contains a mass of fungal spores, it also contains a nutritious little kernel of protein, which is what the potoroos are after. Much like the truffle-sniffing pigs and dogs of Europe, the potoroos smell the sporocarps, often deep within the soil, dig them up and eat them. The spores are spread around, attached to the forepaws and fur of the potoroos, or pass through the digestive tract and deposited throughout the forest, undigested, in little packages of potoroo poo!

THE ARRIVAL OF THE RED FOX

Following the arrival of the fox, potoroo numbers declined until they could only be found in the densest patches of forest. This of course meant that the three-way relationship between plants, underground fungi and potoroos was broken. The fungi keep producing sporocarps, but there are no potoroos there to take advantage of the bounty. Consequently there are seedlings that sprout that may not be inoculated with the helpful fungus, and have to struggle to absorb nutrients. This leads to weaker and less resilient plants, and in the long term, a decline in the health of the forest.

Long-nosed Potoroos have demonstrated a remarkable recovery at Cape Conran, in Far East Gippsland, Victoria, following several years of fox control.

While very few potoroos were caught during regular monitoring sessions when the Southern Ark fox control program commenced, there are now many potoroos being captured, microchipped and released. It is thought that little populations of potoroos will be hanging on in the densest heaths and forests throughout East Gippsland and that once fox control commences, these populations will be able to increase in the same way as the population of potoroos at Cape Conran. Soon the sounds of potoroos going about their business of digging will again fill the night air in East Gippsland.