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Conservation of the Western Ringtail Possum: Re-introduction at Yalgorup National Park



Department of Conservation and Land Management

CALM scientists will be implementing a research program designed to assist in the conservation of the western ringtail possum. The program will involve re-introduction of ringtails at sites within Yalgorup National Park. 1080 baiting for fox control will be undertaken. Fox control will also protect other threatened mammals already present in the Park. This brochure provides some information about the project.

Introduction

Since European settlement, Australia has lost 18 mammal species - this is more than the rest of the world combined. Worse still, the extinction risk is still high for many other species - twenty four are listed as rare and endangered.

Australian birds appear to have fared better, except for ground dwelling and ground nesting species such as the ground parrot, bristle birds and the mallee fowl. Similarly, the reptiles have not suffered the same drastic decline as the mammals.

Reasons for Mammal Decline

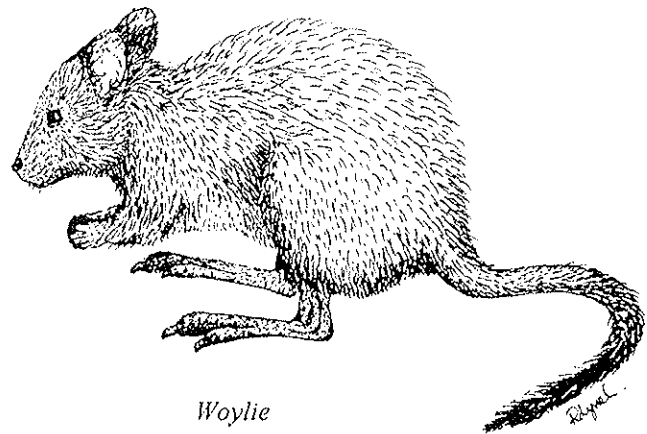
A question often asked is: Why have so many Australian species, particularly the mammals, fared so badly since European settlement? There is no simple answer because so much has happened to the country and environment in that time. It has generally been assumed that habitat loss has been the major cause. It is argued that too much land has been cleared or too many environmental changes have occurred. It now seems certain that fox predation has also played a major role and that the fox still represents a serious threat to surviving species. The fox probably also affects carnivorous native species, such as the chuditch, through competition for food.

Fox Control: Benefits

Research carried out by CALM scientists during the past 10 years has consistently shown that wherever foxes are

controlled, rare and endangered species become more numerous.

A good example is the woylie or brush-tailed bettong which was once common and widespread, but now only survives in a few conservation reserves.



Woylie

On Tutanning Nature Reserve near Pingelly, woylies were once abundant but none had been sighted for more than 10 years. In 1984, before fox control, it took a lot of time and effort to trap a woylie. After five years of fox control it became a relatively easy exercise as woylie numbers had increased 10 times (see Figure 1).

CALM has carried out comparable experiments elsewhere, involving other species, with similar results. To date it has been demonstrated that numbats, rock-wallabies, brushtail possums and tammar wallabies are similarly affected by foxes. Like woylies, these species increased when the fox was controlled. More recently it has been shown that in the jarrah forest, the chuditch will also increase in numbers if foxes are controlled.

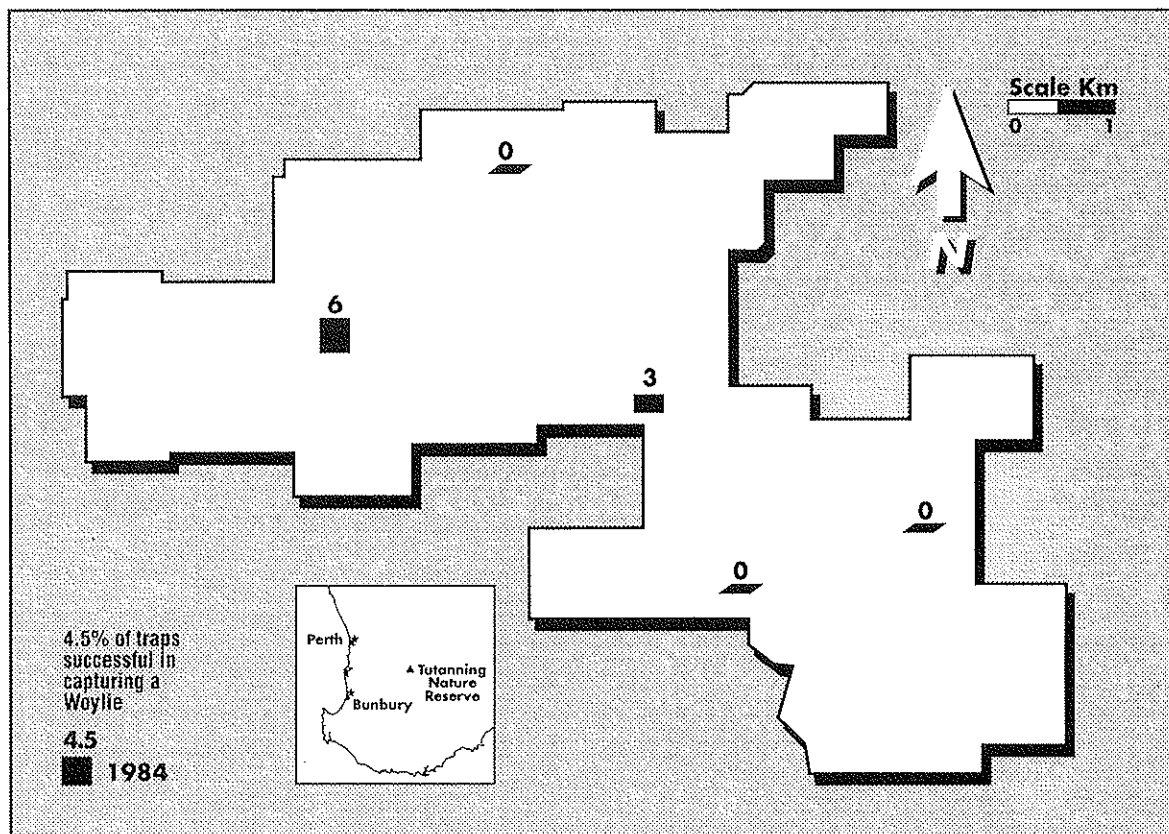


Figure 1a: Woylie percentage capture rate at Tutanning Nature Reserve before fox control was undertaken (Dr Jack Kinnear, CALM).

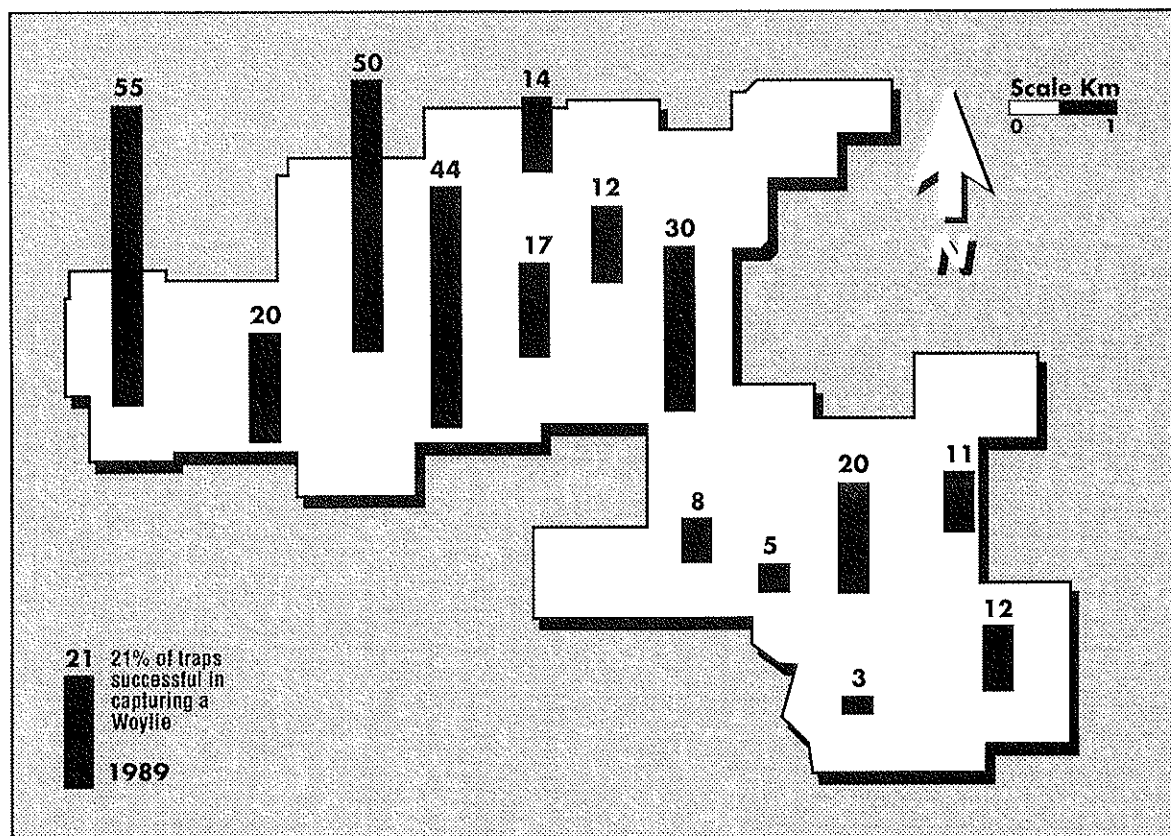


Figure 1b: Woylie percentage capture rate at Tutanning Nature Reserve after 5 years of fox control (Dr Jack Kinnear, CALM).

Decline in Distribution of the Western Ringtail Possum

The current and former distribution of the western ringtail possum is shown in figure 2. Although locally common in a few areas of Western Australia, the ringtail possum has shown a dramatic contraction in its range and is now almost exclusively restricted to coastal peppermint woodland.

The only known occurrences in non-peppermint habitat are at Perup Nature Reserve and surrounding forest blocks near Manjimup.

In 1983 the western ringtail possum was included on the Western Australian list of declared threatened fauna.

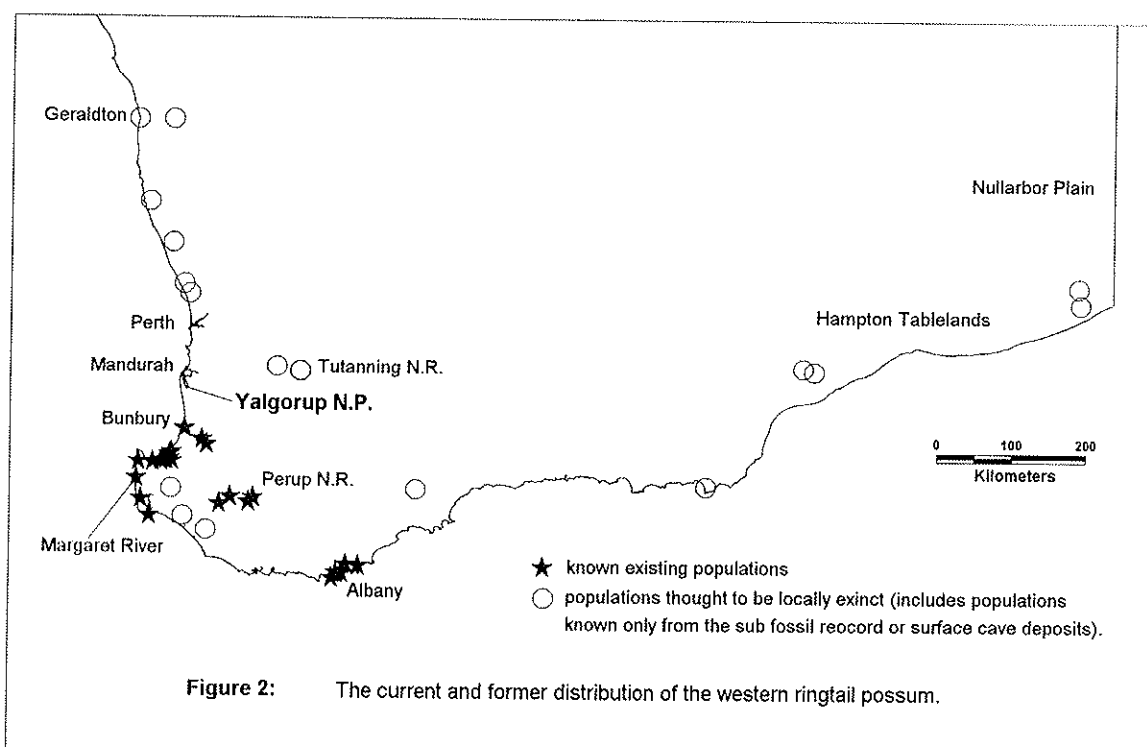
Recent research carried out at Leschenault Peninsula Conservation Park, immediately north of Bunbury, has shown that ringtails can be successfully re-introduced to peppermint woodland

sites, provided fox control measures are undertaken and maintained.

An important component of management of ringtails is to determine whether the species can be re-introduced into other areas from which it has disappeared in recent times. As part of conservation measures it is now planned to re-introduce the western ringtail possum to Yalgorup National Park (see figure 3).

Yalgorup National Park is within the species former range. Although there have been unconfirmed reportings of ringtail possums in the Park, surveys have been unable to confirm the presence of ringtails. If present in the park, they are at very low numbers.

Successful re-introduction will extend the species range and re-establish the western ringtail possum in habitat from which it has disappeared in recent times.



Fox Control Within Yalgorup National Park

Fox control using dried meat baits impregnated with 1080 poison will be distributed regularly within the Park to provide protection for the ringtail possum. This will also protect other native species present, such as the brushtail possum and chuditch. If successful, it may be possible to re-introduce other mammals that once occurred in the area.

Some Questions and Answers about Fox Control and 1080 Baiting at Yalgorup National Park

1. What is the research designed to do?

This project will contribute significantly to the conservation of the western ringtail possum by expanding its present range. It will also provide CALM with information to help in future re-introductions to other parts of Western Australia. The fox control program will increase what is known about the number of species threatened by foxes and help in the planning of fauna management programs elsewhere in the State.

2. Where will foxes be controlled?

Initially, foxes will be controlled in two localised areas within Yalgorup National Park. These areas are shown in figures 4a and 4b. At a later date, fox control may extend to other areas of the Park.

3. How will the fox be controlled?

Dried meat baits containing 1080 poison will be distributed every month from a vehicle. Baits will be laid around the perimeter of two areas and along internal tracks at 100 m spacings. These baits are lethal to domestic animals. Warning

signs will be placed on all access routes into the Park. Baiting will be commencing in June 1995.

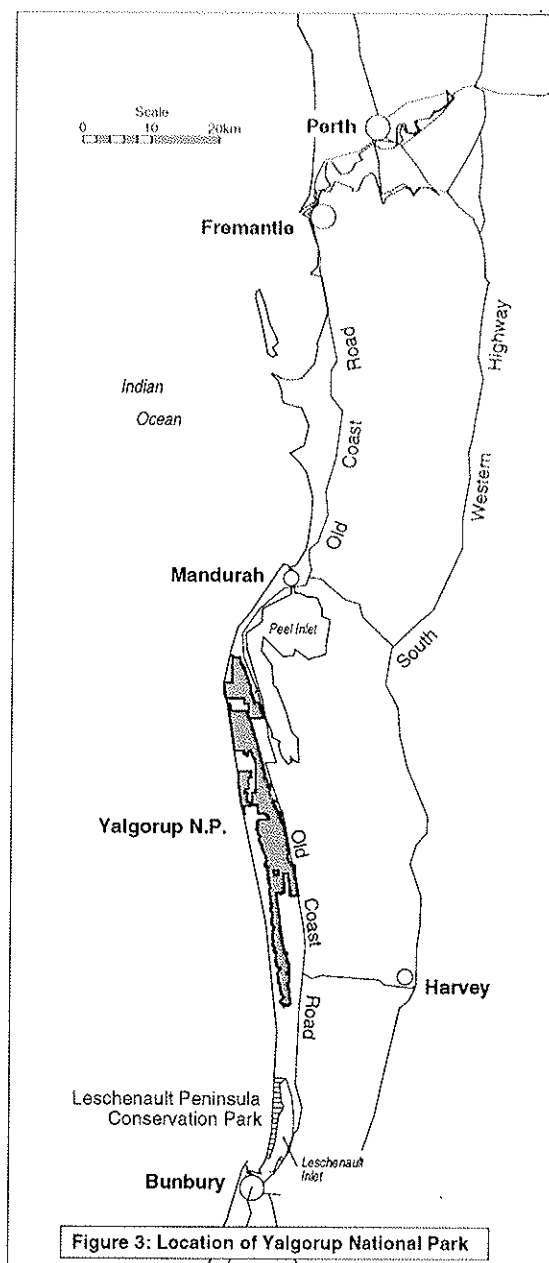
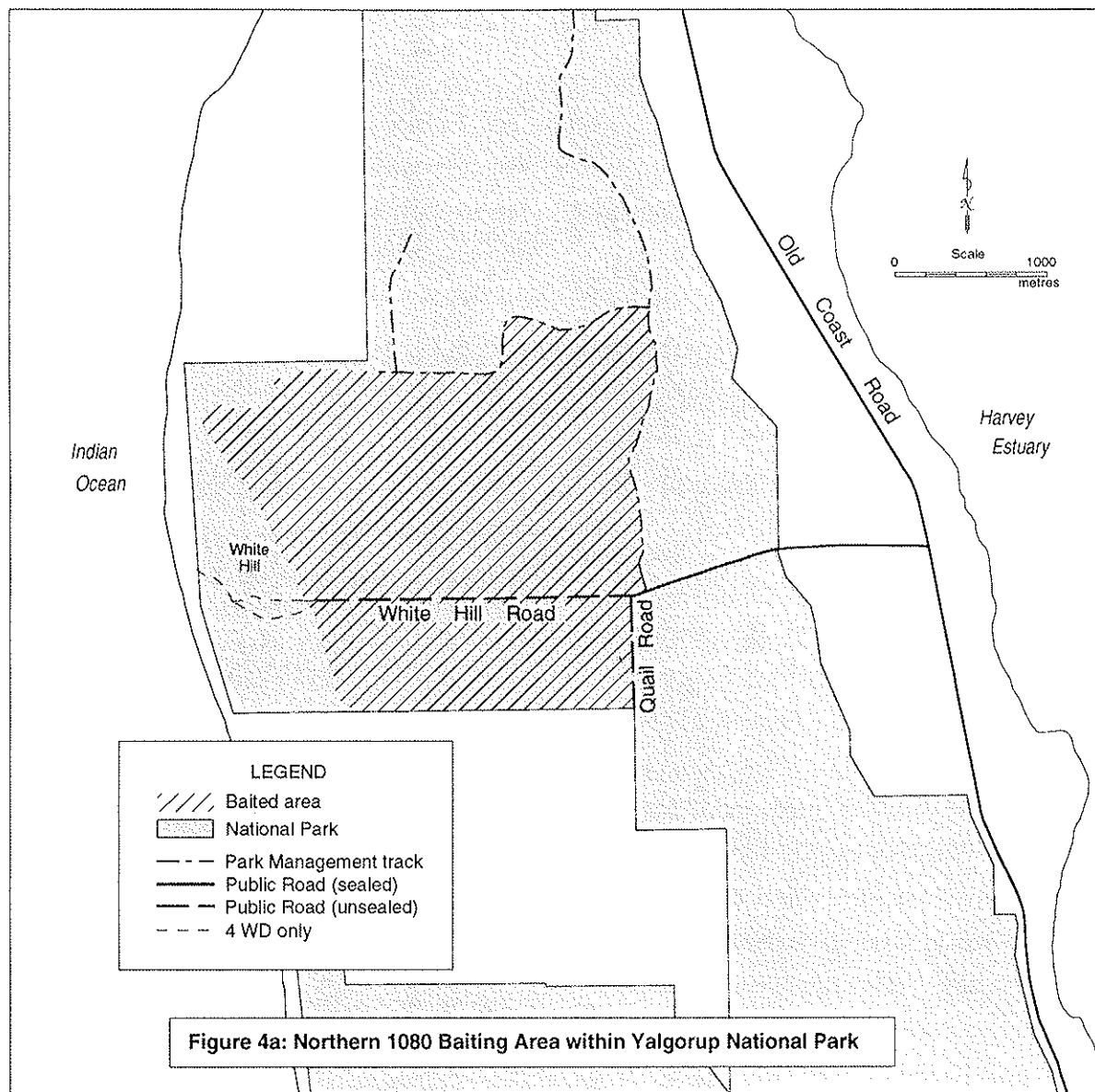


Figure 3: Location of Yalgorup National Park



4. How is it possible to control foxes without affecting the native fauna?

More than 15 years of research by the Agriculture Protection Board (APB), CALM and CSIRO has been directed towards this problem.

APB scientists have shown that most of the Western Australian mammal fauna has a natural tolerance to 1080, while foxes (and dogs and cats) are extremely

susceptible. This tolerance to 1080 is largely because the native mammal fauna has evolved in the presence of plants (*Gastrolobium* spp.) which manufacture 1080 naturally to deter grazing.

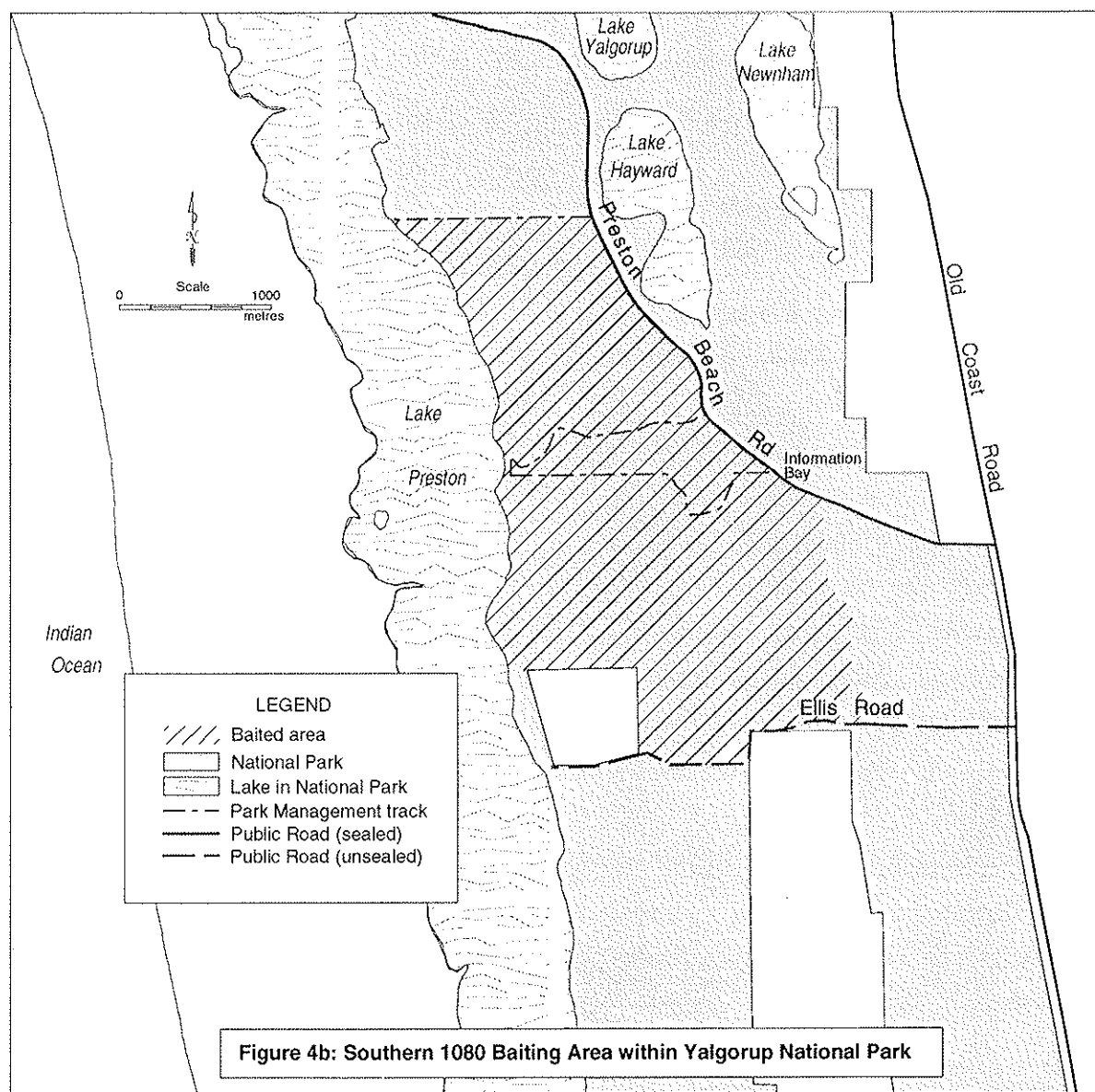
With this knowledge, APB and CALM scientists have exploited this natural tolerance to 1080 in designing baits to control foxes. Meat baits are used because when dried the meat becomes hard and stringy and is too tough for small native carnivores to chew. Making

the baits large adds an additional safety factor. Even if a small native carnivorous animal did chew on a bait it would have to eat a greater amount than its own body weight in one sitting to get a lethal dose! Native herbivores, including the ringtail, are not at risk because meat baits will not be eaten by plant eating species.

5. *How much 1080 will be used?*

Each bait weighs about 60 grams when

dried and contains only 4.5 milligrams of 1080 poison. Research has shown that five baits per square kilometre can reduce the fox population by up to 80 per cent. The baited area at Yalgorup is small and re-invasion of foxes may occur. Because of this, the pattern of baiting will be more intense than 5 baits per square kilometre. Even at this higher baiting intensity (i.e. baiting at 100 m intervals along roads and tracks) CALM will be distributing a minimal amount of 1080 within the Park.



6. Does 1080 persist in the environment?

Definitely not. Research undertaken at Curtin University for CALM has shown that 1080 is rapidly degraded by soil microbes and moisture, such as rainfall. There is no possibility that 1080 will persist or accumulate in the environment.

7. Does baiting pose a risk to people or domestic animals?

Poison baits will only be laid within the boundaries of Yalgorup National Park. If cats or dogs are allowed to enter the Park they will certainly be at risk. Baits will not be laid within 1 kilometre of settlements or within 150 metres of gates adjacent to the Park boundary. Warning signs will be placed at all access points to the Park and along the internal tracks.

8. How will we know if fox control has been successful?

Fox abundance will be estimated by track counts and/or transects before the baiting commences. The abundance of native animals will also be determined. This will continue after fox baiting has commenced. After the release at Yalgorup, western ringtail possums will be closely monitored using radio-tracking techniques.

The fox baiting technique to be employed at Yalgorup has also been trialed successfully at several sites in Western Australia.

9. What are some of the benefits of fox control?

It has been demonstrated elsewhere that if fox predation is removed or reduced many rare native animals increase in abundance. Native mammals still present at Yalgorup, such as the chuditch and brushtail possum, will benefit immediately. The successful re-introduction of the western ringtail possum at Yalgorup would be jeopardised if foxes are not controlled. With control of the fox, introduction of other rare species is possible in the future. This area, close to Perth, would then provide an opportunity for the public to see unique native mammals.

10. What about fox control in the future?

CALM views baiting to control foxes as a holding action necessary to conserve endangered species. The ultimate solution to the fox problem is biological control. CALM scientists are participating as members of the Cooperative Research Centre for Vertebrate Biocontrol in a national effort to achieve this solution.

Further Information

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