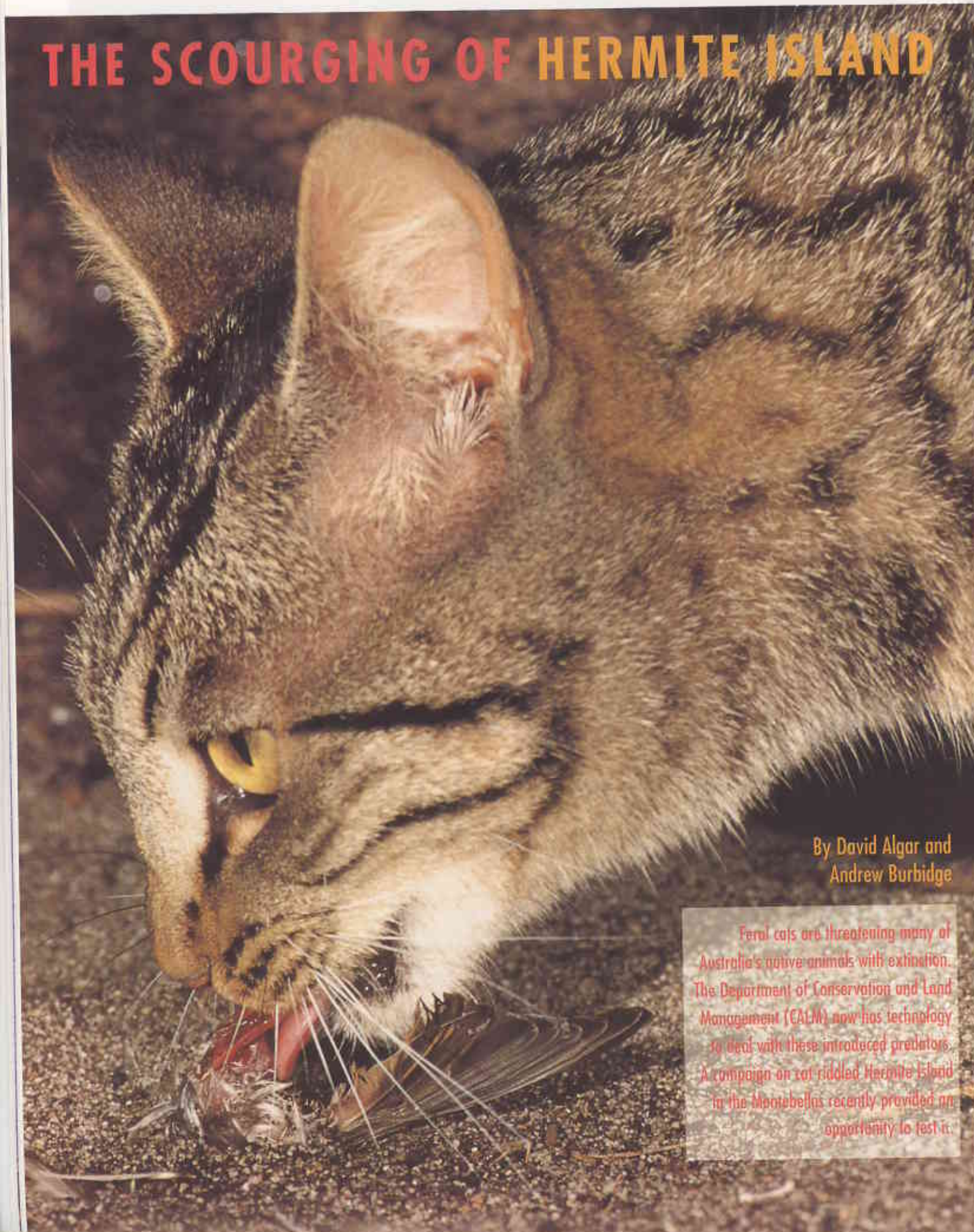
ISLE OF CATS

THE SCOURGING OF HERMITE ISLAND



By David Algar and Andrew Burbidge

Feral cats are threatening many of Australia's native animals with extinction. The Department of Conservation and Land Management (CALM) now has technology to deal with these introduced predators. A campaign on cat riddled Hermite Island in the Montebellos recently provided an opportunity to test it.

The Montebellos comprise a group of more than 100 islands, islets and rocks off the Pilbara coast of Western Australia. Remarkably, the first biological survey of the archipelago was carried out as early as 1912. P.D. Montague, who was sponsored by the prestigious Royal Society of London, observed the presence of cats and noted that they had probably originated from a ship wreck 20 or so years before his visit; however, they may have been introduced from pearling vessels that were very active in the area during the second half of the nineteenth century. Montague attributed the recent extinction of the golden bandicoot (*Isoodon auratus*) to predation by cats, and predicted that the spectacled hare-wallaby (*Lagorchestes conspicillatus*) would suffer the same fate. Later surveys proved him correct.

Montague found cats on the largest island in the group, the 1020-hectare Hermite Island. However, Andrew Burbidge saw a cat on Trimouille Island in 1971 and Keith Morris recorded footprints on Bluebell Island in 1985, so they were clearly capable of swimming between islands and establishing new populations. Survey work between 1994 and 1996 showed that cats were then restricted to Hermite, so the populations on the smaller islands had died out without human intervention.

Montebello Renewal, part of the Western Shield initiative of the Department of Conservation and Land Management (CALM), aims to eradicate feral cats and black rats from the islands, to allow the successful reintroduction of native mammal species and of two species of locally extinct birds: spinifexbird (*Eremiornis carteri*) and the black-and-white wren (*Malurus leucopterus leucopterus*). (See 'Montebello Renewal', *LANDSCOPE*, Summer 1996–97.) The absence of cats and eradication of rats from Trimouille Island have already allowed it to be used for 'marooning'—the introduction of species threatened with extinction on mainland Australia. The mala, or rufous hare-wallaby (*Lagorchestes hirsutus*), which is extinct in the wild on the mainland and is subject to predation by feral cats, has been successfully established on Trimouille (see 'Moving Mala', *LANDSCOPE*, Autumn 1999), and the djoongari or Shark Bay mouse (*Pseudomys fieldi*), another feral cat prey species, was introduced to North West Island in May–June 1999.

PLANNING THE CAMPAIGN

Hermite Island is an extremely difficult island on which to eradicate anything. It is isolated and rugged. It is elongated and highly convoluted with sandy beaches, mangroves, cliffs, and treacherous limestone ridges and peninsulas. The interior of the island is vegetated with a dense mat of spinifex (*Triodia* sp.) with occasional acacia thickets on deep sand. Access around the island was via small boat up Stephenson Channel and then slogging it out on foot, carrying the traps and trapping equipment.

Eradication was planned in two stages—to lay poison baits by air and then to carry out an intensive trapping program, if warranted, to remove the remaining individuals. Reconnaissance of Hermite before baiting suggested that at least 20 cats were present on the island.

CALM researchers have recently developed a bait to control feral cats. The bait is similar to a chipolata sausage, is 20 grams in weight and contains a number of flavour enhancers highly attractive to feral cats. The baits

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Feral cats are threatening many of Australia's native animals with extinction.
Photo – Jiri Lochman

Right: The rocky coastline of Hermite Island.
Photo – M. Clarke

Below: An aerial shot of the Montebello Islands.
Photo – M.Clarke

Above: Djoongari or Shark Bay mouse.
Photo – Jiri Lochman

Above right: Golden bandicoot.
Photo – Jiri Lochman

Right: Spectacled hare-wallaby.
Photo – Hans and Judy Beste/Lochman Transparencies

Left: Mala or rufous hare-wallaby.
Photo – Marie Lochman

were prepared in Perth, frozen and air-freighted to Barrow Island, then transported by helicopter to Hermite, courtesy of Apache Energy. At the island, they were prepared for laying by thawing, broiling, injecting the poison and adding insect repellent.

BAITING AND TRAPPING

A total of 1,100 baits were deployed from a helicopter, again provided by Apache Energy, on 3 June 1999. The toxin 1080 (sodium monofluoroacetate) was injected into the baits at a dose rate of 3.0 mg/bait. There were no non-target species on the island potentially at risk from this baiting regime. The flight path followed the 140-kilometre coastline and then through the centre of the island to maximise bait availability and the area covered.

It is unlikely that any baiting campaign alone will achieve total eradication of cats. Monitoring cat activity along a number of the beaches after the baiting showed that several cats remained. To remove them, the planned trapping program was implemented, beginning 10 days after the baiting campaign.

Although generally solitary and territorial, cats are very inquisitive about other cats in their area. A cat's communication instincts are principally reliant on auditory and olfactory stimuli. In conjunction with developing the cat bait, CALM has also developed a successful technique to trap feral cats. The trapping technique uses lures based on cat communication. The traps used are padded leg-hold traps that are more effective than wire cage traps for catching feral cats. CALM uses 'Victor Soft-Catch traps No. 3' and have found that they provide a very effective but also humane trap for cats. The use of these traps has been approved by CALM's Animal Ethics Committee, which includes independent members from animal welfare organisations. Each trap site consists of a channel cleared into a bush to create a one-way (blind) trap set. Two Victor Soft-Catch traps are then positioned at the entrance of each blind set. Both traps are secured in position by a chain to an anchor peg. The traps are then lightly covered with soil.

Cats are lured to the trap 'set' initially by the audio signal produced by CALM's patented FAP (Felid Attracting Phonic). The FAP is located at the back of the set, either concealed under leaf litter or hidden within the bush. The FAP consists of a printed circuit board with a microprocessor that produces a sound of a cat-call. As cats approach the set they are further enticed into the traps by the smell of 'Pongo' placed in a shallow depression at the rear of the set. Pongo consists of a mixture of cat faeces and urine—a mixture that trappers do not enjoy getting on their hands or clothing!

Trapping campaigns can sometimes induce trap-shyness in the target species; trapping for feral cats is no exception. Variations on the standard trap set were used towards the end of the trapping operation to capture

remaining cats wary of the standard set. The most successful variation of the set was a 'road trap' that involved placing four traps without attractants in a set along pathways actively used by cats.

Five people (two professional trappers, two volunteer trapper assistants and a boat handler) were involved in the trapping program after week one. They were rotated every two weeks, although three of the expert trappers stayed longer. The entire trapping exercise took six weeks to complete.

The difficult terrain and long distances to be walked every day precluded trapping all of Hermite island simultaneously. It was therefore divided into four zones: east, north, west and south. Each of these zones terminated in a sandy narrow-necked peninsula that could be used to assess cat movement into the area once trapping had been terminated. The trapping program was initially conducted on east and south Hermite and, as traps were removed, trapping began on west and north Hermite. Traps are normally placed at one-kilometre intervals along tracks, though on Hermite a more intensive exercise was conducted to provide broad-scale trap coverage and maximise trap success. Traps were located strategically in all areas of perched sand sheet and dunes across each zone. Additional 'road traps' were located in areas where cats had not entered the standard set. In total, 180 trap sets, providing 1,544 trap nights, were placed over the island during the trapping period.

The traps were left in position for a minimum of seven days. If no cat activity was then recorded in the zone, the traps were removed. Evidence of fresh tracks was recorded for each trap site, and intensive searches for tracks were conducted en route. At the completion of trapping for a given zone, further intensive searches were conducted to make sure that all cats had been removed. The sandy areas that terminated each zone were monitored on a regular basis to ascertain whether cats had moved into previously trapped zones.

These intensive searches for cat activity indicated that, in the past, cats had been present across much of the island. Cat activity had been most abundant along the sandy beaches, near mangroves and among acacia thickets where 'highways' of tracks and numerous scat piles were observed. Some evidence of cat activity was observed along the limestone ridges and in the spinifex plains; however, these areas were understandably less favoured habitat and were used as pathways to the more preferred sites.

SUCCESS!

Four cats were captured during the trapping program. The last cat (we called him Ginger Mick) frustrated us for almost a month, having been sighted once and managing to walk through several trap sets before finally being captured. All trapped cats were humanely destroyed. They were then sexed and weighed, stomach contents were collected for dietary analysis and

Above left: The entire trapping excercise took six weeks to complete.
Photo – M. Clarke

Left: Cat activity had been most abundant along sandy beaches near mangroves.
(inset) Set of six traps shown here uncovered.
Photos – M. Clarke

the females examined for placental scarring. No other evidence of fresh cat activity was observed across the island once the other cats had been trapped, nor during the hunt for Ginger Mick. We are satisfied that cats have been eradicated, although we will of course check the island again this year. The fact that only four cats remained after baiting indicates that the baiting campaign was responsible for removing at least 80 per cent of the cats from the island. Interestingly, all four trapped cats were females—even Ginger Mick turned out to be a girl!

Cat eradication at the Montebellos was achieved in a matter of weeks. Similar programs elsewhere in the world have taken years. The advances in cat-control technology developed by CALM may now help to eradicate feral cats from many offshore islands around the world. With the eradication of cats from Hermite Island, reintroduction of native species can now be planned. The future looks bright for Montebello Renewal.

Above right: The 'memorial' stone to the last cat caught on Hermite Isalnd.
Photo – John Angus/CALM

Right: Some of the hard-working team members taking a well-earned break.
Photo – M. Clarke

David Algar is a Senior Research Scientist with CALM and has primary responsibility for developing feral cat control techniques. He can be contacted at CALM's Wildlife Research Centre on (08) 9405 5100 or by e-mail (davea@calm.wa.gov.au). Andrew Burbidge is Director of CALM's WA Threatened Species and Communities Unit (WATSCU). He can be contacted on (08) 9405 5128.

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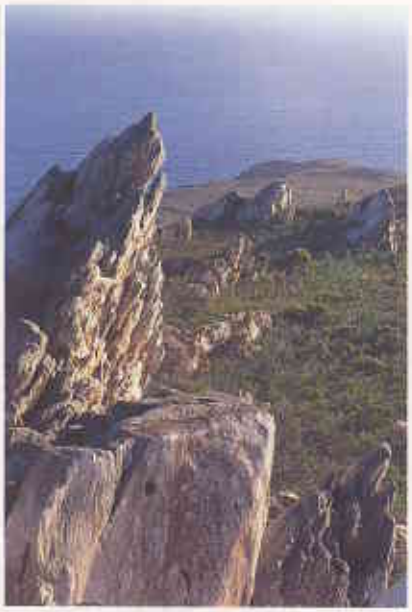

One of the best selling books from CALM has recently been fully revised. See 'The Best of the South-West' on page 10.

A new weapon against the scourge of feral cats was recently tested on Hermite Island. See 'Isle of Cats' on page 18.

In the far north of WA, there is evidence of not one, but two cosmic impacts. See 'Cosmic Impacts in the Kimberley' on page 28.

Satelite imagery is helping us to fight maritime polution. See 'Looking Through the Surface' on page 41.

A unique network links volunteer groups and regional herbaria with the CALM flora database. See 'Name That Plant' on page 35.

FEATURES

REGULARS

COVER

Western Australia is aptly described as the Wildflower State. Some 12,500 different species are known from the wild, with a huge range of colours, shapes and characters. But many species once found are lost again, and it's always an event when a species thought to be extinct is rediscovered. See 'Lost Jewels in the Bush' on page 23.

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Design and production: Tiffany Aberin, Maria Duthie, Sue Marais
Illustration: Gooitzen van der Meer
Marketing: Estelle de San Miguel ☎ (08) 9334 0296 Fax: (08) 9334 0498
Subscription enquiries: ☎ (08) 9334 0481 or (08) 9334 0437
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